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AUGSTĀKĀ IZGLĪTĪBA
Higher Education

ADAPTATION PROCEDURE OF THE TEST OF ASSERTIVE BEHAVIOUR

Valērijs Makarevičs

Daugavpils University, Latvija

Dzintra Iliško

Daugavpils University, Latvija

Abstract. *The problem of assertiveness as a condition of self-actualization is actively developed by both, theorists and practitioners. In order to explore it, more than 30 different tests are being developed by the scientists. However, most of them have common drawback.*

In reality, behavioural acts that in one cultural environment are perceived as manifestations of assertiveness, in other context it can be interpreted as aggression or perceived as completely unacceptable. The purpose of this study was to select an assertiveness test created in a similar culture, translate it into Latvian and test for reliability. Both, direct and reverse translation was carried out, which was discussed with the author of the test. Repeated pilot testing indicate to high reliability of a translated version of the test.

Keywords: *aggressiveness, assertiveness, reliability of the test, self-actualization, test.*

Introduction

After publication of the book by the American scientist A. Maslow, in which he proposed the concept of self-actualization as the goal of human life, the scientific literature opened a discussion about personality qualities that contribute to this debate. Self-actualization, according to the author of the concept, is the desire of a person to maximize his/her full potential, abilities and opportunities on the way to realization of his/her goals of life (Maslow, 1943).

Assertiveness was recognized as an indispensable condition for self-actualization. Gading defines assertiveness as one's ability to act on the basis of self-esteem, taking into account the opinions of other people, so that the behavior that manifests itself in interpersonal relationships remains within positive boundaries (Gading, 2020).

At the turn of the twentieth and twenty-first centuries, the interest in the study of the phenomenon has increased. According to Peneva & Mavrodiev, this is explained that in the changing social and political situation in the world, which requires a search for means to strengthen human potential, could contribute to solving new problems (Peneva & Mavrodiev, 2013). At the same time, studies have confirmed positive effect of assertive behavior in solving professional problems.

It was necessary to design tests that would help to determine the level of development of the skills of assertive behavior of the individual in order to solve diagnostic and professional problems.

The main aim of this study is to find and to translate into Latvian and to adapt the assertiveness test, which was created and tested in a similar socio-cultural environment. Methods that were used in this study, was: translation and reverse translation of the test from the original language into Latvian (and vice versa); comparison of the original and reverse translation by introducing all necessary changes. The reliability of the test was ensured by repeated testing performed in the same sample.

Literature review

The author of the development of the theoretical foundations of assertiveness and their application in psychotherapeutic practice is considered to be A. Salter. In his works, he contrasts assertiveness with aggressiveness, manipulative behavior and blackmail (Salter, 2019). His fundamental ideas were developed in works of other researchers.

As reported by Alberti & Emmons (2008), assertiveness promotes equality in human relations, allows a person to act in the light of his or her interests, develops one's ability to stand up for himself or herself without hesitation, to express true feelings and enjoy one's rights without violating the rights of others (Alberti, & Emmons, 2008).

Assertiveness implies the right to say "no" without feeling guilty (Peneva & Mavrodiev, 2013). Thus, in the experiment of Swimmer & Ramanaiah, respondents were asked to respond to 3 sets reflecting conflict situations requiring the refusal of an unreasonable request.

Before that, the level of manifestation of assertive behavior of respondents was determined. Three groups were identified: with low, medium and high levels of assertiveness. Respondents with low levels of assertiveness were more likely than other respondents to fail to say "no" to an unreasonable request (Swimmer & Ramanaiah, 1985).

Assertiveness is a constructive behavior alternative to passivity, manipulation, and aggression. In assertiveness theories, the key point is to separate the concepts of assertiveness and aggressiveness. R. Baron & D. Richardson define aggression as any form of behavior aiming at harming another living being (Baron & Richardson, 1994).

Chamberlain reported that assertive behavior can be perceived as aggressive. He wrote that a successful employee who excels at surpassing his or her colleague in an attempt to get a promotion does not feel ill-will towards him. However, a colleague may perceive such behavior as an act of aggression. Thus, the author concludes that assertiveness is better understood as a moderate aggression,

usually unrelated to the intention to harm or rise above another. Persistence seems to have more to do with instrumental or targeted aggression than with a hostile or retaliatory aggression. T. Pfafman agrees with this author (Chamberlain, 2009; Pfafman, 2020).

Therefore, according to Swimmer & Ramanaiah, this can be argued that assertive behavior is the golden means between aggressiveness and passivity, although it has some features of both (Swimmer & Ramanaiah, 1985).

A. Gatchpazian suggests to distinguish between passive, assertive and aggressive behavior according to the following criteria, according to Table 1.

*Table 1 Criteria for passive, assertive and aggressive behavior
 (according to A. Gatchpazian) (Gatchpazian, 2003)*

Passive	Assertive	Aggressive
Too scared to say what you think	Expresses self clearly and confidently	Expresses self with aggression and irritation/anger
Avoids eye contact	Maintains eye contact	Stares in a judgmental way
Speaks softly or weakly	Speaks firmly	Speaks loudly (e.g., shouting)
Reduces own self-esteem	Increases own self-esteem	Reduces others' self-esteem
Makes body smaller (e.g., slouching)	Firm yet welcoming posture	Closed posture (e.g., making body bigger)
Others' needs are put first	Self and others' needs are taken into account	Others' needs are put first
Can't say "no" to others' requests or demands	Is able to say no in a calm and direct way	Sais no in a aggressive and reactive way
Aims to please others	Aims to express needs	Aims to win

According to Fornell & Westbrook, an aggressive person tends to analyze an act after committing aggressive behaviour. Assertive - before aggressive behaviour is being committed (Fornell & Westbrook, 1979).

An important note regarding the stability of assertive behavior is made by I. Peneva & S. Mavrodiiev. They wrote that in the case of an imbalance between one's own and others' rights, human behavior usually becomes passive, aggressive or manipulative (manipulation here is viewed as a form of aggressive behavior (Peneva, & Mavrodiiev, 2013).

Assertive behavior contributes to the solution of professional problems. This is evidenced by the results of studies that are related to training of nurses (Gultekin, Ozdemir, & Budak, 2018; Kadam, & Naikare, 2018; Ben Cheriff et al., 2022), social work specialists (Stoykov, 2020), sales people (Fornell, & Westbrook, 1979). Assertive behavior has positive impact on academic success in school (Galata, 2018). Several studies suggest that manifestations of

assertiveness can be influenced by fear of negative assessment of the behavior of the subject by other people (Prabha & Babu, 2021).

Assertive behavior can be taught. Assessment acquired through special education reduces anxiety, increases self-esteem and self-confidence, and promotes academic success (Niusha, Farghadani, & Safari, 2012; Parray, Kumar, & David, 2020). Interest in the problem of assertive behavior requires creation of appropriate diagnostic tools. According to N. Esgi's calculations, today there are more than 30 different scales of self-esteem, which are widely used to measure and to evaluate assertiveness and dependence on social networks. But almost all of them need to be refined, because they do not have sufficient reliability and validity when they are used in different cultures (Esgi, 2016).

The reason for this is not only the differences in ideas about behavioral manifestations of aggressiveness inherent in a particular culture. There have been cases where, within the same culture, opposite results have been obtained when applying different assertiveness tests. For example, there are the results of two studies conducted at the same time in India.

The first, authored by I. Saradha, T. Sasikala, & B. Rathinasabapathy, argues that there is a statistically significant relationship between the level of development of assertiveness and demographic indicators (age) (Saradha, Sasikala, & Rathinasabapathy, 2022). The authors of another study reported that there is no statistically significant relationship between these phenomena (Nalini & Ganapathy, 2020).

The methodological basis of our work is the ideas of A. Salter and the interpretation of his ideas by V. Sheinov.

Methodology

For the translation into Latvian and reliability check, the assertiveness test of V. Sheinov (Sheinov, 2014) was chosen. It contains 26 statements, some of which relate to assertive behavior and the others to aggressive and passive behavior.

Responses to the statements were evaluated in Lickert's scale. After test being translated from Russian into Latvian, a reverse translation has been made, which was approved by the author. The students from the Faculty of Management and Education of Daugavpils University took part in pilot testing (n=50).

The age of the participants ranged from 20 to 63 years (46 women and 4 men). The median age was 27 years.

Questionnaires were sent to participants by e-mail. Respondents replied in the same way. To check the reliability, a month after the first, the second test was tested on the same respondents. When calibrating the answers, statistical data provided by the author of the test were used.

There is no information about assertiveness studies in Latvia scientific databases.

Research findings

The following form of the test is used by the authors (Table 2). For the international readership the paper is written in the English language, while the test is in the Latvian language with explanations in English, since the main aim of this study is to reflect of the process and the result of adapted test in the Latvian language.

Table2 Assertively Testing

One can choose the answers according to the following criteria: always - 1, often - 2, rarely - 3, never – 4

Jautājums (Question)	Vienmēr (Always) - 1	Bieži (Often) – 2	Reti (Rarely) - 3	Nekad (Never) – 4
1. Runājot ar kādu, es nespēju iebilst, pat ja domāju, ka manis paša viedoklis ir pareizāks. Man ir vieglāk noklusēt. 1. When talking to someone, I cannot object, even if I think my own opinion is more correct. It's easier for me to keep quiet.				
2. Dažādās sapulcēs es dodu priekšroku noklusēt, kad pastāv varbūtība, ka es nokļūšu stulbā stāvoklī. 2. In various meetings, I prefer to keep silent when there is a possibility that I will be perceived as stupid.				
3. Es izjūtu grūtības uzaicināt uz tikšanos sev interesantu cilvēku (piemēram, pretējā dzimuma pārstāvi). 3. This is difficult for me to invite an interesting person (for example, a representative of the opposite sex) to a meeting.				
4. Es mēdzu iepazīties ar cilvēkiem, pret kuriem es izjūtu līdzjūtību. Es negaidu, kamēr viņi spers pirmo soli. 4. I tend to get to know people I sympathize with. I don't wait for them to take the first step.				
5. Kad mani slavē un izsaka				

<p>komplimentus, es samulstu un nezinu, kā uz to reaģēt, es jūtos it kā ne savā ādā.</p> <p>5. When I am praised and complimented, I'm embarrassed and don't know how to react to it, I feel as if I'm not in my own skin.</p>				
<p>6. Runājot par kaut ko svarīgu vai ar kādu, no kura esmu atkarīgs/a, es apjūku un jūtos nepārliecinoši.</p> <p>6. When I talk about something important or with someone I am addicted to or I get confused and feel unconvincing.</p>				
<p>7. Man ir ļoti grūti sākt sarunu ar ierēdņiem un vadītājiem, pat ja man vienkārši viņiem kaut kas ir jāpasaka.</p> <p>7. It is very difficult for me to start a conversation with officials and managers, even if I just have to say something to them.</p>				
<p>8. Es iestājos par savām tiesībām.</p> <p>8. I stand for my rights</p>				
<p>9. Es iestājos par savām tiesībām.</p> <p>9. I stand up for my rights.</p>				
<p>10. Es nekautrējos norādīt visiem, kas strādā, atpūšas vai dzīvo vienā telpā ar mani, lai viņi piedalītos kārtības uzturēšanā.</p> <p>10. I am not ashamed to point out to everyone who works, rests or lives in one room with me so that they participate in maintaining order.</p>				
<p>11. Man ir grūti ieskatīties acīs cilvēkam, ar kuru man ir atšķirīgs viedoklis.</p> <p>11. It's hard for me to look into the eyes of someone with whom my opinion differs.</p>				
<p>12. Man ir grūtības lūgt palīdzību.</p> <p>12. I have difficulties asking for a help.</p>				
<p>13. Ja sarunu biedra uzvedībā ir kaut kas, kas traucē sarunas norisei, man ir pietiekami daudz apņēmības viņam/ai par to pateikt.</p> <p>13. If there is something in the partner's behavior that interferes with the conversation, I have a determination to tell him/her about it.</p>				

14. Es ļauju no sevis vīt virves. 14. I allow to wind ropes from myself.				
15. Vai jūs kādreiz kautrējaties no cilvēkiem vai mēģināt nenokļūt noteiktās situācijās, jo nevēlaties justies neērti? 15. Are you sometimes shy and stay away from certain situations because you do not want to feel uncomfortable?				
16. Jums ir neveikli atgādināt viesmīlim par sevi, ja viņš jūs neapkalpo, bet gan sāk apkalpot apmeklētājus, kuri ir ieradušies vēlāk? 16. It is awkward for you to remind the waiter about yourself if he does not serve you, but starts serving visitors who have arrived later?				
17. Ja kādam nav taisnība, vai jums ir neērti viņam uz to norādīt? 17. If someone is wrong, are you embarrassed to point it to these people.				
18. Man ir grūti kādam izteikt komplimentus vai uzslavēt. 18. It is hard for me to compliment or praise someone.				
19. Vai Jūs jūtaties neērti lūgt viesmīlim dārgā restorānā nomainīt jūsu ēdienu, ja tas ir pagatavots slikti vai ir slikti pasniegts? 19. Do you feel uncomfortable asking a waiter in an expensive restaurant to change your food if it is cooked poorly or is poorly served?				
20. Vai jums ir grūtības aizstāvēt savu viedokli, ja tas ir pretrunā cilvēka viedoklim, kuru jūs cienāt? 20. Do you have trouble defending your point of view if it contradicts the opinion of a person you respect?				
21. Es vērtēju savu uzvedību objektīvi. 21. I judge my behavior objectively.				
22. Man nācās attaisnoties un atvainoties par savu uzvedību. 22. I had to make excuses and apologize for my behavior.				
23. Es uztraucos par mīļajiem, kad viņiem ir problēmas.				

23. I worry about loved ones when they have problems.				
24. Man ļoti svarīgs ir citu viedoklis. 24. The opinion of others is very important for me.				
25. Man ir jābūt loģiskam, pieņemot lēmumus. 25. I have to be logical in making decisions.				
26. Man ir grūtības atzīt, ka es nesapratu skaidrojumu (uzdevumu). 26. I'm having trouble to admit that I didn't understand the explanation.				

The key of the Test: A26.

1. Before calculating the results, you need to make an inversion No. 1,9,10,13,21, replacing with: $1 \Rightarrow 4$, $2 \Rightarrow 3$, $3 \Rightarrow 2$, $4 \Rightarrow 1$.

2. To calculate the total of all points.

If the sum is less than 66, uncertainty (passivity) is more characteristic, if more than 77 – there is a tendency towards aggression. In the range of 66 -77, self-confidence or assertivity is characterizing a person.

Discussion

In the process of repeated testing, which was carried out a month after the first test was carried out, it was stated that the coefficients of the relationships between the first and second results of the Test were 0.98 according to the Pearson criterion. Thus, a high degree of reliability of the test was proved. We did not check the validity of the test, since this procedure had already been performed by the author of the questionnaire.

The Test of Sheinov on confidence has been used by the authors in several studies. Thus, in one of these studies, it was discovered that dependence on social networks hinders the development of assertive behavior skills (Makarevičs & Iliško 2022a, 2022b).

Conclusions

The assertive behavior is one of the most studied contemporary problems. Along with theoretical developments, there is a need for tools to investigate and diagnose this phenomenon.

The authors have translated the Test into the Latvian language and adapted assertiveness test. In the process of adaptation, the high reliability of the Latvian version of test was confirmed.

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STARPDISCIPLINĀRA DOKTORANTŪRA KĀ JAUNA IZGLĪTĪBAS UN PĒTNIECĪBAS IESPĒJA LATVIJĀ

Interdisciplinary Doctoral Studies as a New Educational and Research Opportunity in Latvia

Karina Palkova

Rīgas Stradiņa universitāte, Latvija

Inga Kudeikina

Rīgas Stradiņa universitāte, Latvija

Ivans Jānis Mihailovs

Rīgas Stradiņa universitāte, Latvijas Kultūras akadēmija, Latvija

Abstract. *Doctoral studies are the first stage of an academic career, which applies to both the academic doctoral study programme and the professional doctoral programme. Over the past two decades, the role and tasks of doctoral studies have changed dramatically, especially in Europe. Doctoral studies have become an important link between the European Higher Education Area and the European Research Area and its main task is to provide those with doctoral degrees with the best qualifications for the creation, implementation and diffusion of new knowledge and innovations. Interdisciplinarity is trending. Nowadays scientists, researchers, professionals face up with the global problems. This global problem usually is unsolvable and complex by individual fields of science. Therefore, interdisciplinarity is vital in educational process as well as in science. Interdisciplinary approach in this field is challenging tasks for researchers and persons involved in educational process. Nevertheless, if Doctoral Programme is designed based on Interdisciplinarity, doctoral level studies in areas that cannot be accommodated in one of the departmental doctoral programs, could give broader and more unique research results. Interdisciplinary approach on doctoral level programme helps as well meet the individually designed interests of researcher. Bridging many disciplines together there is possible to provide novel and significant researches.*

Keywords: *doctoral study, interdisciplinarity, science, education.*

Ievads

Introduction

Mūsdienu komplicētie sociālie procesi kļūst par izaicinājumu pētniecībai, izvirzot prasību aptveroši analizēt un vērtēt konkrētas norises sabiedrībā. Zinātnieki, politikas veidotāji, darba devēji, starpdisciplināro darbu uzskata par izšķirošu. Arī starpdisciplināro pētījumu citējamība norāda uz pieaugošo pieprasījumu attiecīgo pētījumu veikšanā.

Latvijas Republikas zinātnes politikas un valsts finansēto pētījumu prioritātes bieži vien saistās ar nepieciešamību izveidot plašu pētnieku komandu, nodrošinot vairāku zinātnes nozaru pārstāvniecību un pētnieku kopdarbu (piemēram, valsts pētījumu programmās). Arī Latvijas zinātnes stratēģiskais pozicionējums ir veidots, ņemot vērā plašu faktoru kopu: “(a) ekonomiskās, sociālās, politiskās, kultūra, likumdošanas un vides izmaiņas un tendences Latvijā un pasaulē; (b) iecerēto zinātnes un pētniecības stratēģisko attīstību Latvijā saistībā ar valsts ekonomiskās attīstības stratēģiju; (c) Eiropas Savienības nostādnes un atbalsta prioritātes zinātnes un pētniecības attīstībā; un (d) unikālās iespējas, ko augstākminētie faktori rada Latvijas zinātnei” (LR Izglītības un zinātnes ministrija, 2019), kas attiecīgi aktualizē zinātniskās ekspertīzes starpdisciplinārā skatījuma nepieciešamību un prasa pārvarēt zinātnisko fragmentārismu.

Vienlaikus atzīmējamas darba tirgus tendences un darba devēju vajadzības, kas noteic starpnozaru pētījumu un studiju pieprasījumu. Dažādām tautsaimniecības nozarēm ir nepieciešami starpnozaru pētījumi, zinātniskās ekspertīzes līmenī izmantojot daudzveidīgas zināšanas un prasmes (*European University Association, 2016*). Saskaņā ar Zalcburgas principiem tieši starpnozaru pētījumu attīstība ļaus ātri un efektīvi reaģēt uz darba tirgus izaicinājumiem un vajadzībām, savukārt doktorantūras ietvaros ir jānodrošina starpdisciplinārās mācības un transversālo prasmju attīstīšana (Rauhvargers, 2005).

Šie apsvērumi tieši ietekmē arī jauno zinātnieku sagatavošanu Latvijas Republikā, doktorantu sadarbības kompetenci ar citu zinātņu nozaru pārstāvjiem pozicionējot kā priekšrocību pētniecībā – dalībai zinātniskajos projektos, pieredzes apmaiņā (tostarp doktorantūras skolu ietvaros), plašākam darba iespējām nākotnē, attiecīgi ļaujot attīstīt izpratni par aktualitātēm citās zinātnes nozarēs un pārnozaru zināšanas (zinātniskā izcilība), kā arī pēc būtības ir pamats pārkārtot doktora studiju programmu saturu un organizāciju. Minētais atbilst arī Zinātniskās darbības likumā nostiprinātajai zinātnieka darbības brīvībai – zinātniekam ir tiesības brīvi izvēlēties zinātnisko pētījumu virzienu un metodes (LR Saeima, 2005), zinātnes universitāte ekosistēmas izpratnei (LR Saeima, 1995), kā arī jauna doktorantūras modeļa konceptam.

Pētījumā analizēta starpdisciplināras doktorantūras ieviešana, vērtējot tās teorētisko un praktisko pienesumu izglītības kvalitātes celšanai. Izglītības kvalitāte korelē ar tautsaimniecības stabilitāti un ilgtspēju, tāpēc radošu, inovatīvu risinājumu rašana mūsdienu sociāli ekonomiskajām problēmām ir izglītības sistēmas izaicinājums un prioritāte vienlaicīgi. Starpdisciplināras doktorantūras mērķis, aizstājot esošo klasisko doktorantūras studiju sistēmu, ir nodrošināt tādu speciālistu sagatavošanu, kas spēj piedāvāt inovatīvus, starpdisciplinārus un tehnoloģiskus problēmu risinājumus.

Pētījuma mērķis ir starpdisciplināras doktorantūras tiesiskā regulējuma un prakses problēmu analīze izglītības kvalitātes un valsts ilgtspējīgas attīstības kontekstā.

Pētījumā izmantotas vispārzinātniskās un speciālās zinātniskās metodes - dokumentu analīze, kā arī tiesību normu interpretācijas metodes (gramatiskā, vēsturiskā, sistēmiskā, teleoloģiskā), analizējot tiesību aktus, politikas plānošanas dokumentus un teorijas avotus, kā arī indukcijas – dedukcijas metode, izdarot secinājumus un izsakot priekšlikumus.

Starpdisciplināritātes nozīmes pieaugums darba tirgū, izglītībā un pētniecībā
Increasing importance of interdisciplinarity in the labor market, education and research

Mūsdienās katra atsevišķa sociālo zinātņu nozare vairs nespēj visaptveroši uzlabot ietekmi uz sabiedrībā notiekošajiem procesiem. Tāpēc starpdisciplināritāte paver plašākas iespējas veikt mūsdienu norisēm apbilstošus pētījumus. Starpdisciplināritāte visbiežāk tiek skaidrota kā noteikto zināšanu “kombinācija no vairākām dažādām specialitātēm” (Ratniece, 2021). Attīstot starpdisciplināru pieeju, tai skaitā doktora studiju programmu līmenī, centrā ir dažādu zinātņu un disciplīnu teoriju un metodoloģijas mijiedarbība, integrācija. Vienlaikus notiek arī klasisko jeb raksturīgāko disciplīnu robežu pārskatīšana un to apzināta un mērķtiecīga pārkāpšana.

Šis ietvars ir kļuvis par pamatu, lai izveidotu labai starptautiskai praksei un jaunajam doktorantūras modelim atbilstošu pirmo starpdisciplināro doktora studiju programmu Latvijas Republikā – Rīgas Stradiņa universitātes (RSU) doktora studiju programmu “Sociālās zinātnes” (RSU, b.g.), attiecīgi pārvarot doktora studiju programmas fragmentārismu un konsolidējot līdz šim esošās piecas doktora studiju programmas “Tiesību zinātne”, “Politikas zinātne”, “Socioloģija” un “Komunikācijas kultūra un multimediji”, “Vadībzinātne”, kā arī vienu doktora studiju apakšprogrammu “Veselības vadība”, kas atbilst dažādiem akreditētajiem studiju virzieniem.

Izstrādājot jaunu studiju programmu “Sociālās zinātnes” (RSU, b.g.), īpašs uzsvars ir likts uz sociālo zinātņu lomas palielināšanu pētniecībā, apvienojot nozaru un apakšnozaru specifiskās zināšanas un kompetences. Sociālo zinātņu pētniecības ietekmes uzlabošana ir viena no studiju programmas prioritātēm, un tā izriet no Eiropas Komisijas programmas “Horizon 2020” mērķiem. Starpdisciplināro doktora studiju programmu izveide un tādejādi zinātnes nozaru integrācija spēcina pētniecības ietekmes ceļu (*key impact pathways*), tādejādi sevī nesot potenciālu sekmēt politikas veidošanu, zinātnisko pierādījumu izmantošanu stratēģiskās komunikācijas ietvaros, kā arī uzlabo infrastruktūru un pētniecības datu plašāku izmantošanu starpnozaru perspektīvā, demonstrējot primāri spēju

veicināt industriālo pētījumu attīstību. Turklāt universitātēm šāda pieeja kalpo par labu iespēju vienkopus koncentrēt dažādus resursus – pētnieciskos, finansiālos, cilvēkresursus, modernizējot studiju vidi un veicinot iesaistīto pušu plašāku līdzdalību dažādās zinātniskajās aktivitātēs, kā arī zinātnisko rezultātu izplatīšanu un zinātnes komunikāciju.

Sociālajās zinātnēs pētniecības ietekmes komponentei ir liela nozīme, jo izcilības kritērijs ar bibliometriskajiem rādītājiem parasti nesniedz pilnvērtīgu ieskatu pētniecības pievienotajā vērtībā. Sociālo zinātņu pētniecības ietekmi ir sarežģīti savienot ar konkrētām pētniecības programmām vai projektiem (Arnold, Knee, & Vingre, 2021).

Apvienojot vairāku sociālo zinātņu nozaru programmas, centrā ir pētniecības metodoloģija, metodes, kas, no vienas puses, ir specifiskas katrai nozarei, no otras puses, var tikt integrētas un savstarpēji papildinātas, izejot no attiecīgās zinātnes nozares, tādējādi radot iespēju veikt oriģinālus pētījumus starpnozaru perspektīvā. Jebkurš pētījums, neatkarīgi no tā, vai tas ir veikts tiesību zinātnes, komunikācijas, politikas, socioloģijas vai ekonomikas jomā, ir balstīts uz kopīgiem principiem un arī pakārtots normatīvajiem aktiem, kas regulē sabiedrības uzvedību. Tādējādi pētījumi politikas zinātnē, tiesību zinātnē, socioloģijā, komunikācijā un ekonomikā mūsdienās nevar pastāvēt bez savstarpējas sasaistes, kuras pamatā ir gan metodoloģija, gan arī tiesiskā bāze, gan arī izpratne par sabiedrības funkcionēšanas un attīstības principiem, kas kopumā veido pētāmo sistēmu.

Doktora studiju programmas “Sociālās zinātnes” nozaru apvienošana starpdisciplinārā perspektīvā sniedz iespēju topošajiem pētniekiem, zinātnisko iestāžu vadītājiem, valsts attīstības un politikas plānošanā iesaistītajiem ekspertiem attīstīt jaunu pieeju zinātnisko rezultātu ietekmes novērtēšanā un izplatīšanā. Turklāt šādi tiek nodrošināta jauna līmeņa pētnieku un ekspertu iespēju veicināšana un spēja pārorientēties no specifisku nozaru iekšējo problēmu risināšanas uz izaicinājumiem, kas saistīti ar plašiem sociāliem procesiem starpnozaru perspektīvā. Inovatīvu risinājumu meklēšana, integrējot sociālo zinātņu potenciālu pētnieciskā darba veikšanā, ļaus pastiprināt saikni starp pētniecību un nozari (praksi).

Viens no faktoriem, kas pamato šādas doktora studiju programmas izveidi strauji mainīgajā pasaulē, ir nepieciešamība starpdisciplināru pētījumu īstenošanu savienot starp nozares / nozaru spēlētājiem.

Līdz ar to sagatavotie studiju pamatkursi tiks īstenoti visās studiju apakšprogrammās, tādējādi nodrošinot studējošo iespēju iegūt starpdisciplināras zināšanas, kā arī prasmes un kompetences, kas sniedz priekšrocības darba tirgū. Starpdisciplināra pieeja ļauj arī efektīvāk izmantot universitātes materiāltehnisko bāzi, bet studējošo iespējas strādāt starpdisciplinārās un starptautiskās komandās veicinās to konkurētspēju darba tirgū un sekmēs potenciālu inovāciju radīšanai.

Viens no Latvijas ilgtspējīgas attīstības stratēģijas līdz 2030. gadam izaicinājumiem ir pasaules ekonomikas un tehnoloģiju straujās pārmaiņas, kā

rezultātā efektīva un elastīga augstākās izglītības sistēma kļūst par izšķirošu Latvijas konkurētspējas un cilvēkkapitāla vērtības faktoru (Latvijas Republikas Saeima, 2010). Apstākļos, kad doktora studiju programmām būs pieaugoša loma, starpdisciplinārās studiju programmas struktūra un saturs sekmēs Latvijas augstākās izglītības nozares stratēģisko mērķu sasniegšanu, mazinot studiju programmu fragmentāciju un veicinot resursu koplietošanu, pārnacionalitāti un studiju vides starptautiskošanu, vienlaikus sekmējot inovāciju ieviešanu, transversālo prasmju pilnveidi, nodrošinot individuālu pieeju un elastību pētniecībā. Savukārt starptautiskā sadarbība un iesaiste Eiropas zinātnes norisēs ir priekšnosacījums nākotnes izaugsmei, piekļuvei jaunām zināšanām un resursiem, kalpo personības un valsts izaugsmei (sk. 1.tab.).

1. tabula. Doktora studiju programmas saskaņotība ar RSU, Latvijas un Eiropas Savienības stratēģisko vīziju, plānošanas dokumentiem un normatīvajiem aktiem (autoru veidota)
 Table 1 Coherence of the doctoral study program with the strategic vision of RSU, Latvia and the European Union, planning documents and regulatory acts (made by the Authors)

Dokuments	Saskaņotība ar programmu “Sociālās zinātnes”
Eiropas Savienības stratēģiskie dokumenti izglītībā (Boloņas process)	Studiju programma “Sociālās zinātnes” nodrošina augstākās izglītības sistēmu salīdzināmību un saskaņotību ar nolūku veicināt iedzīvotāju mobilitāti, nodarbinātību un Eiropas augstākās izglītības starptautisko konkurētspēju atbilstoši Boloņas procesa virsmērķim (EHEA, 2020)
Eiropas Komisijas stratēģija “Eiropa 2020: stratēģija gudrai, ilgtspējīgai un integrējošai izaugsmei”	Doktora studiju programma “Sociālās zinātnes” atbilst stratēģijā noteiktajiem mērķiem uzlabot Eiropas augstākās izglītības iestāžu darbību un starptautisko pievilcību un paaugstināt visu izglītības un mācību līmeņu vispārējo kvalitāti ES, apvienojot izcilību un vienlīdzību, šajā nolūkā veicinot studentu un docētāju mobilitāti, kā arī uzlabot situāciju jauniešu nodarbinātības jomā (Eiropas Komisija, 2010)
Horizon 2020	Sociālo zinātņu pētniecības ietekmes faktora uzlabošana (<i>research impact</i>) ir viena no prioritātēm, kas izriet no Horizon 2020 iekļauto mērķu tvēruma (European Commission, n.y.)
Nacionālais attīstības plāns 2021.–2027. gadam	Studiju programma atbilst Latvijas Nacionālā attīstības plāna 2021.–2027. gadam stratēģiskajiem mērķiem, ļaujot realizēt visaptverošu starptautisku un starpnozaru sadarbību, aktīvu inovāciju radīšanu, stiprinot sabiedrības ilgtspēju, ekonomisko jaudu un nacionālās identitātes attīstību (Pārresoru koordinācijas centrs, 2020)
Augstskolu likums	Izaicinājumi, ņemot vērā nacionālā regulējuma trūkumus un ierobežojumus starpdisciplināritātes ieviešanā. Ierobežotas iespējas starpdisciplināro doktora studiju programmu attīstībai (LR Saeima, 1995)

<p>Zinātnes, tehnoloģijas attīstības un inovācijas pamatnostādnes 2021. – 2027. gadam</p>	<p>Programma atbilst zinātnes, tehnoloģijas attīstības un inovācijas politikas vīzijai, kas stiprina izcilu pētniecību (augstas kvalitātes un starptautiski atzīta pētniecība, tostarp inovatīvu organizāciju un uzņēmējdarbības attīstībai), inovāciju un tehnoloģiju attīstību zinātnē, gudru, prasmīgu un inovatīvu sabiedrību (zinātnieki spēj radīt, attīstīt un ieviest inovācijas un novērtēt zināšanu un pētniecības sociālo un ekonomisko vērtību) (LR IZM, 2021)</p>
<p>Digitālās transformācijas pamatnostādnes 2021. – 2027. gadam</p>	<p>Studiju programmā iestrādāts pamatnostādņu rīcības virziens “Digitālās prasmes un izglītība”. Pamatnostādnēs ir uzsvērts digitalizācijas nozīmīgums augstākajā izglītībā un arī pētniecībā (LR VARAM, 2021)</p>
<p>Konceptuālais ziņojums “Par jauna doktorantūras modeļa ieviešanu Latvijā”</p>	<p>Studiju programma atbilst Konceptuālajā ziņojumā noteiktajam – jauna, Zalcburgas principiem (Rauhvargers, 2005) un rekomendācijām atbilstoša doktorantūras modeļa izstrādei un ieviešanai. Doktora grāda kandidātu pētniecības izcilības un karjeras attīstībā jāņem vērā viņu individuālie mērķi, motivācija un karjeras iespēju apzināšana (LR Ministru Kabinets, 2020)</p>
<p>Studiju programmu attīstības un konsolidācijas plāns</p>	<p>2018. gadā Izglītības un zinātnes ministrijas Konsolidācijas plānu izvērtēšanas komisijā tika saskaņota sešu jaunu studiju programmu izstrāde RSU. Kā viena no sešām jaunajām studiju programmām SAM 8.2.1. ietvaros izstrādāta akadēmiskā doktora studiju programma “Sociālās zinātnes”. (LR Ministru kabinets, 2018b)</p>
<p>RSU attīstības stratēģija 2022. –2027. gadam</p>	<p>Nodrošināt starptautiskajā zinātnes kopienā novērtētu zināšanu radīšanu, uzkrāšanu un pārnesi, piedāvāt izcilas, iekļaujošas un ilgtspējīgas izglītības iespējas un sniegt ieguldījumu sabiedrības attīstībā veselības, dzīvības un sociālo zinātņu jomās, realizējot ikviena studējošā un darbinieka potenciālu visa mūža garumā. Vīzija: Eiropas mēroga moderna zinātnes universitāte, kurā koncentrējas talanti, un kurā iegūst izcilu pētniecībā un praksē balstītu izglītību un pieredzi (RSU, 2021).</p>

Starpdisciplināro studiju programmu veiksmīgai veidošanai un īstenošanai ir svarīgs ne tikai starptautiskais aspekts, bet arī nacionālā līmeņa normatīvais regulējums un politikas plānošanas dokumentu tvērums, kas paver iespējas tehniski sakārtot starpdisciplināro studiju un pētījumu veiksmīgu īstenošanu.

Starpdisciplināras pieejas nepieciešamības pamatojums *Reasoning for the need for an interdisciplinary approach*

Starpdisciplīnu pētījumi rada iespējas apkopot un arī piemērot savstarpēji papildinošās prasmes, lai ātrāk atrisināt definētas problēmas, kas arvien biežāk

klūst daudzšķautņainas. Starpdisciplināritāte, ļauj apgūt jaunas prasmes un paplašināt savu metodoloģisko diapazonu (McNicol, 2003).

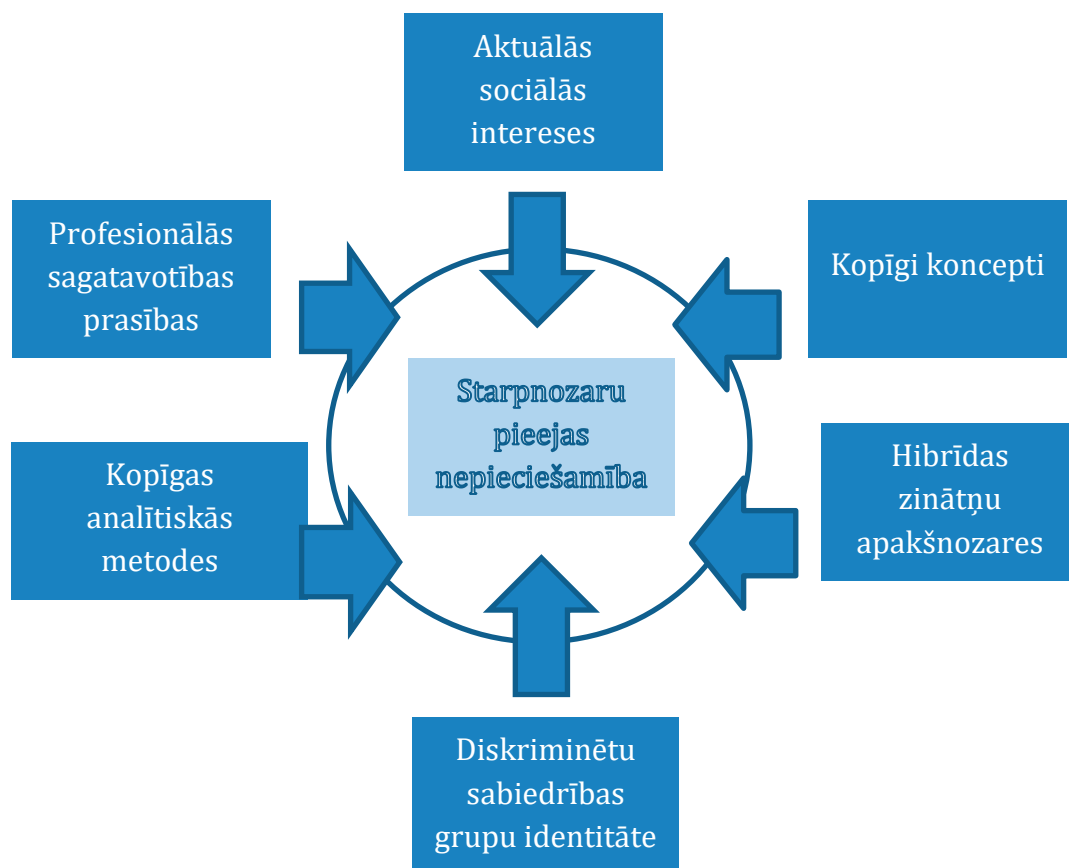
Sociālajās zinātnēs atsevišķām zinātņu nozarēm un starpnozaru jeb starpdisciplinārai pieejai ir gan savas priekšrocības, gan trūkumi. Zinātņu nozaru nosacīti izolēta attīstība un līdzāspastāvēšana reprezentē zināšanu veidošanas stabilitāti un viendabīgumu, taču starpdisciplināritāte – zināšanu daudzveidību un spēju piemēroties sociālajai realitātei un daudz plašākā un visaptverošākā veidā to izskaidrot.

Tradicionāli zinātņu nozares ir tikušas uzlūkotas kā unikāli un relatīvi noslēgti zināšanu un zinātniskās domas avoti. Katra sociālo zinātņu nozare atsevišķi veido pamata struktūru kopīgajam sociālo zinātņu blokam. Katrā no nozarēm ir gan savi racionālie, gan nejaušas dabas faktori, kas nosaka tematisko un problēmu loku, ar ko zinātnes nozare nodarbojas, kā arī tai raksturīgos konceptus, teorijas, metodes, pētnieciskos modeļus, analīzes principus, izskaidrošanas metodes un citus standartus. Dažādās sociālo zinātņu nozares katra atsevišķi ļauj iegūt specifiskas, padziļinātas zināšanas par savā uzmanības lokā esošu tematu aspektiem un jautājumiem. Taču vienlaikus pastāv arī zināšanu fragmentācijas, jaunu un kompleksu attiecību ignorēšanas un jaunu objektu un tikai daļējas tēmu izpētes risks, kas var neatbilst esošajām praktiskajām un konceptuālajām vajadzībām gan zinātnē, gan tautsaimniecības nozarēs un globālajā vidē kopumā. Nozarēm izolēti kļūstot pašām par savu zināšanu, metodoloģijas un teoriju robežu sargātājām, nereti tiek pazaudēta spēja radīt jaunas zināšanas un adekvāti interpretēt sociālās norises; sociālās zinātnes nereti kļūst mazāk efektīvas tieši to fragmentācijas dēļ.

Risinājumu šādai problēmai sniedz starpnozaru jeb starpdisciplināra pieeja, kas vienkāršoti var tikt uzlūkota kā efektīvs līdzeklis tādu problēmu atrisināšanai un jautājumu atbildēšanai, kas nevar tikt pilnvērtīgi aptverti, lietojot šķirtas nozaru metodes, pieejas un zināšanas. Problēmjaudājumu konteksts var būt ļoti plašs un dažāds, un tā gradācija var sniegties no īstermiņa instrumentalitātes jeb aktuālu praktisku jautājumu risināšanas līdz pat plaša mēroga epistemoloģisko nostādņu rekonceptualizācijai sociālajās zinātnēs. Lai paplašinātu zināšanas un veidotu tās atbilstošas sociālajai realitātei un globālo procesu savstarpējai saistībai, izšķiroša ir spēja mācīties, izmantojot vairākus zināšanu avotus vienlaikus. Starpdisciplinārās pieejas riski tradicionāli tiek saistīti ar padziļinātu zināšanu trūkumu atsevišķu zinātnes nozaru standartos un tām raksturīgajos zinātnes problēmjaudājumos. Tādēļ doktora studiju līmenim vispiemērotākā ir starpnozaru pieeja, kad studējošie iepriekšējos augstākās izglītības apguves līmeņos ir ieguvuši padziļinātas zināšanas vismaz vienā zinātņu nozarē, kuru doktora līmenī ir iespējams paplašināt ar citu zinātņu nozaru perspektīvu, zinātniskajām metodēm, pieejām, teorijām un modeļiem (LR IZM, 2021).

Veidojot starpdisciplināru pieeju, tiek radīta jauna iespēja meklēt un veicināt risinājumu piemērošanu dažādās sabiedrībā pastāvošās kompleksās

jomās, un tās ietver arī sabiedrības veselību, nabadzības problēmu, vardarbības un konfliktu tematu individuālā, sabiedrības un globālā kontekstā, globālās sasilšanas problemātiku u. c. Sociālajās zinātnēs starpdisciplināra pieeja ietver paplašinātu un padziļinātu metodoloģisko un teorētisko zināšanu piemērošanu no vairāk nekā vienas tradicionālās zinātņu nozares perspektīvas, lai izprastu kādu konkrētu sociālu fenomenu (sk. 2.attēlu).



2. attēls. *Starpnozarņu pieejas nepieciešamību definējošie faktori sociālajās zinātnēs*
(autoru veidots)

Picture 2 *Interdisciplinary approaches are necessary for defining factors in the social sciences* (made by the Authors)

Aktuālās sociālās norises visbiežāk ir izteikti starpdisciplināras, tās piesaista dažādu zinātnes nozaru pārstāvju interesi, un to risinājumi un pilnvērtīga interpretācija nav iespējama vienas zinātņu nozares robežās. Zaļā ekonomika, dažādi darba tirgus attīstības aspekti, konfliktu pētniecība starptautiskajā vidē, tiesiskuma un demokrātisko vērtību nozīme sabiedrības funkcionēšanā ir atsevišķi šobrīd aktuāli jautājumi, taču to loks ir daudz plašāks, ar tendenci arvien paplašināties.

Profesionālās sagatavotības prasības dažādās tautsaimniecības nozarēs pieprasa vispusēji izglītotu speciālistus, kas pastāvošo sociālo realitāti un ar to saistītās problēmas ir spējīgi uzlūkot un interpretēt plašā perspektīvā, kas

neaprobežojas ar šauru disciplīnas fokusu. Uzņēmējdarbības vadība, diplomātija, publiskā pārvalde un veselības aprūpe ir tikai dažas no nodarbinātības jomām, kas sagaida speciālistu spējas apvienot teorētiskas zināšanas ar praktiskiem risinājumiem un vienlaikus ņem vērā dažādas perspektīvas un dažādas sabiedrības grupas, to bažas, vajadzības un intereses.

Starpnozaru jeb starpdisciplināras pieejas nepieciešamību nosaka arī kopīgi koncepti, kopīgas metodes un to pielietojamība dažādu zinātnes nozaru kontekstā. Šis aspekts ir īpaši attiecināms uz kvantitatīvajām metodēm, kas ļauj sasniegt starpdisciplinārus mērķus zinātnē un pētniecībā. Šādas metodes aptver datormodelēšanu, dažādas statistiskās metodes un spēļu teorijas, taču neaprobežojas ar tām.

Jau šobrīd sociālajās zinātnēs pastāv hibrīdas apakšnozares, kas apvieno atsevišķus elementus, kas piemīt dažādām un tomēr saistītām nozarēm. Tādējādi tiek radītas jaunas starpnozares, kurām ir potenciāls aizpildīt zināšanu plaisas, kas veidojas starp savstarpēji izolētām nozarēm. Tādas, piemēram, ir politiskā ekonomika, tiesību socioloģija un sociālā psiholoģija.

Turklāt mūsdienu sociālā realitāte prasa gan praktiskās politikas risinājumus, gan sociālo zinātņu ieguldījumu, un šīs kompleksās problemātikas skaidrojumi, interpretācija un iespējamie risinājumi arī sociālo zinātņu perspektīvā vienmēr ir bijuši izteikti starpdisciplināri un aptver gan tiesiskuma, vienlīdzības un taisnīguma aspektus, gan publiskās pārvaldes, ekonomiskās attīstības un starptautiskās pārvaldības jautājumus. Vispildītākie piemēri šajā kategorijā ir labi attīstītā pētniecība sieviešu tiesību un vienlīdzības jomā, etniskās studijas, postkoloniālās studijas un sociālo pārmaiņu aktīvisma pētniecība.

Starpnozaru pieejai kopumā piemīt potenciāls šķērsot nozaru zināšanu un iespēju robežas, integrējot ekspertīzi, konceptus un metodes un apvienojot zināšanas. Tādējādi tiek radītas jaunas zināšanas un jaunas pieejas, kas daudz labāk spēj veidot, zinātniski skaidrot un interpretēt sociālo realitāti, kas nemēdz iekļauties šauru disciplīnu robežās kompleksitātē un daudzveidībā.

Praktiskā rakstura problemātika starpdisciplināritētes ieviešanā Latvijā *Practical problems in the introduction of interdisciplinarity in Latvia*

Ministru kabineta 2020. gada 25. jūnija rīkojums Nr. 345 “Par konceptuālo ziņojumu “Par jauna doktorantūras modeļa ieviešanu Latvijā” paredz, ka līdz 2025. gada 31. decembrim ir jāveic nepieciešamos pasākumus jauna doktorantūras modeļa ieviešanai Latvijā, attiecīgi ietverot gan jaunā doktorantūras modeļa ieviešanas prasības, gan plānoto pāreju uz ciklisku augstskolu akreditāciju, kā arī paredzot īstenot starpnozaru pētījumu un studijas doktorantūras ietvaros (LR Ministru Kabinets, 2020).

Izstrādājot starpdisciplināro doktora studiju programmu, tika konstatēti vairāki izaicinājumu attiecībā uz šobrīd spēkā esošo normatīvo aktu konceptuālu

neatbilstību jaunajam doktorantūras modelim. Piemēram, RSU studiju programma konsolidēja piecas līdz šim esošās doktora studiju programmas – “Tiesību zinātne”, “Politikas zinātne”, “Socioloģija” un “Komunikācijas kultūra un multimediji”, “Vadībzinātne”, kā arī apakšprogrammu “Veselības vadība”, kas katra atbilst dažādiem RSU akreditētajiem studiju virzieniem.

Licencējot starpdisciplināru studiju programmu, būtu jāvadās no prasībām, kas noteiktas Ministru kabineta 2018.gada 11.decembra noteikumiem Nr. 795 “Studiju programmu licencēšanas noteikumi” (LR Ministru kabinets, 2018a), proti, nepieciešams iesniegt licencēšanas iesniegumu, kurā jānorāda “studiju programmai atbilstošā studiju virziena nosaukumu”. Neskatoties uz to, ka studiju programma tiek veidota starpdisciplināra (ja uz to norāda gan programmas saturs, gan arī uzbūve un mērķi), kā arī ņemot vērā to, ka programma, piemēram, veidota noteiktajā nozares grupā, proti “Sociālās zinātnes”, tomēr nav viennozīmīgi iespējams un arī vēlams pēc būtības noteikt šādai studiju programmai tikai vienu studiju virzienu. Viena virziena noteikšana, kā to šobrīd prasa Augstskolu likuma 1. panta 1.¹ punktā noteiktais, kā arī šā likuma 55.² pants (LR Saeima, 1995), no jaunā doktorantūras modeļa perspektīvas raugoties, nav iespējama un pēc būtības ir maldinoša.

Šajā kontekstā atzinīgi vērtējami Grozījumi Augstskolu likumā, kas stājās spēkā 2022.gada 21.aprīlī. Tie ļauj studiju programmas ietvaros “izveidot studiju programmas apakšprogrammu (apakšprogrammas), kas ir studiju programmas sastāvdaļa un atbilst konkrētai zinātnes nozarei” (LR Saeima, 1995). Minētais paver iespēju doktora studiju programmas licencēt kā studiju programmu ar apakšprogrammām (apakšprogrammu saturam var būt vairāki studiju apakšprogrammu kodi). Taču minētais nerada iespējas starpdisciplināro doktora studiju programmu attīstībai, bet gan ir tehnisks pagaidu risinājums.

Izvērtējot programmas attīstības potenciālu jaunā doktorantūras modeļa ietvaros, secināms, ka viena vai arī vairāku studiju virzienu noteikšana liedz pēc būtības sasniegt starpdisciplināro programmu mērķus. Mūsdienīgu starpdisciplināro programmu attīstības potenciāls un starpdisciplinārā satura attīstība ir atkarīga no starpnozaru pētījumu veicināšanas, kuru nav iespējams sasniegt, sašaurinot virzienu izvēli.

Papildus, aplūkojot gan Augstskolu likumu (LR Saeima, 1995), gan arī Ministru kabineta 2018.gada 11.decembra noteikumu Nr.795 “Studiju programmu licencēšanas noteikumi” prasības viena virziena noteikšanai doktora programmai kontekstā ar Zinātniskās darbības likumu, secināms, ka Zinātniskās darbības likuma 8. panta pirmās daļas 1.punkts (LR Saeima, 2005) noteic, ka zinātniekam ir tiesības brīvi izvēlēties zinātnisko pētījumu virzienu un metodes. Programmas mērķis atbilstoši jaunajam doktorantūras modelim arī ir vērsts uz zinātnieku kapacitātes stiprināšanu un starpdisciplināru pētījumu attīstību. No vienas puses, Zinātniskās darbības likums paver iespēju nodrošināt zinātnieka darbību ne tikai noteiktajās zinātnes nozarēs un apakšnozarēs, bet arī zinātnes

nozaru grupās. Atbilstoši Zinātniskās darbības likuma 28. panta trešās daļas 4. punktam augstskolām ir piešķirtas tiesības veikt zinātnisko darbību (izdot zinātniskus rakstus, īstenot projektus, līgumpētījumus utt.) zinātnes nozaru grupās atbilstoši augstskolas dibinātāja noteiktajai augstskolas stratēģiskajai specializācijai (LR Saeima, 2005). Proti, Zinātniskās darbības likums pēc būtības atbalsta starpdisciplināru, starpnozaru pētījumu pieeju, īpaši paverot iespēju izmantot zinātnes nozaru grupas virziena attīstību pētniecībā. Arī jauns augstskolu tipoloģijas modelis uzsver to, ka dalījums zinātņu nozaru grupās nestiprina starpdisciplināru programmu attīstību. Savukārt, no otras puses, augstāk norādītie normatīvie akti šobrīd sašaurina attiecīgās iespējas, nosakot saturisko ierobežojumu studiju virziena veidā.

Arī Ministru kabineta 2022.gada 27.septembra noteikumi Nr. 595 “Noteikumi par Latvijas zinātnes nozaru grupām, zinātnes nozarēm un apakšnozarēm” stiprina starpdisciplināru zinātnes attīstību. Proti, noteikumos ir paredzēta iespēja darboties zinātnes nozares grupas ietvaros, pat vēl vairāk, attīstot starpnozaru sociālās zinātnes, kas īpaši paredzēts šo noteikumu, piemēram, 5.9.punktā (LR Ministru kabinets, 2022).

Atbilstoši konceptuālajam ziņojumam “Par jauna doktorantūras modeļa ieviešanu Latvijā” doktorantūras galvenais elements ir oriģināls zinātnisks pētījums vai doktora teorētiskais pētījums, kuru veic doktorants. Līdz ar to, doktora studiju programmas nevar tikt pielīdzinātas bakalaura un maģistra studiju programmām. Arī to vērtēšana pēc būtības nevar notikt pēc principiem, kas līdzīgi maģistra vai bakalaura programmām. Virzienu noteikšana neveicina pētniecību un tās attīstību, neskatoties uz to, ka pētniecība ir doktora studiju programmu pamatā (LR Ministru Kabinets, 2020).

Šajā ziņojumā ir norādīts, ka normatīvais regulējums jaunas doktora studiju programmas licencēšanai ārpus studiju virziena un doktorantūras skolas ietvarā stāsies spēkā no 2022.gada, savukārt normatīvais regulējums doktorantūras skolas akreditācijai – no 2025. gada. Taču šobrīd jauno modeli un esošo regulējumu raksturo vairāki riski, kas saistīti ar studiju programmas uzbūvi un ideju. Ja šobrīd tiek izstrādāta studiju programma, kas ir centrēta uz pētniecības attīstību un oriģinālu, starpdisciplināru zinātnisko pētījumu radīšanu, tad, pielāgojot šādu studiju programmu šobrīd spēkā esošajām prasībām, zūd programmas ideja, kas balstīta uz jauno doktorantūras modeli.

Papildus atzīmējama arī augstskolu autonomija korelācijā ar pētniecības brīvību. Augstskolu autonomiju raksturo akadēmiskā brīvība un varas un atbildības sadale starp valsts institūcijām un augstskolu, starp augstskolas dibinātāju un tās lēmēj institūcijām. Augstskolas autonomija izpaužas tās tiesībās brīvi izvēlēties augstskolas dibinātāja izvirzīto uzdevumu īstenošanas veidus un formas, kā arī atbildībā par augstskolā iegūtās izglītības un īstenotās zinātniskās un radošās darbības kvalitāti, demokrātisma principu ievērošanu, mērķtiecīgu un racionālu resursu izmantošanu (LR Saeima, 1995). Tādējādi, augstskolu

autonomija cieši saistīta ar augstskolas spēju veidot doktora studiju programmas, kas atbilst augstskolas stratēģiskajai vīzijai un specializācijai, turklāt gan nacionālajā, gan arī starptautiskajā līmenī tiek attīstīta un pieprasīta starpdisciplināro programmu pieeja. Augstskolas spēja doktora programmu līmenī pavērt pētniecības robežas starpdisciplinārajā plaknē veicina arī zinātnes attīstību un nodrošina gan pārnacionālo, gan arī oriģinālo pētījumu izstrādi.

Ņemot vērā minēto, būtu jāpārskata normatīvā regulējuma atbilstība starpdisciplinārām un kopīgām studiju programmām un kā pagaidu risinājumu veikt grozījumus attiecībā uz atteikšanos no studiju virzieniem doktoru programmu līmenī. Minētais ļautu nodrošināt vairāku zinātnes nozaru vai apakšnozaru doktorantu un zinātnieku sadarbību, attīstītu kopīgu pētniecību dažādu augstskolas struktūrvienību ietvaros.

Secinājumi **Conclusions**

Starpnozaru jeb starpdisciplināras pieejas nepieciešamība sociālajās zinātnēs ir saistīta ar vairākiem faktori – aktuālās sociālās intereses un norises, kopīgas zinātniskās metodes un koncepti, jau eksistējošas hibrīdas zinātņu apakšnozares, kā arī nepieciešamība stiprināt zinātnieku kapacitāti, apvienot zināšanas, paverot plašākas iespējas darba tirgū un veicinot augsta līmeņa ekspertīzi implementāciju dažādas tautsaimniecības nozarēs un jomās.

Tādējādi tiek radītas jaunas zināšanas un pieejas, kas daudz labāk spēj zinātniski skaidrot un interpretēt sociālo realitāti, pavērot plašāku skatījumu uz pašreizējām sociālajām (un ne tikai) tendencēm un norisēm.

RSU starpdisciplinārā doktora studiju programma “Sociālās zinātnes” ir pirmais mēģinājums izveidot mūsdienīgu, jaunam doktorantūras modelim atbilstošu doktora studiju programmu, kuras īstenošana ir saistīta ar turpmāko ieinteresēto pušu un politikas veidotāju (kop)darbu, risinot vairākus līdz galam neskaidrus un neatrisinātus jautājumus, kas šobrīd var apgrūtināt starpdisciplinārās doktorantūras īstenošanu:

1) Normatīvajā līmenī – ir jāatsakās no doktora studiju programmas piesaistes konkrētajam studiju virzienam, attiecīgi grozot Augstskolu likumu. Minētais ir tieši saistāms ar ieceri pāriet uz augstākās izglītības iestāžu institucionālo akreditāciju, kā arī tiešāk sasaistīt doktorantūras darbību ar regulāru zinātnes izvērtējumu.

2) Zinātnes politikas līmenī – ir jāturpina diskusijas par zinātnes klasifikāciju, zinātnes nozarēm un apakšnozarēm, kā rezultātā ir iespējami grozījumi zinātnes klasifikācijā.

3) Zinātniskās pētniecības un studiju (izglītības) līmenī – doktora studiju ietvaros ir attīstāma un zinātniskajā vidē nostiprināma jaunu doktorantu identitāte,

uzsverot šādu studiju un pētniecības priekšrocības un doktorantu iespējas kā ieguvumu Latvijas zinātnei, bet plašāk – Latvijas sabiedrībai.

Summary

Priorities of the scientific policy and state-funded research in the Republic of Latvia are often associated with the need to assemble a broad team of researchers, ensuring representation of numerous scientific domains and cooperation between researchers (e.g., within the framework of public research programmes). Strategic positioning of Latvian science is also shaped in consideration of a broad range of factors: "(a) economic, social, political, cultural, legislative and environmental changes and trends in Latvia and worldwide; (b) contemplated strategic development of science and research in Latvia in line with the national economic development strategy; (c) guidelines and support priorities of the European Union in the development of science and research; and (d) the unique opportunities created for science in Latvia by the aforementioned factors" (Strategic Positioning of Latvian Science Abroad, Strategic Manual 2019), which respectively mainstreams the need for an interdisciplinary outlook on scientific expertise and urges to overcome scientific fragmentariness.

In the meantime, one can identify specific labour market trends and employer needs that define the demand for cross-sectoral research and studies. Interdisciplinary research involving the application of versatile knowledge and skills at the scientific expertise level is sought by different industries of the national economy. According to the Salzburg Principles, it is the development of Interdisciplinary research that is going to allow prompt and efficient reaction to the needs and challenges of the labour market, whereas interdisciplinary education and development of transversal skills must be integrated in doctoral studies. These considerations also directly affect the training of young scientists in the Republic of Latvia, positioning the competence of doctoral students' cooperation with representatives of other scientific domains as an advantage in research – for participation in scientific projects, exchange of experience (also within the boundaries of doctoral educational institutions), broader employment opportunities in the future, respectively allowing the development of comprehension of relevant issues in other scientific domains and cross-industry knowledge (scientific excellence), and, essentially, form a foundation for restructuring the content and organisational of doctoral education programmes.

The above is also in line with the freedom of scientist activities provided for by the Law on Scientific Activity – a scientist has the right to freely choose the direction and methods of scientific research (Paragraph 1, Part one, Section 8 of the Law on Scientific Activity), idea of a scientific university ecosystem (Section 25.¹ of the Law on Higher Education Institutions), as well as the concept of the new doctoral studies model (On the conceptual report "Regarding the implementation of the new doctoral studies model in Latvia").

The study analyses the implementation of interdisciplinary doctoral studies, evaluating the theoretical and practical contribution thereof to the improvement of education quality. Education quality correlates with the stability and sustainability of national economy, so the development of creative and innovative solutions to the social and economic problems of today is simultaneously a challenge and a priority for the education system. The goal of interdisciplinary doctoral studies by substituting the existing classical doctoral studies system is to ensure the preparation of experts capable of suggesting innovative, interdisciplinary and technological solutions to various problems.

The goal of the research study is the analysis of issues of legal regulatory framework and practice of interdisciplinary doctoral studies within the context of education quality and

sustainable development of the country. The need for cross-sectoral or interdisciplinary approach in social sciences is associated with a number of factors – relevant social interests and processes, common scientific methods and concepts, already existing hybrid science subdomains, as well as the need to improve scientists' capacity by combining knowledge, providing broader opportunities on the labour market and encouraging the implementation of high-level expertise in different areas and industries of the national economy.

This brings about the development of new knowledge and approaches, much more capable of scientific explanation and interpretation of the social reality, broadening the view of the current social (and other) trends and processes. The interdisciplinary doctoral study programme “Social Sciences” of the Riga Stradiņš University is the first attempt at creating an up-to-date doctoral study programme appropriate to the new doctoral studies model, and its implementation is associated with further (co)operation of the concerned parties and policy-makers for finding solutions to issues that remain unsolved or have not yet been cleared up to a sufficient extent, which, at this stage, could impede the implementation of interdisciplinary doctoral studies at several levels: the Regulatory Level, the Scientific Policy Level and the Scientific Research and Studies (Education) Level.

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HIGHER EDUCATION OF LAWYERS: THE CENTRALIZED QUALIFICATION EXAM

Anatolijs Krivins

Daugavpils University, Latvia

Abstract. *The research analyses the current situation of legal education in Latvia, Germany and United Kingdom. The current changes in the Latvian higher legal education system are mainly related to the introduction of the centralized lawyer qualification exam. The research aim is to find out the strengths and weaknesses of the centralized lawyer qualification exam, to offer practical solutions for improving the quality of higher education. The following primary methods have been used in the study: in order to assess the applicability of the new solutions in Latvia, the study analyzed the materials for the development of normative legal acts, opinions of lawyers and scientific literature. A summative content analysis was performed. In addition, the study is based on an analysis of the historical and contemporary experiences of United Kingdom and Germany. As a result of the analysis, it has been concluded that it is necessary to transform legal education programs not only at the master's level, but also at the bachelor's level. The future work will include the implementation of empirical studies in the field of analysis of training programs in Latvia. The research novelty: the research covers the challenges of implementing new measures and assesses the role of different actors in the transformation process.*

Keywords: *centralized qualification exam, competences, exam, lawyers, transformations in the Higher Education, quality assurance.*

Introduction

According to the World Economic Forum, the profession of lawyer is included in the list of the 10 most respected professions in the world. Doctors topped the global list of most respected professions, followed by lawyers and then engineers (WEC, 2019).

The basic tasks and duties of a lawyer's professional activity both in the European Union (including Latvia and Germany) and in United Kingdom are conceptually consistent. Namely, according to the position, a lawyer finds, analyzes, interprets and applies legal norms, develops, analyzes and certifies legal documents, provides legal opinions and legal assistance, provides legal advice and represents or defends the subject of rights, performs legal activities in civil proceedings, administrative proceedings, administrative in infringement proceedings, constitutional court proceedings and criminal proceedings and develops studies with scientific value in jurisprudence. A lawyer performs the work of a judge, prosecutor, sworn advocate, sworn notary, sworn bailiff and insolvency administrator and work in other professions that require the

professional qualification of a lawyer. A lawyer works in direct administration institutions, intermediate administration institutions, commercial companies, as an individual merchant or as a self-employed person, as well as in other organizations or institutions (CMRL, 2017).

The work of a lawyer affects important economic aspects, not only in the context of civil law and commercial law, but also in the context of criminal law. For instance, criminal offenses in the area of commercial relationships, especially in recent years, pose a number of problems for public security and the efficient development of the economy (Teivāns-Treinovskis, Jefimovs, Velika, & Krivins, 2022). Compared to other crimes, corruption (Krivins, 2018) has the greatest weight when examining the relationship between economic development and crime (Remeikiene, Gaspareniene, Fedajev, Raistenskis, & Krivins, 2022). Environmental crime causes irreplaceable and sometimes irreversible damage to the interests of society, the economy and the individual, violates the guaranteed right to a favourable environment, and lowers the level of public and national security (Vilks & Kipāne, 2022).

Taking into account the nature and public importance of the legal profession, each country, before granting the qualification of a lawyer, determines relevant requirements for the level of knowledge and skills, as well as determines the procedure by which this level can be checked. The aim of the research is to find out the strengths and weaknesses of the centralized lawyer qualification exam, to offer practical solutions for improving the quality of higher education in Latvia. This research is based on a rigorous scientific methodology that allows us to consider the problem from a neutral point of view. The novelty of the study: it is the first study that simultaneously compares the approaches of Latvia, Germany and the United Kingdom to the organization of the lawyer qualification exam. The new knowledge of this study: the research covers the challenges of implementing new measures and assesses the role of different actors in the transformation process, thus contributing to the existing field of research in law.

Methodology

The methodology of the article is grounded mainly upon the comparative method, which is used for the analysis and comparative of the institute of Lawyer qualification exam in Germany, United Kingdom, and the Republic of Latvia. The research process and the procedure were as follows. Firstly, setting up of a unit of comparison (the legal examination system) was performed. These three specific countries were chosen to be compared for the following reasons: Germany and the United Kingdom are countries that best represent two different legal systems - The Romano-Germanic Legal System and The common law. At the same time, lawyers in all three countries perform similar duties.

Secondly, Grounds of comparison were selected. Three basic aspects were compared in the legal examination system of United Kingdom, Germany and Latvia: 1) what considerations determined the introduction of the unified qualification examination for lawyers; 2) what grades must be obtained in order to successfully pass the exam; 3) what common problems have arisen after the introduction of the unified qualification exam for lawyers. Thirdly, Report (Research results - conclusions, fields of risk) was created.

At the same time other methods is also used in the work, namely: he method of legal hermeneutics, which is used for clarifying the content of the legal norms; method of legal case practice is used for illustrating the topic. The formal-legal method is used to provide a complex characteristics of the legal regulation of the institute of Lawyer qualification exam. Not only regulatory legislation and court practice, but also public discourse and expert opinions - previously approved (Krivins, 2014) research method, were used as research material. A historical method was used to analyze the process development in dynamics.

Research material and situation description

In the United Kingdom there is a distinction between Solicitor, Barrister and specialist lawyer. To become a Solicitor, you need to earn a qualifying degree in law (LLB) in university. This must be done before passing the Solicitors Qualifying Examination (SQE), which since 2021 replaces the previously standard Graduate Diploma in Law (GDL) and Legal Practice Course (LPC). The next step is to complete two years of qualifying legal work experience, which may include a training contract, before passing the Solicitors Regulation Authority (SRA) merit and aptitude assessment. You can then apply to be listed as a solicitor. To become a Barrister in England or Scotland, you need to go through 3 stages or training components. These include an academic component (obtaining a law degree) and a professional component - the Bar Professional Training Course (BPTC) and legal practice (pupillage). After passing all the stages of training, you can apply for the status of a barrister. (Kings, 2021). The general timescale therefore to become fully qualified after entering Law School can range between 6–7 years (Smith, 2022). To become a specialist lawyer, you don't have to go to university. By taking the CILEX Professional Qualification (CPQ) route, you could be a practising specialist lawyer in as little as three years. (CILEX, 2023).

According to information that is publicly available, to become a lawyer in Germany, one has to study law at university for four or five years. Then, one has to pass the First Examination in Law (Erste Juristische Prüfung), which is administered in parts by the Oberlandesgericht (Higher State Court) of the respective state and in parts by the university the person attends; the state part accounts for two thirds of the final grade, the university part for one third. The

First Examination is recognised as equivalent to an integrated Master's degree. However, it only provides a limited qualification and does not itself permit access to regulated careers in the legal field without further training. After the First Examination in Law, candidates that wish to fully qualify must participate in a two-year practical training period (Referendariat) including placements at a court of law, a public prosecutor's office, a public sector in-house legal team and a law firm (private practice) or private sector in-house legal team. At the end of this training, candidates must take and pass the Second State Examination in Law (Zweites Staatsexamen). Successful candidates of the Second Examination are called fully qualified lawyer (Volljurist). Classic legal training is two-stage: it includes studying law at a university and two-year practical training in various legal fields. The lawyer (Der Jurist) is broadly trained in the three major legal areas of criminal law, civil law and public law. In the course of the reform of legal education, university examinations have been integrated into the examination since 2003, which are taken in the focus areas chosen by the students. The state compulsory subject examination is still not conducted by the training provider itself, but by a state authority - Justizprüfungsamt (Wikipedia, 2023). The state examination part counts for 70% and the university part for 30% of the overall grade. The examinations to be performed in the state compulsory subject examination differ depending on the federal state. In the law studies and in both state examinations, the grading is based on an 18-point system (OAI, 2023).

Table 1 The content of Uniform State Professional Qualification Examination of a Lawyer in Latvia (according CMRL, 2019)

Nr.	Considering the uniformity and internal coordination of the legal system, the qualification examination shall test the knowledge, skills, and competences of a candidate in the following fields:
1.	criminal law and rights of criminal procedure
2.	civil law, rights of civil procedure, and commercial law
3.	constitutional law, administrative law, and rights of administrative procedure;
4.	international law and law of the European Union;
5.	law, philosophy of law, and history of the law of Latvia

In modern Latvia, the lawyer's qualification exam (Uniform State Professional Qualification Examination of a Lawyer) is organized in the following parts: the theoretical part, in which detailed answers to 15 questions are given in written form; the practical part, in which five practical tasks (cases) are solved in writing. The theoretical part in each field is successfully passed if the grade for each of the three questions in the relevant field is at least 4. Each solution to the assignment (case) in the practical part of the field of the qualification examination shall be evaluated on a 10-point scale. The practical part in each field is successfully passed if the grade for the assignment (case) is at least 4. The overall

grade for the qualification examination shall be determined by calculating the average grade from the total sum of the grades for the theoretical and practical part in each field (CMRL, 2019).

Uniform State Professional Qualification Examination of a Lawyer is a relatively new phenomenon - the exam is held twice a year from the summer of 2021.

Research Results

The analysis of sources, using the comparative method, method of legal hermeneutics, the formal-legal method, the historical method and public discourse, shows, that Latvia should pay attention to five risk groups that were also identified in Germany and the United Kingdom:

1. Creating the content of the exam. There is no doubt that the exam should test the theoretical knowledge necessary for a lawyer. However, what exactly - elementary basic knowledge or in-depth knowledge? In case the questions asked are very easy, the main objective of the exam will not be achieved. On the other hand, if the questions are too difficult, the proportion of students who pass the exam will be extremely low. Therefore, the question makers of the exam have to balance the difficulty of the questions. It should be taken into account that the questions must be adequate not only in terms of complexity, but also in terms of topicality - formulating questions that are rarely encountered in practice or specific are not supported. However, the question of what every lawyer should know and to what extent remains open and debatable.

2. Answer evaluation system. A prerequisite for a well-organized exam is a clear and understandable evaluation system. This allows us to provide an equal approach to the assessment of all works and obtain mutually comparable results. On the other hand, it is impossible to formulate strict and precise evaluation elements, because the same correct answer can be formulated in different ways. If the purpose of the exam is to check how well prepared the future lawyer is, then the primary question should be answered, what does quality in legal education mean and how to measure it? Currently, in Latvia, it is expected that the grade in all exam questions must be at least 4 (almost satisfactory) - the approximate ECTS grade - E/FX. Rhetorical questions, whether this level of knowledge guarantees the quality of legal services in any of the branches of law where the future lawyer plans to work. Wouldn't it be more useful to require all lawyers to have really good knowledge in the most important courses - legal theory and legal methodology, rather than almost satisfactory knowledge in various study courses.

3. The problem of duplicate checks. If the goal of the Uniform State Professional Qualification Examination of a Lawyer was to prevent graduates with mediocre knowledge from working in courts, the prosecutor's office, the bar and the notary, but excellent people could work in these institutions without additional bureaucratic obstacles, then it must be concluded that none of these

goals have been achieved. In Latvia, a lawyer's diploma by itself does not give the right to become a prosecutor, judge, lawyer, notary and other professions of a similar level without taking additional exams. Each "regulated" profession has its own exam where specific, specialized knowledge is tested. In addition, the labour market also requires lawyers who will work in state institutions and municipalities, as well as in the private sector. In these workplaces, lawyers are selected through competition, after demonstrating the applicability of their knowledge and skills to the specific specialization. In addition, the highest legal education is just one of the criteria for the person to prove its suitability for holding the corresponding office (Judgment of the Constitutional Court of the Republic of Latvia, 2002).

4. The problem of specialization. Practice shows that there is specialization in legal sciences and that all lawyers do not have to be the same. The unifying basis of all lawyers is not civil law or criminal law, but knowledge and skills in working with legal norms - searching for, interpreting and developing legal norms. Namely, the core of every lawyer's activity is Legal Philosophy, Legal Theory and Legal Methodology. On the other hand, in the current version of the exam, all students must demonstrate almost satisfactory knowledge of both law, philosophy of law, and history of the law of Latvia; both international law and law of the European Union; both criminal law and rights of criminal procedure; also constitutional law, administrative law, and rights of administrative procedure; but also civil law, rights of civil procedure, and commercial law. Respectively, it is expected that all universities teach the same subject. This significantly reduces competition between universities and significantly limits the freedom of students to specialize.

5. The problem of shortage of lawyers. In Latvia, a relatively small proportion of students can pass the unified qualification exam for lawyers in its current form. 33% of the students passed the first unified national legal professional qualification exam (in the summer of 2021). 32% of the students successfully passed the second unified national legal professional qualification exam (in the winter of 2022). According to the results of the qualification exam, 21% of students successfully passed the third exam (in the summer of 2022). It should be noted that among the students who received a successful assessment, there are both students who took the exam again because they failed to pass one of the areas of the exam in the 2021 summer and 2022 winter sessions, as well as students who took the exam for the first time. 46 students re-took the exam and 33% of these students received a successful assessment and thus the professional qualification of a lawyer. On the other hand, for the first time in the summer of 2022, 134 students took the exam and only 14% of these students got a successful assessment.

In Germany and United Kingdom, these percentages have been and are traditionally higher in terms of the scope and content of the exam. For instance,

in Prussia from 1849 to 1852, the number of failures (failures) in the first state examination (Das Auskultatorexamen) was 5.78%. From 1865 to 1874, it rose to about 15%, then to about 30% in the mid-1890s (Ebert, 1995). The number of failures in the second exam was slightly less than 11% - reference period from 1849 to 1852 (Conrad, 1884). In the third exam, the number of candidates who did not pass in the individual exam areas reached two thirds (Goldschmidt, 1887; Schäfer, 2013). In Great Britain the failure rate was well above the former level, stabilizing at around 30 per cent from 1908 until a sharp rise to over 40 per cent in 1913 (Cornish, Anderson, Cocks, Lobban, Polden & Smith, 2010).

In today's Germany, the percentage of successful candidates for the first legal exam (Erfolgreiche Kandidaten) ranged from 46.2% in Saarland to 66.0% in Bremen (BFJ, 2020):

*Table 1 Overview of the results of the first legal examination in 2020
(according BFJ, 2020)*

Land	Successful candidates (Erfolgreiche Kandidaten) %	Distribution of marks among successful candidates				
		very good (sehr gut)	Good (gut)	fully satisfying (voll befriedigend)	Satisfying (befriedigend)	Sufficient (ausreichend)
Baden-Württemberg	56,1	0,0	6,3	32,5	47,8	13,4
Bayern	58,2	0,6	9,2	26,5	45,6	18,2
Berlin	55,6	0,2	13,6	35,1	41,7	9,3
Brandenburg	61,6	0,0	3,4	22,6	53,1	20,9
Bremen	66,0	0,0	5,9	19,0	53,6	21,6
Hamburg	54,7	0,0	8,5	31,0	48,0	12,5
Hessen	59,3	0,1	5,9	32,8	45,2	15,9
Mecklenburg-Vorpommern	48,5	1,5	0,0	20,6	48,5	29,4
Niedersachsen	60,5	0,0	6,6	34,5	47,3	11,6
Nordrhein-Westfalen	59,9	0,6	7,8	29,1	41,4	21,1
Rheinland-Pfalz	57,3	0,2	4,9	27,8	48,2	19,0
Saarland	46,2	0,0	7,7	20,9	41,8	29,7
Sachsen	55,3	0,0	8,0	21,8	47,3	22,9
Sachsen-Anhalt	47,7	2,1	7,3	36,8	45,6	8,3
Schleswig-Holstein	57,3	0,0	2,6	24,0	52,6	20,8
Thüringen	56,0	0,0	9,0	31,3	50,7	9,0
TOTAL	57,7	0,3	7,6	29,5	45,8	16,8

Despite much more successful results than in Latvia, both Germany and United Kingdom have faced one significant problem - a shortage of lawyers. The risk of a shortage of lawyers as an effect of strict legal exams is a long-known problem. For example in Great Britain, during the 1880s the Law Society faced a particular difficulty in meeting the needs of articled clerks both in London and the provinces (Cornish, Anderson, Cocks, Lobban, Polden & Smith, 2010).

It is known that one of the main aspects of learning is students' readiness to acquire knowledge, active learning and motivation (Jankovska, 2022). On the other hand, the low probability of successfully passing the exam significantly reduces the motivation of future students to learn the legal profession even today. The monopoly of the narrow group of successful graduates cannot ensure sufficient competition in the labour market. In modern Latvia, especially in the regions, this problem is extremely urgent. Possible solutions are related to the correction of the exam content and the restructuring of the examination process.

Conclusions

In Latvia, the idea of the national unified lawyer qualification exam was borrowed from Germany. Accordingly, one should carefully analyze not only the positive sides of the idea, but also the disadvantages of the idea. The mentioned analysis would allow not to repeat individual solutions that were recognized as erroneous over time. Due to the problems of specialization of lawyers and the threat of a shortage of lawyers, two separate exams are currently held in Germany: the First Examination in Law (Erste Juristische Prüfung) and Second State Examination in Law (Zweites Staatsexamen).

Also, analyzing the experience of United Kingdom, we see that nowadays there are different exams for work in different legal professions (Solicitor, Barrister and specialist lawyer). In this sense, Latvia's approach – one comprehensive exam after 5 years of studies in bachelor's and master's programs – is ineffective. This exam is integrated into the master's program, but goes beyond the master's program in terms of content, i.e. in terms of content, it is based on the entire study cycle of at least five years, designed according to the principles of the Bologna program from the bachelor's study program to the master's program. Exams should take place as close as possible to the time when the study material has been mastered. Namely, the important field of the exam "law, philosophy of law, and history of the law of Latvia" should be taken immediately after completing the bachelor's program.

The grades in the exam do not guarantee that all the graduates who passed the exam have learned the learning material with the same quality. For example, in Latvia, the qualification of a lawyer can be awarded not only with the ratings "with distinction", "excellent", "very good" and "good", but also with the ratings "almost good", "satisfactory", "almost satisfactory". The situation is similar in

Germany and United Kingdom. In Germany, approximately half of those who successfully passed the exam received the "Satisfying" rating. If our goal is to achieve consistent high-quality achievements in taking the exam in Latvia, then everyone should pass the exam block (fields) "law, philosophy of law, and history of the law of Latvia" with at least a "good" rating.

At the stage of the master's degree program, students must be provided with the opportunity to obtain the qualification of a lawyer also by specializing in one of the directions - criminal law and rights of criminal procedure; civil law, rights of civil procedure, and commercial law; constitutional law, administrative law, and rights of administrative procedure; international law and law of the European Union. The turn from specialization to the general dimension currently implemented in Latvia. However, if absolutely identical programs are offered in all universities, the element of competition disappears, the opportunity to attract students who want to study specific, specific fields in depth - for example, medical law, international law, police law, etc., disappears.

Currently, no more than 1/3 of the previously usual number of graduates obtain the qualification of a lawyer. In the event that there is a shortage of officially recognized lawyers on the market, it is possible that employers (especially in the private sector) will not require the qualification of a lawyer to perform their duties. This certainly cannot improve the quality of legal services, because graduates-undergraduates will not have the motivation to study for a master's degree and get educated. On the other hand, professions where the qualification of a lawyer is vitally important (lawyers, prosecutors, judges, notaries, etc.) will not be affected by the Uniform State Professional Qualification Examination of a Lawyer, because holding such specific positions requires taking special, specific professional exams after obtaining the qualification of a lawyer.

The author of the article proposes to make amendments to the regulatory legal acts of Latvia, providing that the field of the exam "law, philosophy of law, and history of the law of Latvia" must be taken in the bachelor's study program with a grade no lower than "7" ("good"). The question of the usefulness of other fields of the exam remains open.

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FORMATION OF FUTURE TEACHERS' VALUE ATTITUDE TO THE TEACHING PROFESSION: PROBLEMS AND PROSPECTS

Olena Nevmerzhytska

Drohobych Ivan Franko State Pedagogical University, Ukraine

Myroslav Pahuta

Drohobych Ivan Franko State Pedagogical University, Ukraine

Nataliya Chubinska

Lviv Polytechnic National University, Ukraine

Oksana Hevko

Drohobych Ivan Franko State Pedagogical University, Ukraine

Iryna Hamerska

Drohobych Ivan Franko State Pedagogical University, Ukraine

Abstract. Pedagogical education determines the quality of professional training of specialists in all spheres of functioning of society and the state, which therefore contributes to their stability and development. In this regard, serious requirements are put forward to the personality of a modern teacher. However, the training of a teacher with an innovative type of thinking, ready for self-improvement throughout life, faces a number of problems: organizational, content, financial, etc. The development of modern pedagogical education is greatly influenced by informatization and the development of an open society, the development of civil society, the need to form a new cultural type of personality, etc. High requirements for the training of future teachers in modern conditions are in conflict with the falling prestige of this profession. In modern Ukrainian society the pedagogical profession is usually highly appreciated at the scientific and theoretical level, as well as at the declarative state level. However, despite this, in practice this assessment in terms of salary and working conditions is low. After all, the assessment of teachers by themselves as well as parents is not very high. The survey of future teachers ($n=102$) also confirmed this tendency. This circumstance actualizes the search for ways to form future teachers' value attitude to the teaching profession. Value attitude is the subject's internal acceptance of an object as a value. The value attitude to the pedagogical profession is represented by the unity of three components: cognitive, emotional and functional. In order to form in the mind of future teachers a value attitude to the teaching profession in the educational process of a higher education institution, a system was created in which the emphasis was placed on the formation of motivation for professional activity, modeling and solving professional and pedagogical tasks, as well as the permanent involvement of students in practical activities. The implemented pedagogical experiment proved the effectiveness of such a system.

Keywords: *assessment; pedagogical education; pedagogical profession; teacher; value attitude; values.*

Introduction

Pedagogical education is a priority sector, as it determines the quality of professional training of specialists in all spheres of functioning of society and the state, which contributes to their social stability and development. The role of teachers in the formation of personality is crucial at all levels of the education system: from preschool to adult education.

The post-industrial era has generated and continues to pose challenges to professional pedagogical training. What should a modern teacher be like? What professional qualities should he/she possess in order to form in students the competencies necessary for life in a changing world? The changes taking place in education and teacher training abroad are accompanied by a new understanding of the role of the teacher in the education of young generations. As Renata Nowakowska-Siuta (Nowakowska-Siuta, 2012) notes, according to this understanding, a teacher should not only teach others innovatively, but also learn regularly. He or she should be prepared to work with children with special educational needs, different social status, belonging to different ethnic and religious groups, be able to navigate in the new social conditions based on increasing autonomy of schools and increasingly conscious participation of the local community in school life. The conditions of quarantine restrictions and military realities have actualized the need to master digital tools and readiness to implement the educational process through distance learning technologies, etc. After all, today we are talking about a teacher-tutor, a teacher-advisor, a teacher-mentor, and not a person who has the exclusive right to transfer knowledge, form skills and abilities of students.

The requirements for a modern teacher can be summarized by a quote from the Pedagogical Constitution of Europe: the personality of a teacher is a person who has a high level of education and general cultural training, shows high spiritual and moral qualities, is capable of teaching and educating children, youth and students in accordance with the requirements of the XXI century (Association of rectors of pedagogical universities in Europe, 2015).

Obviously, the training of a new type of teachers raises a significant number of organizational, content, financial, etc. problems. High requirements for teachers in modern conditions contradict the falling prestige of this profession, the loss of value attitude to the teaching profession. Therefore, the objective of the article is to find ways to form a value attitude towards the teaching profession among future teachers. For this, both theoretical (analysis, synthesis, generalization) and empirical (testing, questionnaire) research methods were used.

Theoretical foundations of the study

All discussions on the strategy of development of modern education begin with the statement about the deep systemic crisis in which our civilization is, and which is manifested by a set of global problems of our time (i.e. those problems that affect all the peoples of the world – environmental and economic problems, energy crisis, medical problems, arms race, etc.) (Klymenko & Moskalenko, 2020; Shapoval & Tolstov, 2021). Various hypotheses about the type of society of the future (post-industrial, informational, post-economic, etc.) are characterized by signs of inevitable breakdown of all forms of human life.

The factors that are now becoming a catalyst for social change and affect the development of higher pedagogical education (the emergence of certain problems in it, and therefore the search for solutions to these problems) are informatization (increasing the role of information, the development of the information society, which is now made clear by quarantine restrictions), the development of an open society (the ability to overcome borders, often without leaving their own place of residence), the development of civil society, which, on the one hand, provides a person with fundamental freedoms, and on the other hand, increases the degree of responsibility for the steps taken within the framework of life, the formation of a new cultural type of personality (characteristics of this type – activity, independence, responsibility), learning and professional development throughout life). Today, changes in professional pedagogical education are also influenced by changes in public consciousness and the emergence of new values in education; the status of the student, whose interests are more important than the curriculum, etc. (Chernov, Konoplianyk, & Pryshupa, 2023; Kremen et al., 2022; Oleksiienko, Kuznetsova, & Zakharchenko, 2022).

An important factor in solving the problems of training pedagogical staff both in Ukraine and abroad is the awareness of the role of human potential, which in its turn will contribute to the creation of such an education system, within which the full disclosure of the capabilities and talents of the younger generation will take place. Therefore, in modern pedagogical education today, there is an inevitable transition from functional training of a specialist to the concept of his personality development, which presupposes an individualized nature of education. Today, a significant number of pedagogical educational institutions of Ukraine can not boast of significant numbers of entrants. Thus, recently it was reported that one student of the National University "Chernihiv Collegium" named after Taras Shevchenko is studying to become a physics teacher in the first year. And although small groups of students are economically disadvantageous, they are more productive in terms of the formation of a specialist, his style of activity, values, guidelines, beliefs.

The context of the development of pedagogical education is also represented by the status and prestige of the teaching profession in society. Unfortunately, today we state the low prestige of the teaching profession. However, it is necessary to make a remark here: at the scientific and theoretical level, the teaching profession is usually highly appreciated, as well as at the declarative state level. However, despite the declaration of high appreciation of the teaching profession, in practice this appreciation in terms of salaries and working conditions is low. And this situation can be seen not only in Ukraine (Bukach, 2021; Vansach, 2022).

The low prestige of the teaching profession provokes a situation when a small percentage of applicants who do not think of their future without working with children enter the teaching profession today. However, this profession is also attractive for applicants with low External Independent Evaluation scores, who are unable to realize themselves in the desired fields, or applicants who choose a higher education institution for territorial attractiveness. This ultimately leads to the fact that graduates do not plan to work in their specialty after graduation. Actually, here we can state the motivation of students to obtain higher pedagogical education, but not to obtain a teaching profession. The low prestige of the teaching profession is also associated with limited employment opportunities for graduates. What do we have in Ukraine today? In small towns, we are faced with overproduction of pedagogical staff, the inability of graduates to find a job in their specialty. Instead, in big cities the situation is radically opposite. Low salaries of teachers, lack of opportunities for rapid career growth provoke the outflow of staff from schools to higher-paying jobs that have nothing to do with education. Therefore, there is a significant number of vacancies for teachers that are difficult to fill. Obviously, in such a situation young people will try to choose another profession, one that will bring them not only moral but also financial satisfaction. Finally, the analysis of domestic realities almost all the time leads us to the sphere of finance, which is associated with optimization in the educational sphere, and therefore uncertainty in the future of teachers who work there, the continued pedagogical practice of retired teachers, problems in financing pedagogical institutions of education, which have a small number of students, etc.

Pedagogical education today should perform a preventive function in relation to other types and levels of education, and therefore it should be fundamental, orient future teachers to develop readiness for innovative changes, and most importantly – to the competitive advantages of the profession in the future. To achieve this, it is important to increase the prestige of the teaching profession, as well as to form a valuable attitude to the teaching profession not only among future teachers, but also among the whole society.

The value attitude to professional activity is a stable internal belief of the individual, based on professional and moral self-awareness, the significance of

which encourages to be active in mastering professional knowledge, skills and abilities (Partola, Smolianiuk, & Sobchenko, 2020, 168). The value attitude to professional activity is manifested in the attitude of the individual to a particular profession, as well as the qualities that should be typical of a specialist working in this field. The value attitude to the profession "...provides personal meaning of professional activity, its value in one's own life and in the life of society, stimulates interest in the activity...", regulates the constant development of a specialist (Kadaner, 2016).

The main features of the value attitude to professional activity G. Tymoshchuk (2014) names the following: the existence of objectively significant values of the profession and the subjective results of their mastering; integrity, multicomponent and activity character; focus on the process of professional socialization; determination of the level of professionalism and spirituality of the individual; mediation by a specially organized pedagogical process, taking into account axiological, personality-oriented, competence, activity approaches and attitude theory.

The analysis of scientific sources (Kadaner, 2016; Kobernyk, 2015; Tymoshchuk, 2014) allowed to summarize the components of value attitude: cognitive, emotional-volitional and behavioral components. The cognitive component covers the knowledge and skills necessary for the implementation of pedagogical activities, judgments about the teaching profession, as well as personal acceptance of this phenomenon. The emotional and volitional component is characterized by the presence of motives for pedagogical activity, awareness of the personal meaning of pedagogical activity, emotional manifestations in relation to the teaching profession. The behavioral component includes the nature of activities related to mastering the pedagogical profession, as well as the specifics of pedagogical communication with the subjects of the educational process. Actually, we directed our research attention to the formation of these components of the value attitude to pedagogical activity.

Methodology

The study was conducted during 2020–2022. 102 future teachers who obtain their specialty at Drohobych Ivan Franko State Pedagogical University at the first (bachelor's) level of higher education took part in it.

The adapted test of M. Rokich "Value Orientations" (Rokich, 1973) was used for diagnostics. Thus, future teachers were able to rank the professionally oriented traits of the teacher by the degree of importance on the scales "Self-ideal" and "Self-real". The results of the study were interpreted by calculating the average rank of values in the process of their hierarchization.

The respondents were also offered a questionnaire that contained closed and open questions, which provided information about the motives for choosing the teaching profession and plans for the future.

Results of the research

At the stage of the fact-finding experiment, based on the results of using the adapted test of M. Rokich's "Value Orientations" (Rokich, 1973), it was found that the features inherent in an ideal teacher are responsibility, benevolence, justice, balance, sociability, initiative, diligence, etc. In contrast, the unacceptable traits of an ideal teacher include selfishness, stubbornness, passivity, intolerance, self-love, ambition and integrity. In general, these traits hinder optimal communication, interaction and cooperation. At the same time, ambitiousness and integrity can become the basis for self-improvement and self-development of a teacher, but students are obviously not quite aware of this.

The priority traits of a real teacher, according to students, include being demanding of others, dominance, self-esteem, egocentrism, sociability, and integrity. Therefore, the comparison of real and ideal traits (values) of the teacher indicates the loss of goodwill, responsibility, justice, balance, initiative, diligence. We associate this state of affairs with the lack of motivation of future teachers for the profession. The ranking results are presented in Table 1.

Table 1 The results of ranking values by future teachers (according to M. Rokich's methodology) at the stage of the stating experiment (created by the authors)

Rank	Name of value	
	Ideal teacher	Real teacher
1	responsibility	demanding of others
2	benevolence	dominance
3	justice	self-esteem
4	balance	egocentrism
5	sociability	sociability
6	initiative	integrity
7	diligence	

The results of the survey on the motives for choosing a pedagogical profession indicated the independence of students in choosing a future profession (63.7%). As for the factors that influenced the choice of profession, the following were named: "positive attitude towards the subject of teaching" (55.9%), "positive attitude towards teaching activity" (45.1%), "desire to be like a favorite teacher" (45.1%), "positive attitude towards communication with children" (35.3%), "influence of parents" (30.4%), "opportunity to study according to the state demand" (20.6%), "location of the Pedagogical University" (15.7%), "prospect of a short working day of the teacher" (4.9%).

Regarding employment prospects, 51.96% of respondents dream of continuing their master's studies, 14.72% want to find a job in an educational institution, 16.66% intend to continue their master's studies in another specialty, 16.66% dream of finding a job outside the field of education.

Assessment of the teacher's status in Ukrainian society was related to the following criteria: "the profession of a teacher requires versatile knowledge" (55.9%); "the work of a teacher requires significant emotional and physical effort" (54.9%); "a teacher should be a highly moral person" (45.1%); "a teacher is perceived as a professional" (32.4%); "I like the teaching profession and I would like my children to continue the pedagogical dynasty" (27.4%); "the teaching profession is prestigious" (17.6%); "teacher's work is well paid" (3.9%).

Thus, the conducted experiment showed the existence among future teachers of the opinion about the low prestige of the profession. Therefore, only a small proportion of respondents want to work at school. At the same time, the choice of future profession is often motivated by admission to the state form of education, the influence of parents, the proximity of the educational institution to the place of residence, etc.

This state of affairs proved that the profession of teacher is a value only for a small number of future teachers, which led to the organization of work on the formation of the value attitude of future teachers to professional activity.

The study of scientific literature, observation of the practice of training pedagogical staff motivated us to organize a system in which the emphasis was placed on the formation of motivation for professional activity, modeling and solving professional and pedagogical problems, as well as the permanent inclusion of students in practical activities.

In forming the motivation of professional pedagogical activity, we were guided by the statements formulated by O. Kobernyk (Kobernyk, 2015). Therefore, the work was carried out in two directions. The implementation of the first direction – the transformation of general personal motives into professional ones – was carried out by mastering knowledge and ideas about the future profession. In the process of cognition, students were encouraged to compare their own motives with the requirements of the future profession, and therefore to evaluate future professional activity in terms of meeting their own needs. The second direction provided for the change of motivation at different stages of professional development. It was realized through the use of active forms of learning, diagnosis of psychological characteristics of the personality, writing reflections and other methods, as well as through pedagogical practice. Thanks to the formed motivation, there is a comprehension of the future profession and its place in it, the formation of a certain attitude to it, as well as readiness for active work and self-improvement in the professional field.

The solving of professional and pedagogical tasks and situations was aimed at providing professional formation of the future teacher's personality. Thanks to such activities, students had the opportunity to learn the essence of pedagogical values included in pedagogical activity, mastering theoretical knowledge on the formation of professional value orientations, development of communicative and perceptual skills. In the process of studying a specific situation and analyzing a specific example, future teachers could immerse into specific circumstances, and therefore understand and evaluate the situation, determine the presence or absence of a problem in it, establish their role in solving it and model an appropriate line of behavior.

Inclusion of students in various practical activities enabled their self-determination in the future profession, awareness of themselves in the role of a teacher. During the pedagogical practice, students solved professional problems according to the developed algorithm, used methods and techniques to manage the development of interpersonal interaction in the student group, developed extracurricular activities aimed at developing communication with students on the principles of cooperation, developed an individual style of communication, demonstrating the level of formation of pedagogical values. During the pedagogical practice, students solved professional problems according to the developed algorithm, used methods and techniques to manage the development of interpersonal interaction in the student group, developed extracurricular activities aimed at developing communication with students on the principles of cooperation, developed an individual style of communication, demonstrating the level of formation of pedagogical values.

At the control stage of the experimental work, the adapted test of M. Rokich's "Value Orientations" (Rokich, 1973) was used again. Ranking by the degree of importance of professionally-oriented qualities of the teacher on the scale "I-ideal" made it possible to eradicate such traits as a broad outlook, sincerity, purposefulness, self-demandingness, creativity, benevolence, justice, responsibility, sociability and initiative. Instead, the unacceptable features of an ideal teacher are defined as selfishness, stubbornness, passivity, intolerance, offensiveness, ego, arrogance, aggression, limited knowledge.

As for the traits of a real teacher, according to the students, he is characterized by demandingness to others, dominance, self-love, sociability, integrity, self-esteem. As you can see, among the listed qualities prevail volitional ones, which provide the teacher with self-affirmation. However, there are no humane qualities such as justice, balance, benevolence, etc. On the one hand, this is an alarming symptom. However, on the other hand, it is worth noting that the ideal teacher, according to respondents, has the human qualities. This means that students will strive for their formation. The diagnostic results are shown in Table 2.

Table 2 The results of ranking values by future teachers (according to M. Rokich's method) at the testing stage of the experiment (created by the authors)

Rank	Name of value	
	Ideal teacher	Real teacher
1	broad outlook	demandingness to others
2	sincerity	dominance
3	purposefulness	self-love
4	self-demandingness	sociability
5	creativity	integrity
6	benevolence	self-esteem
7	justice	

Repeated questioning allowed to establish that bachelor students see their future as follows: "to continue studying in the Master's degree" (67.6%); "to continue studying in the Master's degree in another specialty" (13.7%); "to get a job outside the field of education" (9.8%); "to get a job as a teacher" (8.9%).

Regarding the definition of the status of a teacher in society, the following answers were received: "the profession of a teacher requires versatile knowledge" (59.8%); "the work of a teacher requires significant emotional and physical expense" (54.9%); "I like the profession of a teacher and I would like my children to continue the pedagogical dynasty" (36.3%); "a teacher should be a highly moral person" (36.3%); "a teacher is perceived as a professional" (27.4%); "the teaching profession is prestigious" (18.6%); "teacher's work is well paid" (4.9%).

As a result, the number of future teachers who intend to continue their master's studies in the chosen specialty has increased by 15.64%. Accordingly, the number of students who intend to continue their studies in another specialty has decreased (-2.96%), as well as those who dream of getting a job outside the field of education after completing their bachelor's degree (-6.86%). These results were obtained despite the fact that students are aware of the low level of prestige of the teaching profession, as well as the insignificant material support of teachers. However, they strive to realize themselves in this profession, start and continue pedagogical dynasties and perceive this profession as a value.

Conclusions

Consequently, realities place high demands on the modern teacher. They have to be ready for changes, constantly improve themselves, be able to work with different categories of students and in different environments, master modern technologies, and so on. And all this in conditions of excessive tension and stress, which are inevitable companions of the teaching profession, low material support, etc. However, such high requirements for the teacher's profession contradict the low level of prestige of the profession, and therefore

the reluctance of many modern applicants to master it. These circumstances actualize the problem of forming a value attitude to the pedagogical profession, which is an important component of the structure of the specialist's personality, awareness of the teacher's social role, etc.

The solving of this problem prompted us to organize a system in which we focused on the formation of future teachers' motivation for professional activity, modeling and solving professional and pedagogical tasks, as well as the permanent inclusion of students in practical activities. This work was realized in the conditions of classroom and extracurricular work, as well as in the process of students' industrial (pedagogical) practice. The results of the study made it possible to state that systematic work with future teachers during their studies at a pedagogical institution of higher education made it possible to form their awareness of the social significance of the teaching profession, the desire to improve themselves and self-realization in this profession, despite the awareness of the low level of prestige of the profession.

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MOCK CONFERENCE IN PRE-SERVICE TRANSLATORS TRAINING

Leila Mirzoyeva

Suleyman Demirel University, Kazakhstan

Aisulu Gatiat

Suleyman Demirel University, Kazakhstan

Abstract. *The given research deals with one of the most important issues related to pre-service translators' training such as both language and professional skills development in Kazakhstani settings. Thus, skills in oral translation from English into Kazakh and/or Russian and vice versa are in pretty high demand these days that is why one of the aims of Translation and interpreting internship course is to develop the consecutive translation skills of pre-service translators. So, to imitate the conditions of interpreters' work we conducted the mock conference dedicated to the main problems of Translation studies and Linguistics in the frame of the above mentioned course. The main idea of this case study was to involve our students into both research and professional activity as well as to develop their language and consecutive translation skills. Our research population included 47 students who worked both as presenters and interpreters in the frame of the mock conference procedure. Then we conducted the opinion survey using the online tools provided by the Moodle platform (in our case, the option of Critical incident survey had been chosen as the most appropriate one).*

Keywords: *mock conference, opinion survey, pre-service interpreters and translators training, translators' professional skills.*

Introduction

One of the key issues of translators' and interpreters' training nowadays is related to such fields of translation as conferences interpreting. There are a lot of reasons to consider conferences interpretation as one of the topical problems of pre-service translators' training as well as one of the highly required spheres of translation. Firstly, conferences interpretation is related to scientific sub-language and can be considered as an evidence of science internationalization (thus, in Kazakhstan while holding conferences it is necessary to focus on such translation trends as English-Kazakh/Russian, Turkish – Kazakh/Russian etc.) Secondly, conferences are dedicated to a variety of problems, and this fact presupposes the relevance of specialization in translation. Thirdly, conference interpreting

requires a wide range of highly developed translators' competences i.e. flexibility, critical thinking, ability to choose the appropriate variant of translation etc.

Definitely, Translation studies program includes such disciplines, as Introduction to Oral translation. Consecutive Translation, Simultaneous translation, Note-taking techniques which are aimed at the development of the above mentioned translators' skills and competencies. Despite that, the need of special training for prospective conference is quite obvious, and we have used the mock conference form in order to give the opportunity to our students (1) to identify their own skills they should develop to interpret the scientific report/presentation successfully; (2) to find out their own translation drawbacks; (3) to think of their own strategy of scientific text interpretation.

So, our research aim was to observe the mock conference as a tool for interpreters' specific skills development, and to conduct the opinion research among 47 sophomore Translation studies students. Therefore, the form of case study has been considered as the most appropriate one, because it was our first experience with mock conference organization; moreover, mock conference has been considered as a part of the certain discipline curriculum (actually, it covers the last classes of Translation and Interpreting Internship as an output of the course).

Body of the Article

Research Questions

In the frame of the above mentioned approach, we have stated the following Research Questions:

- 1) What are the strong points of mock conferences as a tool of interpreters' skills development?
- 2) Which problems do students face to while participating in the mock conferences?

Firstly, those research questions allow us to summarize a wide range of opinions represented in both scientific papers and our students' responses; secondly, they presuppose the study of students' opinion concerning strong and weak points of mock conferences translation use in the process of teaching translation and specific translators' skills improvement.

Research Population

As it has been stated before, 47 2nd year students were involved in our research process. All of them took part in the mock conference both as presenters and interpreters; so they got an experience in both presenting the certain scientific topic and professional activity in the field of interpreting. Also, after completing this task, our students participated in Critical incident survey via Moodle which allowed us to clarify their attitude towards mock conference as a type of interpreters' professional training.

Limitations

While conducting our mock conference, we have faced to several types of limitations such as:

- Thematic limitations (all the reports were dedicated to the problems of linguistics and translation studies; topics were chosen by the students under our supervision);
- Age and professional experience limitations (2nd year students only participated in mock conference, and our choice was presupposed by both our curriculum and Internship program). Due to this type of limitation, we did not deal with the profound scientific researches, as our 2nd year students were not well-experienced in that field;
- Time limitations (8 hours only were dedicated to the mock conferences in both groups, so students' reports together with consecutive translation and all the possible questions took no more than 10 minutes per each).

Literature Review

As it can be observed in both theoretical studies and practical use of mock conferences, they are becoming more and more popular as a tool for translators' and interpreters' skills development. This trend roots in some XX century studies; thus, Pöchhacker (1992, 217) stated that "the key to the analysis of translatorial text processing in simultaneous interpreting is the fact that it is the interpreter's perspective on the chain of mutual assessment within the interaction network which ultimately shapes the end result in interpreting". Taking that into account, Goutondji (2014) said that "applied to interpreter training, this assertion means that the student interpreter is the most important component in the interpreting chain, whether at its early beginning (such as in a university classroom) or during a real assignment".

In the frame of this approach, Pérez (2021) defined a mock conference as "a type of exercise which can be carried out at a later stage of the module. It is a fictitious conference involving role play where everything taking place during the exercise is as close as possible to how a conference in real life would be; i.e., a lifelike situation in the classroom". It is pointed out here that mock conference would be dedicated to a certain topic, there would be a program and a moderator (in our case, teachers played that role due to the lack of students' experience in that field). Pablo Salvador Pérez also stated that "while the mock conference is taking place, the interpreting students will be carrying out the interpretation of what the speakers are saying. These role play exercises allow students to get closer to what they will find once they complete their studies and start working as interpreters".

Wadensjö (2014) also considered the mock conference as a kind of the role play and highlighted the following strong points of it: "Role play is a well-

established method to practise interpreting techniques, to train for interpreting in specifically challenging situations, to rehearse certain vocabulary...” Wadensjö (2014). On the other hand, supporting the idea of mock-conference as a kind of role-play, Suleimanova et al. (2013) underlined mostly a variety of tasks performed by students, and their impact to develop different professional skills: “Relying on role-play, MC (mock conference – L.M.) allows a wide range of roles such as the team leader – the chair (who distributes the roles and moderates the roundtable discussion); the team leader assistant (who is to circulate information among the team members, makes calls, etc.); the proceedings consultant (who works on timing requirements); the role of supporter (provides evidence, arranges the data); the challenger (who is being critical); the expert (who does research into the problem)”.

It should be pointed out that in our case study we did not consider such skills the pre-service interpreters need as e.g. the team leader assistant because our main focus was language and professional interpreters’ skills.

The paper by Fomina (2018) is also closely related to our research focus; in her viewpoint, mock conferences “help students develop relevant communication skills relying on social setting analysis and proceeding to practicing the suggested communication patterns as well as promote their interpreting skills. The format proves to be a stimulating and beneficial experience as professional and psychological competence, strategic competence and many other non-linguistic dimensions may be better instilled at MCs than through traditional interpreting classes.

Some contemporary researches focused on the student-centered character of the mock conference as a teaching tool: “students of conference interpreting appreciated the moderately student-centered approach and assessed the learning outcomes very positively...” (Defrancq, Delpitte, & Baudewijn, 2022, 39).

There are some facts which prove our statement concerning the growing interest to mock conferences as an effective instrument to both pre-service and in-service interpreters training; thus, there is an Interpretation training toolbox on the site of European Commission, and one of the modules consists in mock conferences and other practice speeches. There are also “ad-hoc videos of mock conferences filmed by interpreters to facilitate practice” (European Commission, 2020). It should be pointed out that mock conferences represented on that site are related to the most topical social, economic, and medical problems such as COVID-19 pandemic, Travel and Tourism under pandemic conditions, Technology and Social Media etc.

To sum up, all the aforementioned research works as well as managing mock conferences proves our idea concerning the imitation of real interpreters’ working conditions and providing pre-service interpreters with the beneficial experience.

Data collection tools

As we chose qualitative approach in our research, two data collection instruments were used in the course of the study, namely observation and questionnaire. In our case, observation as a data collection technique refers to obtaining data through direct contact with group of students, assessing their work as interpreters and discussing the strategies they have chosen to render the content of their groupmates reports.

It is also necessary to point out that while conducting the mock conferences, we gave our students the opportunity to choose between 2 language combinations such as English-Kazakh or English-Russian translation because both pairs are popular in Kazakhstan.

Besides, the readymade form of the Critical incident survey allowed us to find out the strong points and the problems of mock conferences from our students' viewpoints. The form contained the following 5 questions designed to gather information about students' perception towards both form and content of the mock conferences:

- At what moment in class were you most engaged as a learner?
- At what moment in class were you most distanced as a learner?
- What action from anyone did you find most affirming or helpful?
- What action from anyone did you find most puzzling or confusing?
- What event surprised you most?

All the questions were open-ended, so they give opportunities to the students to express their own opinions. Moreover, we were able to take both positive and negative factors into account to improve both the procedure and the content of mock conferences in future.

Results and Discussion

First of all, it is necessary to provide a brief description of the topics chosen by our students. Before they started their preparatory work and choose their own topics, they had to become familiar with the main idea of the mock conference and its goals. The general conference topic was formulated as The Current Issues and Trends in Contemporary Linguistics and Translation Studies, and the main goals consisted in raising students' awareness of the aforementioned trends, developing their intrapersonal and interpersonal intelligence, Academic English language skills, interpreting skills, creativity, information search and processing, logical thinking, presentation and problem-solving skills.

Before conducting the mock conference sessions, we dedicated two of theoretical classes to the main characteristics of scientific texts as well as the main rules and problems of their translation and show the criteria they should follow while doing their presentations and interpreting them. Thus, evaluation criteria

included such parameters as 1) coverage and structure; 2) language (grammar accuracy/complexity and vocabulary range); 3) presentation skills; 4) design and creativity. Otherwise, as it was our students first experience in both presenting their report and interpreting it, we were not able to expect anything profound.

Among the topics chosen by our students we should mention *Problems of Translating English Idioms into Kazakh Language*; *Technology and Translation: Exploring the Impact of Technology on Translation Industry*; *Error Analysis of Abstract Translation in Scientific Writing (on the material of Google Translate)*; *International Words in English-Kazakh Translation*; *Problems in Translators' Professional and Everyday Life* etc. Those topics show that mock conferences stimulated students' activities in scientific work (even though at the elementary level). Thus, to make successful presentation students had to find out the appropriate sources, analyze them (under the teachers' supervision), and look over the examples they had discovered. For instance, the problem of international words translation from English into Kazakh is considered to be one of the topical issues because of the current trend to translate most of the international words like Internet (Galamtör in Kazakh) etc. Our students studied some texts containing those words, and discussed the relevance of translation.

While conducting our observation, based on such criteria as (1) the relevance of translation; (2) the structure of translators' speech; (4) we noticed some issues related to our students first work as interpreters. Thus, some of them (9 of 47 exactly) tended to be as close to the source text as it was possible at all which should not be considered as the most appropriate strategy in conference interpreting. Also, some students (6 of 47 correspondingly) tried to conduct sentence-by-sentence translation instead of using longer phrases and paragraphs. So, we clarified it for ourselves that the Syllabus of the course should also be focused on various translation strategies, and our observation showed the necessity to strengthen trainings in consecutive translation. Moreover, the observation process demonstrated the importance of such translators' skill as the ability to synthesize and paraphrase, and one of the perspectives of the further study would consist of working out of the system of exercises aimed at those skills development.

Concerning our students' answers to the survey questions mentioned above it should be pointed out that there were a lot of common ideas despite the fact that they did not have any opportunity to discuss their answers. Thus, about Question 1 (At what moment in class were you most engaged as a learner?) most of them (31 students out of 47) said that the process of interpreting itself was the most inspiring thing, and 10 more students stated that choosing the strategy of interpretation made them feel engaged as learners (we should point out that Pérez (2021, 171) also showed the importance of the relevant strategy application.

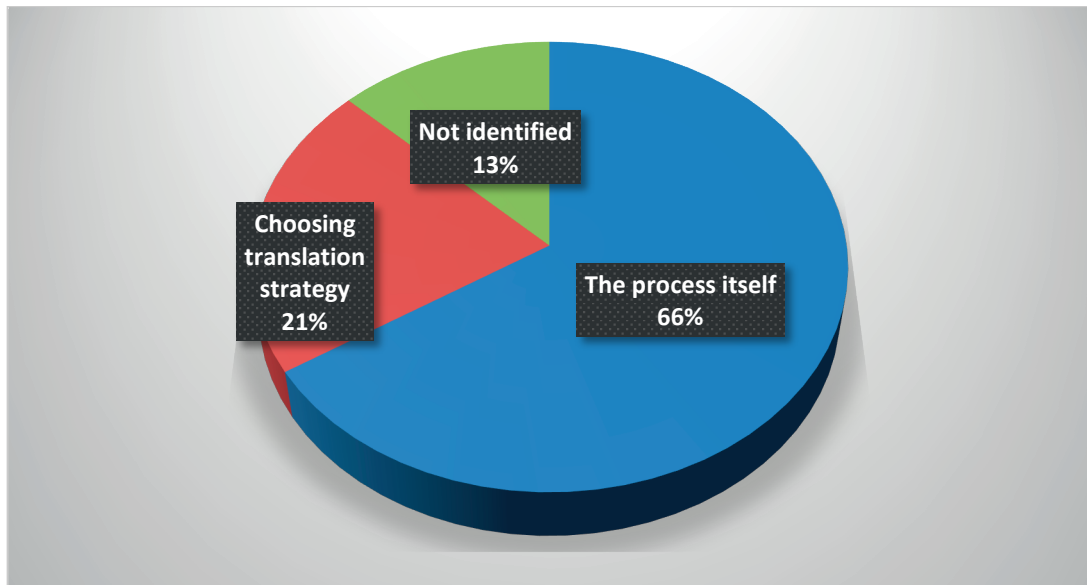


Figure 1 *The most engaging moments of the mock conference (made by authors)*

On the other hand, for the Question 2 (At what moment in class were you most distanced as a learner?) some of them (9 students out of 47) supposed that some of their groupmates presentations were not interesting for them; despite that other students did not answer that question, or just gave short answer like *No such moments*.

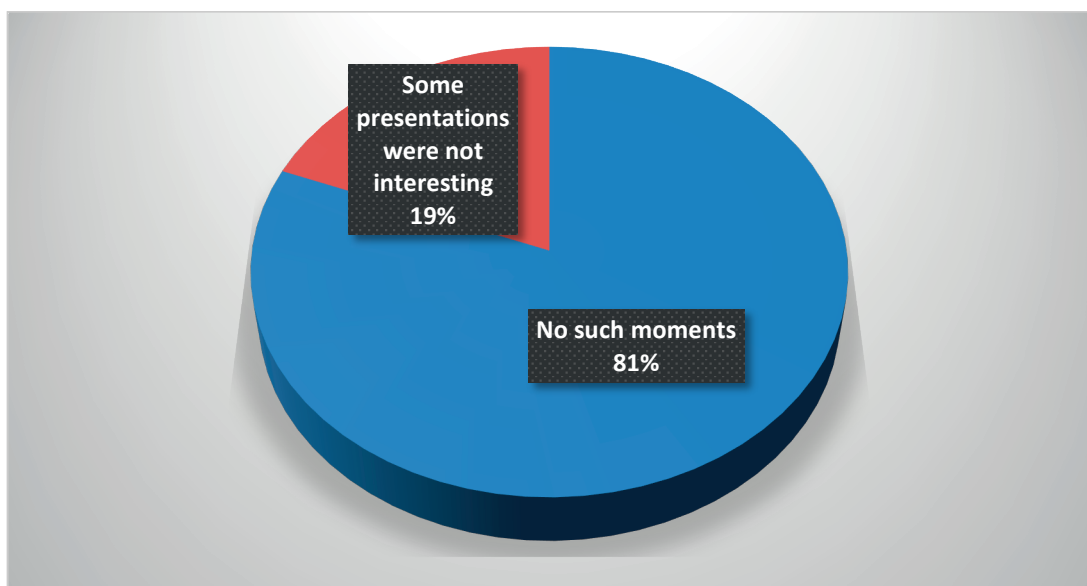


Figure 2 *The feeling of being distanced during the mock conference (made by authors)*

Concerning Question 3 (What action from anyone did you find most affirming or helpful?), we were surprised to see that other students' questions

about the content of the presentations as well as their remarks were considered the most helpful actions by 33 students (72% of the whole number); other students considered the careful listening as the most helpful factor.

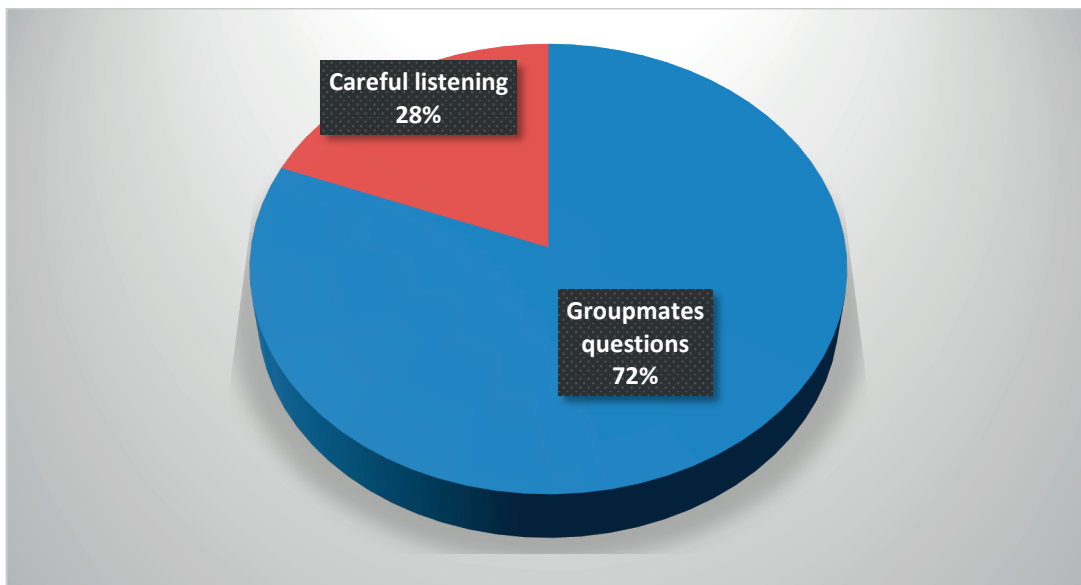


Figure 3 The most helpful groupmates actions (made by authors)

Otherwise, 14 students out of 47 (30%) stated that those questions were puzzling and confusing (Question 4). Finally, the for the last question about the most surprising event 22 students did not give any answers whereas others mentioned their own successful work as interpreters.

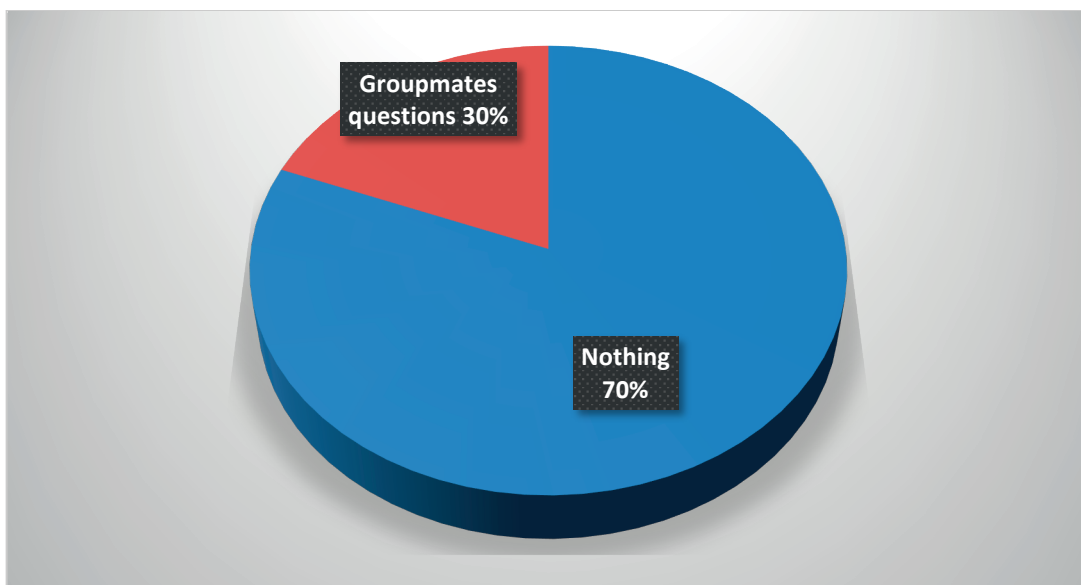


Figure 4 The most confusing groupmates actions (made by authors)

To sum up, our students' reactions show mostly positive attitude of our students for such a complicated interpreters' activity as conference translation. So, it is possible to implement mock conferences into professional interpreters training.

Conclusions

Taking all the above mentioned into account we can conclude that the findings of this case study show rather positive students' perception concerning mock conferences; thus, students focused on the opportunities for professional development and working out of the interpreting strategies as well as working as a consecutive interpreter in the modelled conditions. Partially, we followed the mock conference procedure proposed by Pérez (2021). Thus, students "were told that they would be taking different roles; they would be interpreters but also speakers. The intention of this was to get students closer not only to what interpreters feel during a real conference but also to get them to try and understand the role of speakers in a better way" (Pérez, 2021).

To summarize, the strong points of mock conference application in translators and interpreters training consist in modelling the situation of the real interpreters' work. Also, mock conferences provide both the instructors and the students with the opportunity develop their language and interpreters' skills as well as their research skills to some extent.

In our case study, such qualitative research techniques as observation and Critical incident survey were used. So, further perspectives of research lie in the application of some measuring techniques to analyze the impact of mock conferences on pre-service interpreters' professional development.

On the other hand, there are some issues which should be taken into account and managed for better work of mock conference as a tool for interpreters' professional development. Thus, the conference topics should not be limited by linguistic and translation problems only. Probably, it would be really effective instrument used for the purposes of interpreters' skills development in such popular fields as Oil and Gas industry (the topical problems in Kazakhstani conditions); Media industry etc.

Finally, we consider the mock conferences as effective tools for pre-service interpreters training due to its creative potential and student-centered approach.

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PROFESSIONAL STANDARDS FOR EDUCATIONAL MANAGERS: ANALISING THE EXPERIENCE OF COUNTRIES WITH DIFFERENT SOCIO-ECONOMIC DEVELOPMENT WITH THE VIEW OF ITS POSSIBLE USE IN UKRAINE

Lenina Zadorozhna-Kniahnytska
Mariupol State University, Ukraine

Maryna Netreba
Mariupol State University, Ukraine

Oksana Holiuk
Mariupol State University, Ukraine

Julia Zolotko
Mariupol State University, Ukraine

Irina Khadzhinova
Mariupol State University, Ukraine

***Abstract.** Professional standards for educational managers establish the compliance of a person with the professional requirements; therefore, it is important to study them in order to develop the content of university training programs for school principals. The aim of the present research is to examine the experience of standardization of educational managers' professional activity in the countries of different socio-economic development and various degrees of participation in the global educational integration processes, as well as to highlight the possible use of best practices to develop and implement the most effective university training programs for educational managers. We conducted the study during 2018 – 2020 according to the methodology of the aspect analysis, having distinguished two aspects: functional and behavioural. We analysed the professional standards within the framework of regional clusters taking as a basis the mutual convergence and interaction of their educational systems, namely regions that are the generators of integration processes; regions that respond positively to integration processes but do not initiate them; regions that are inert to the integration of educational processes. Furthermore, we chose a few countries from each cluster, which adopted the standards at the state level or at the level of individual administrative units within a particular country. The results of the analysis made it possible to identify general and special trends, peculiar to certain groups of countries. The results obtained within the framework of the study made it possible for us to develop the construct of the standard that takes into account the particular features of socio-economic development of Ukraine.*

Keywords: *educational managers, professional standard, professional training, trends in the formation of standards, university programs.*

Introduction

Handling the problem of professional activity standardization is significant for the development of higher vocational education, as professional standards not only determine the guidelines in assessing the performance of the employee, but also establish the compliance of the graduate from an institution of vocational education with the requirements of the profession, reflect the distinctive connection between the educational system and constantly changing labour market.

The content of the requirements for the education manager in each country has its characteristic features and depends on the level of its socio-economic development as well as the impact of educational integration processes in which the particular country is involved. These peculiarities should be reflected in professional standards, and through them realized in the practice of professional training of educational managers.

The research aim: to identify general (typical for most countries), special (peculiar to certain groups of countries) and specific (characteristic of one country) trends in the content development of professional standards for education managers; taking into consideration the results of the study, to provide rationale for the content of the professional standard, which would best meet the expectations of the world community regarding the personality of the educational manager.

The study was conducted according to the methodology of aspect analysis suggested by the Centre of Study for Policies and Practices in Education affiliated with the Organization for Economic Co-operation and Development (OECD, 2013) Two aspects of the standards were analysed and compared: functional (competencies imposed by the job responsibilities of the educational manager) and behavioural (competencies that are manifested in the system of behaviour or activities of the educational manager).

Research methods: contextual, structural and comparative analysis of professional standards, specification and generalization of theoretical provisions in psychological and pedagogical works of domestic and foreign scientists and practitioners, prognostic modelling.

The research was conducted during 2019-2021 in three stages:

- analysis of approaches to the content and structure of professional standards for education managers in different countries;
- justification of general trends, as well as special and specific characteristics of professional standards;

- development of a universal construct of a professional standard for education managers, which takes into account the best characteristics of the analysed standards of different countries of the world.

Literature review

The problem of professional standards for education managers on an international scale is not sufficiently considered by modern scientists. The question of the content and structure of the professional standard of an education manager is presented more fully in science. Professional standards cannot be based only on knowledge of the functions of current labour activity (Mansfield & Schmidt, 2001). The description of labour functions should be carried out taking into account the prospects for further development of the profession on the basis of: best examples of existing practice; modern international requirements and experience; new workplace requirements related to considerable transformations of economic trends; changes of methods, technologies and culture, etc. Within the framework of education managers' professional training, professional standards' development is associated with a change in the headteacher's mission by acquiring a new content (Crum, Sherman, & Myran, 2009; Hallinger & Heck, 2010). Scientists (Davies & Davies, 2006; Robinson, 2007; Johnson, Moller, Pashiardis, Vedoy, & Sawides, 2011; Ylimaki & Jacobson, 2013) have determined the type of leader who is able to adapt quickly to the conditions of the current economic situation and production is developing in modern world. Such a leader has to demonstrate mobility, flexibility in relations with employees, partners and stakeholders, find the best alternatives in complex conditions of an educational institution.

A number of international studies conducted by various institutions (The International Successful School Principal Project success sustained, 2001-2015; Improving School Leadership, 2006-2011; European Dimension in Educational Leadership, 2009) created an international discussion platform on effective school management and endeavoured to revise the professional standards of education managers. Centre of Study for Policies and Practices in Education, Organization for Economic Co-operation and Development conducted during 2013-2014 the Comparative Study 'Learning Standards, Teaching Standards and Standards for School Principals: A Comparative Study' (OECD, 2013). The Centre's experts analysed the standards for school managers in Australia, Chile, Germany, Korea, as well as individual US states and some Canadian provinces. However, this study cannot be considered complete, as it examines the professional standards of individual countries exclusively with a high level of socio-economic development.

Research Methodology

The study was conducted according to the methodology of aspect analysis suggested by the Centre of Study for Policies and Practices in Education affiliated with the Organization for Economic Co-operation and Development (OECD, 2013). Two aspects of the standards were analysed and compared: functional (competencies imposed by the job responsibilities of the educational manager) and behavioural (competencies that are manifested in the system of behaviour or activities of the educational manager).

In order to provide objective conclusions of professional standards for educational managers on an international scale, we have analysed standards of countries with different socio-economic development. Due to the fact that not every country has developed professional standards for educational managers, we chose the countries where such standards were adopted at the state level, or at the level of individual administrative units within a particular country.

Research results

A considerable array of information was obtained while we analysed the professional standards for educational managers in the United States. We studied the US professional standards developed by the Council of Chief State School Officers and the State Consortium on Education Leadership, the Southern Regional Education Board, gained insight into regional standards for school leaders developed at the level of individual states.

ISLLC-Based Model (CCSSO, 2008). developed by the Council of Chief State School Officers and the State Consortium on Education Leadership in 2008, updated in 2015, brought together a wide range of state education agency (SEA) personnel, public officials who headed departments of elementary and secondary education, representing 24 different states.

The aforesaid document (CCSSO, 2008) was recommended as a model for regional professional and educational standards for heads of general secondary educational institutions. It draws special attention to the idea that such standards have to ground on the basic values of the leader, which determine their professional behaviour and reflect high expectations of the community regarding their activities (CCSSO, 2008). The structure of 'Performance Expectations and Indicators for Education Leaders' reflects the principles of activity approach. Each of the domains consists of 5 components: the broad concept of the standard (Performance Expectation); 'Dispositions' that reveal the model of professional behaviour; basic concepts of the domain (Narrative); 'Elements' serving as organizers for performance indicators; description of specific actions required to meet the 'Performance Expectation' and ensure the successful management of an

educational institution (Performance Indicators). The basic requirements to the education manager are as follows: responsibility for the development and implementation of teaching and learning framework, professional culture development, effective organizational decision-making, protection of children, comfort and safety provision for students and the staff; compliance with the legal norms regulating professional relationships, regional and federal legislation on education; promotion of social justice policies.

In 2014, the Southern Regional Educational Board, the advisory body to 16 southern states of the United States, developed the Draft Standards for School Leaders, which highlights general recommendations for regional education departments. The Draft includes 11 domains: 'Vision and Mission', 'Instructional Capacity', 'Instruction', 'Curriculum and Assessment', 'Community of Care for Students', 'Professional Culture for Teachers and Staff', 'Communities of Engagement for Families', 'Operations and Management', 'Ethical Principles and Professional Norms', 'Equity and Cultural Responsiveness', 'Continuous School Improvement' (CCSSO, 2014). The domains do not contain a specific description of competencies, but the Draft provides rationale for the activity of educational leaders in accordance with the domain name. For example, the domain 9 'Ethical Principles and Professional Norms' is grounded on the idea of ethical leadership, which is realized by the process of acquiring by the education manager the skills that constitute the internal 'moral compass' of behaviour.

The analysis of the standards of the states in the Southern Regional Education Board and the State Consortium on Education leadership has demonstrated that the recommendations provided by the ISLLC-Based Models and Draft Standards SREB are considered differently at the state level. The Departments of Education and universities do not follow a common standard, although each state acknowledges it indispensable.

In order to provide an objective study we analysed the standards of 9 states (Alabama State Board of Education, 2010; Florida Department of Education, 2011; School Administrators of Iowa, 2010; Department of Education New Jersey, 2014; State Board of Education, 2015; Ohio Department of Education, 2018; Oregon Department of Education, 2009; Texas Education Agency, 1999), which geographically represent almost all parts of the United States. The results of the analysis allowed us to determine the general trends for developing the content of the standards, namely: high requirements for the level of professional knowledge and moral qualities of the education manager; a detailed description of the qualities ensuring a responsible professional conduct (such requirements are grouped within a separate domain, which has a different name in different standards: 'Ethics and Integrity', 'Ethics', 'Moral Leadership', 'Ethical Principles and Professional Norms', 'Professional Culture for Teachers and Staff', etc.).

In order to provide a more comprehensive and objective survey of global

trends in the standardization of education managers' professional training, we analysed the corresponding standards of the countries that had not been studied by international educational institutions or reflected in world practice. These include, in particular, the countries of the Arab world. They tend to internal integration within the educational space on religious grounds, but working out common approaches to the development of professional standards of educational managers has not become a general trend yet. Therefore, there has been a significant diversity of standards that differ in format and content in the Arab states.

For example, the professional standards for school principals in the United Arab Emirates (Abu Dhabi Education Council, 2009) reflect the state requirements for an education manager according to 5 domains: 'Leading Strategically', 'Leading Teaching and Learning', 'Leading the Organization', 'Leading People', 'Leading the Community'. Of great importance are the requirements for the education manager's moral and leadership qualities, compliance with high standards of conduct, ability to reflexive self-development, effective conflict settlement, collaboration with people within the school community on the principles of respect, equality and tolerance, careful conservation and increase of national heritage and culture within the school.

The Professional Standards for School Leaders of Qatar (Ministry of Education and Higher Education of Qatar, 2014) are more comprehensive and detailed. Requirements for the educational manager are set out in 7 domains: 'Lead and Manage Learning and Teaching in the School Community', 'Develop, Communicate and Report on the Strategic Vision and Aims of the School Community', 'Lead and Manage Change', 'Lead and Develop People and Teams', 'Develop and Manage School–community Relations', 'Develop and Manage Resources', 'Reflect on, Evaluate and Improve Leadership and Management'. An important component of each domain's format is the description of minimum required performance indicators separately for second-ranking (vice-principals) and high-ranking school leaders (principals).

The document (Ministry of Education and Higher Education of Qatar, 2014) states that individual performance of an educational manager contributes to high standards of productivity, interpersonal relationships, personal integrity and ethical conduct, respect for the priorities, values and problems of students' families. The leader's conduct reflects an understanding and respect for individual differences and the use of methodology adapted to meet the specific needs of students, teachers, parents and community members. The education manager should foster professional relationships based on mutual respect, trust and openness in accordance with the labour laws and school employment agreements.

Thus, despite the differences in the structure of professional standards for educational managers in Arab countries, their content is similar, which is

manifested, in particular, in common approaches to understanding the high mission of the leader, strict requirements to their leadership behaviour.

Professional standards of African countries have significant differences. The Commonwealth of Nations, a voluntary intergovernmental association of countries including Great Britain and almost all its former dominions, colonies and protectorates, as well as Mozambique and Rwanda, plays an important role in standardizing the professional training of education managers in African countries. During 2011-2014 the organization developed the Standards Framework for Teachers and School Leaders (Keevy, 2014) aimed at providing recommendations to the countries of South Africa, the Caribbean and island countries on the development of national professional standards for school leadership.

The peculiar approach of the Framework developers is reflected in the strict differentiation of competencies in accordance with the professional level of the leader – ‘Initial’, ‘Proficient’, ‘Distinguished’. There is a good reason for classifying the standards. The text of the recommendations states that the requirements for an educational manager in South Africa, the Caribbean and South Pacific differ significantly. Each of them reveals its own vision of professional competencies, so the Standards Framework (Keevy, 2014) focuses on the minimum requirements for education managers (‘Initial’ level) in the event of inability to appoint to a leadership position a person with a higher level of qualification. The level ‘Proficient’ describes the standards for the professional activity of an education manager who has experience in teaching, but does not have the corresponding Master's degree. The level ‘Distinguished’ reflects the full commitment to perform the professional functions of an educational manager who had work experience in an educational institution before entering the second level of higher education for at least 6 years and successfully accomplished the Master's program.

The Commonwealth Standards Framework (Keevy, 2014) states that the activities of the educational manager must be ethically sound and exemplary. The standards of professional ethics, values and attributes define the requirements to their professional conduct clarifying them within the domains ‘Respect for Learners’ Rights and Dignity’, ‘Role Model to Learners’, ‘Trea Parents and Guardians with Utmost Respect and Courtesy’, ‘Respect Contract(s) Duly Entered into with Employer and Other Parties’.

The Standard for Principals in South African (Department of Basic Education, 2015) contains 8 interdependent key areas: ‘Leading Teaching and Learning in the School’, ‘Shaping the Direction and Development of the School’, ‘Managing Quality and Securing Accountability’, ‘Developing and Empowering Self and Others’, ‘Managing the School as an Organization’, ‘Working with and for the Community’, ‘Managing Human Resources (Staff) in the

School’, ‘Managing and Advocating Extra-mural Activities’. The requirements for educational managers’ professional conduct are considered within in each domain.

In contrast to Rwanda Professional Standards for School Leadership the similar document of Ethiopia (Ministry of Education Ethiopia, 2010) illustrates the state requirements to an educational manager at 4 levels: ‘Beginner Principal’, ‘Proficient-I Principal’, ‘Proficient-II Principal’, ‘Lead Principal’. Each of the 5 domains (‘Lead and Facilitate Vision of Learning’, ‘Develop and Manage School – Community Relations’, ‘Lead and Manage Learning and Teaching’, ‘Lead and Develop Individuals and Teams’, ‘Lead and Manage School Operations and Resources’) contains 4 descriptors in accordance with the specified levels.

The analysis of the Standards (Abu Dhabi Education Council, 2009; Rwanda Education Board, 2014; Department of Basic Education, 2015) showed: the general requirements for educational managers are practically the same for all levels. They include: serving the interests of the community, adhering to its cultural values, traditions and respect for each ethnic group, demonstrating the role model of professional conduct and activities, creating an atmosphere of trust and law in the educational institution, fair distribution of resources, building ethical conflict resolution practices.

Conclusions and discussion

The results of the analysis of the professional standards for educational managers in the countries with different socio-economic development and various degrees of involvement into integration educational processes made it possible to identify the following general tendencies:

1. The predominance of the practical approach while formulating the content of the standards, the gradual rejection of their traditional structure, within which the requirements for education managers are realized through the description of their knowledge, skills, abilities; focus on the basic values, credo and commitment of the educational manager, introduction the dispositions showing the models of professional conduct as the components of the standards.

2. Demanding requirements for the professional conduct of the education manager, a detailed description of deontological and ethical aspects of the profession. The lack of unified approaches of the world educational community to the structure and content of the professional standards for education managers makes the trend even more significant, because within the national and regional standards, regardless of the countries’ socio-economic and political systems, this factor remains cross-cutting.

3. The domains of the standards for the educational manager comprising ethical requirements practically in all standards developed at the national and

regional levels require educational managers' knowledge of international, state and regional legislation on education and protection of children's rights, describe their moral qualities, the deontological model of the professional conduct, dispositions aimed to reveal the moral and normative relations of all the participants in the educational process (teachers, students, their parents and the community).

In the course of the research the following special trends inherent in certain groups of countries were found out: determining minimum standards to be achieved by the leader (the model of standards in Great Britain, France, Germany); describing a standard as a system of educational manager's actions to ensure the effective functioning of the educational institution (American-Canadian model); defining behavioural domains within the general standard (the model of standards in the United Arab Emirates and Qatar); framing the requirements for the manager of education according to their level of qualification and educational background (the model of standards in South Africa, Rwanda, Ethiopia).

The study enabled to describe the specific trends in the standards of particular countries that show their diverse structure, the total number of domains as well as the content of the standards. They are as follows: structuring the standards as a system of the 'areas of practice' (New Zealand), developing the standards on the principles of the activity approach (USA), describing the professional standards for teachers and school leaders separately (Qatar), emphasizing the behavioural indicators of the educational manager in the standard (African countries).

The results obtained within the framework of the study made it possible for us to develop a construct of the standard that grounds on four principles, namely:

1. Axiological principle (a professional standard should rely on basic values of the leader, which determine his professional conduct and reflect the high expectations of the community for his activity).

2. Activity principle (a standard should contain dispositions that describe the standards of professional behaviour of the education manager).

3. Domain principle (the structure of the standard should consist of separate domains that give insight into various aspects of the professional activity of the education manager).

4. Deontological principle (the content of the standard should reveal the scope of responsibility of the education manager within each of the domains).

The conducted research does not cover all the problems of standardization of professional activities and training of education managers. The scientific inquiries are limited to the specific conditions of the research (describe particular countries) and express the standpoint of the authors. The correlation between the educational and professional standards, which is different in every country,

remains an unresolved issue within the framework of the present study. The following areas would benefit from further research: case studies of applying professional standards while training educational managers at universities of different countries; comparative analysis of the content of the professional and educational standards for education managers in a particular country in order to create a holistic picture of educational trends and use best practices of world educational experience.

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PROMOTING SELF-EFFICACY OF PROSPECTIVE MUSIC TEACHERS: THEORETICAL INSIGHTS

Guanhua Bi

Vytautas Magnus University, Lithuania

***Abstract.** Scientific literature shows that cultivating self-efficacy is conducive to learner in-depth study of music, independent choices and perseverance in the field of music. However, most current research studies focus on self-efficacy in primary and secondary education, whereas the self-efficacy of prospective music teachers has been scarcely investigated. Considering the importance of self-efficacy in music activities of prospective music teachers, a study on the particularity of prospective music teachers' self-efficacy has been initiated: the literature analysis method has been used, and a large number of literature sources related to self-efficacy and music education have been analysed. The following problem question is formulated: what is the particularity of self-efficacy in music education? The aim of this research is to analyse the concept of self-efficacy in music education. Research results show that self-efficacy determines the judgment of prospective music teachers on their learning, performance, and teaching abilities. Factors that affect the self-efficacy of prospective music teachers include mastery of experiences, vicarious experience, social persuasion, and emotional and psychological states.*

***Keywords:** music education, self-efficacy.*

Introduction

This study incorporates Albert Bandura's theoretical framework. A. Bandura refers to it as beliefs in individual's abilities to organize and conduct the courses of action necessary to attain the given goals (Bandura, 1977). Numerous research studies evidence that self-efficacy also performs a relevant role in education and musical activity, including the effect on setting learning goals, confidence in teaching assignments and academic performance in general (Zhang, 2016; Girgin, 2017; Ren, 2020; Guo, 2021).

Music education has its particularity and it influences people's thinking and behaviour in a subtle way. By stimulating learners' imagination and association, music education can enhance their interests, emotions, and other non-intellectual variables, fulfilling the goal of nurturing learners' inventive personalities. Considering the particularity of music education and the importance of self-efficacy, this article analyses the concepts of music education and self-efficacy and the sources of self-efficacy in music education based on a review of

previously published scientific sources. Four main factors that have influence on self-efficacy can be distinguished: mastery in experiences, vicarious experience, social persuasion, and emotional and psychological states.

The aim of the research: to analyse the concept of self-efficacy in music education.

Research method: literature analysis.

The Concept of Self-Efficacy

Self-efficacy is widely recognised as people’s views on their capabilities to perform at designated levels and has an impact on the events that affect their lives (Bandura, 1994). The theory of self-regulation claims that beliefs of an individual lead to action, which results in outcome expectations (Bandura, 2001). Initially it started as the Social Learning Theory (SLT) by Albert Bandura in the 1960s. Previous theories of learning, such as the one presented by Skinner (1971), argue that people’s behaviour is always controlled by the environment. Differently from Skinner (1971), A. Bandura argues that people are not simply reactors to external stimulation in their transactions with the environment (Bandura, 1978). They are active information processors and think about the relationship between their behaviour and its consequences. A. Bandura’s social cognitive theory provides a clear framework on which this investigation of self-efficacy is based (Bandura, 1986). In his theory, he suggests a model of reciprocal causation between cognition, behaviour, and environment, thought and behaviour being determined by the interaction of cognition, behaviour, and environment. Self-efficacy moderates the relationship between cognition and behaviour, which enables individuals to cognitively evaluate how well their abilities comply with the demands of the assignments (Figure 1).

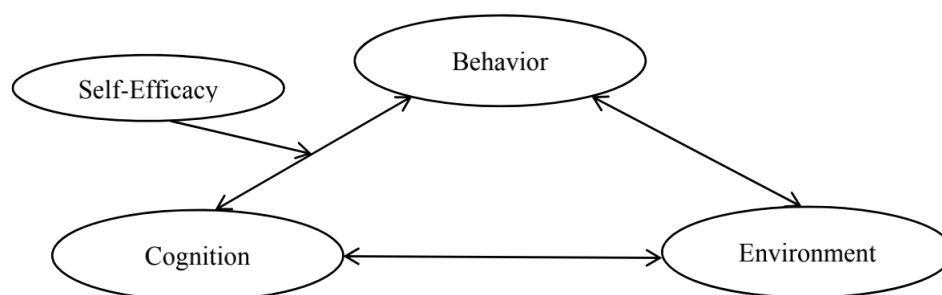


Figure 1 *Self-Efficacy in Bandura’s Model of Triadic Reciprocal Causation by Zelenak (2011)*

Malleability is a construct in self-efficacy that has attracted educators’ attention in particular (Berry & West, 1993). This characteristic of self-efficacy states that “it is dynamic and malleable, subject to changes in task demands,

situational determinants, social context, and individual development”. Even in a field, a person may have a range of different self-efficacy beliefs. For example, the self-efficacy of music performance in music activities is different from the self-efficacy of music learning and is more different from the self-efficacy of music teaching. A. Bandura states that “although efficacy beliefs have generalized functional value, how they are developed and structured, the ways in which they are exercised and the purposes to which they are put vary cross-culturally” (Bandura, 2002).

Self-efficacy is a theory of self-regulation in which an individual’s beliefs produce action that results in outcome expectations (Bandura, 2001). Self-efficacy beliefs also affect people’s emotional reactions and thinking styles. A. Bandura concludes that perceived efficacy can determine the pivotal choices people make a significant decision points in life. When coping with difficulties, individuals with low efficacy tend to give up, whereas those with high efficacy view challenges or obstacles as surmountable and prove to be possess resilience (Bandura, 2006).

Individuals with high self-efficacy beliefs can be more productive and more relaxed when faced with challenging assignments. Individuals with lower self-efficacy beliefs are more anxious because they perceive their assignments to be more challenging than they actually are, and healthier thinking also becomes more complicated. Thus, self-efficacy beliefs have a relevant influence on achievements of people (Seçkin & Başbay, 2013).

A strong sense of self-efficacy is one of the ways in which people change their own and social destiny. Self-efficacy beliefs have inestimable functions and value in controlling and regulating human behaviour. People with a high sense of efficiency adopt a future-oriented view of time when constructing life, full of confidence and hope for the future. Efficacy is also particularly important to studies and life of learners (Chen, 2009).

The second way to create and strengthen self-efficacy beliefs is through vicarious experiences provided by social models. There is a direct link between such experiences and perceiving social cognition processes such as empathy. Observing people who are similar to themselves succeed by invested effort raises the beliefs of observers that they themselves also have obtained the capabilities to complete comparable activities required to achieve success (Lockwood, 2016). Vicarious experiences are most impactful when the observer considers the person being observed to be relatable, such as a pre-service music teacher observing another trainee music teacher (Hendricks, 2016). Undergraduate observational experiences have been found to affect pre-service teacher beliefs, most notably when experiences are structured and pupils have the opportunity to exchange their findings with classmates (Prichard, 2017). Compared to other sources, secondary experience often exerts a limited influence on beliefs, and some research studies reveal that such experience negatively influences beliefs about

efficacy in learners who compared their play with that of other music performers (Moore, 2012; Zelenak, 2015). Since vicarious experience is based on inferences from social comparison, this source can be less reliable on and more prone to change in comparison to mastery experiences (Bandura, 1977). Therefore, vicarious experiences must be positive because negative social interactions lower self-efficacy levels in collegiate environments (Edwards, Hershberger, Russell, & Markert, 2001).

The fourth source of self-efficacy includes physiological and affective states. It refers to physical and emotional reactions affecting perceptions of personal competency, to reduce people's stress reactions and alter their negative emotional proclivities and misinterpretations of their physical states. Research indicates that numerous physiological states affect learner-teacher self-efficacy levels, including their characteristics, positive physiological states improve self-efficacy levels of teachers (Biasutti & Concina, 2018; Sander, 2020).

Numerous studies in educational psychology show that self-efficacy can significantly promote learner enthusiasm and self-confidence in learning participation (Chen, 2009; Mohammadyari, 2012; Guo, 2021) and improve learners' academic achievement (Yang, 2010; Honicke & Broadbent, 2016). Highly efficacious learners possess better time management skills, gain more enjoyment and pleasure from tasks, and use deeper cognitive processing (Vantieghem, Vermeersch, & Van Houtte, 2014). Research has shown that good self-efficacy beliefs are related to teacher behaviour, e.g., decreased burnout (Brouwers & Tomic, 2000), increased job satisfaction (Caprara, Barbaranelli, Borgogni, & Steca, 2003), and use of creative curriculum resources and innovative strategies in teaching (Wertheim & Leyser, 2002).

Self-efficacy is perceived as speculation and judgment that an individual makes about whether he has the ability to complete a certain behaviour, and it plays a major role when individuals complete their goals, tasks, and challenges, and is to determine their future status. It is "dynamic and malleable", which means that self-efficacy is different in various domains and it is affected by four factors, namely: mastery experiences; vicarious experiences; social persuasion; physical and emotional states. Mastery experience is perceived as the most important source out of all four discussed above.

Beliefs in self-efficacy determine how people feel, how they think, how they motivate themselves, and how they behave. Positive and high self-efficacy make people think they are competent for the work they undertake, so they will have a positive and aggressive attitude and affect academic performance.

Self-Efficacy in Music Education

Music provides many benefits for both children and adults alike. Children who participate in music show an increase in a sense of identity. Music also

increases children's self-esteem, especially those of low economic status. Young learners who choose to play instruments have a higher sense of identity and self-esteem compared to those who do not involve in music activities (Harland et al., 2000). Studies also show that in addition to the improved development of children's social skills, their personal skills such as confidence, self-discipline, a sense of achievement and physical coordination are strengthened through music instruction (Hallam & Prince, 2000). Furthermore, the study by Schellenberg (2006) shows that learners who engage in music learning have higher than average intelligence quotients (IQ) or tend to increase their previous IQ, further illustrating the benefits of music (Schellenberg, 2006). Similarly, adults who participate in music studies also demonstrate positive results. Research studies conclude that improvements are also identified in self-expression and self-improvement (Coffman, 2002; Costa-Giomi, 1999; Hallam & Prince, 2000; Harland et al., 2000). Adults involved in music also develop a sense of belonging and a way to meet new people. Some adult participants in music-related activities even obtain a love of learning and performing music (Coffman, 2002).

Music has the ability to develop both interpersonal and intrapersonal intelligences by exploring the self and collaborating (Gardner, 2006). Music is seen as a kind of pleasant art. People learn music, whether it is to acquire music knowledge and skills, music appreciation, or to participate in music performance and creation, psychological processes are very active. Music has a certain particularity of learning task; learning content, form, and use of sensory organs compared to other disciplines are totally different. There is a difference between artistic thinking and scientific thinking, when the former is recognised as known, rational, logical thinking, and the latter is referred to as aesthetic, and emotional image of thinking (Cao & He, 2002).

In education and specifically music education, we are generally more concerned with the outcome and not with the process of learning. We suggest many models of what we want learners to be able to perform, but too often deny them guidance for gaining a mastery level of performance. As music educators, we depend on the individual practice as a means of acquiring a mastery level of performance. In many aspects of education, those learners who can learn autonomously are successful in school (Leon-Guerrero, 2008).

Essentially, teacher education programmes must develop the abilities of those who want to teach music and the arts. Within the context of the self-efficacy construct, thoughts and feelings for arts education of a teacher will ultimately determine the quality of instruction that a learner of arts will get (Garvis, Twigg & Pendergast, 2010).

Music education has its specific features. Its education process depends on internal edification rather than on compulsion. People become willing to accept new things and environments, and aesthetic diversity will make their heart even more open (Wright & Kanellopoulos, 2010; Crawford, 2017; Johnson & Hawley,

2017; Zhu, 2020). Music education is not a kind of compulsive mental development education; it will not be obligatory for learners to set a specific thinking mode and moral standards (Qin, 2019; Vasil, 2019). Instead, they introduce subtle influence on people's thinking and behaviour (Sun, 2022). People are influenced and changed from deep inside and they carry out self-reflection and correction in the process of learning and appreciation (Krause et al., 2018, 2019; Wang, 2022).

Orejudo et al. (2021) state that the assignments music learners are asked to complete are mainly associated with performing in front of an audience either in concerts or during examinations. To achieve success, an individual must have acquired the technical skills that are necessary to prepare for and master the repertoire. However, in addition to necessitating the gradual obtaining of these skills, musical training also requires the development of motivational abilities that enable the individual to continue to do his or her job, especially when overcoming challenges.

In music education, several self-efficacy studies reveal the potential for understanding that informs behavioural change. Music teachers make complex decisions about the music they teach or perform. These decisions are predetermined by personal experience, observations of the environment around, beliefs regarding the nature of the particular task, and, importantly, beliefs about their own capability to complete that assignment. Teacher self-efficacy is perceived as a construct that interacts with teacher pedagogical practice (Alger, 2009). J. Vannatta-Hall shows how self-efficacy of pre-service music teachers has an impact on their choice of music teaching activities which then has a causal effect on their learners' music education. The study demonstrates the importance for them to develop the will (i.e., self-efficacy) and the skill (i.e., competence) to teach music if they are to enhance the competencies needed to provide their future learners with adequate music opportunities. Enhancing self-efficacy is the primary step in helping prospective music teachers acquire the right blend of skills, knowledge, and understanding that are of the utmost importance in teaching music (Vannatta-Hall, 2010). It is also stated that cultivating college learners' self-efficacy in music learning is significant in improving learners' academic achievement and lifelong development (Wei, 2010; Yang, 2010). Self-efficacy is an important psychological construct to take into account in the development and mentoring of music teachers (Regier, 2022).

M. Zhang and S. Han used music intervention and music teaching to explore the effect of music on the self-efficacy of college students. The results show that music education and music intervention have a significant impact on the self-efficacy of college students. Specifically, music education and music intervention could significantly improve self-efficacy of college students, and the duration of an intervention is directly proportional to the degree of improvement in self-efficacy (Zhang & Han, 2012).

Within the field of music pre-service training, Battersby and Cave (2014) advocate that music method courses address the beliefs and confidence (and hence self-efficacy) of trainee music teachers; a causal intervention initially found to be positive (Han & Culp, 2016). However, later findings show negative effect (Lowe, Lummis, & Morris, 2017), reflecting that successful behaviour interventions are not necessarily permanent.

Music has a profound impact on people's qualities and is an emotional art. It is quite easy to stimulate and mobilize emotions and personal achievement can be reflected well. Music education plays an important role in the development of people. It promotes the development of people's moral, intellectual, and aesthetic education. At the same time, music education has a certain particularity. It is not just a copy and imitation, but incorporates emotions such as the subject of performance and creation. Music education has the characteristics of subjectivity. On the one hand, music education must not only adapt to people's pursuit of truth, but also make people's emotions greatly satisfied in family ethics, interest understanding, ideal vision, and aesthetic experience.

Self-efficacy plays a significant role in music education. It is the evaluation of music learners' confidence in whether they can use their abilities or skills to complete the task of music learning, and it is a subjective judgment of individuals' ability to control their music learning behaviour and music learning performance. Self-efficacy in music learning provides learners with full confidence in learning music, can be more actively devoted to learning, have higher learning goals they set for themselves, actively use effective learning strategies and cognitive strategies, in the face of difficulty to put in more effort and time, so in the context of the music they have a positive attitude and emotions, less anxiety.

Conclusions

Self-efficacy is defined as the speculation and judgment of an individual about whether he or she has the ability to complete a certain behaviour. It plays a major role when individuals complete their goals, assignments, or have to deal with complicated situations.

The review of the scientific literature allows for pointing out four main sources of self-efficacy. The first source refers to the mastery of experience. The second includes the vicarious experiences of others and is seen as a type of social learning. The third source is social persuasion, which refers to receiving feedback from others. The last one includes the emotional and mental state.

The importance and particularity of music education make educators and learners continually seek improvement, persistence in practice, not giving up easily when encountering difficulties, full of confidence in performance, and timely self-adjustment when encountering mistakes. All of these require music educators to strengthen the cultivation of self-efficacy to achieve better goals.

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ADAPTATION PECULIARITIES OF HIGHER EDUCATION STUDENTS IN CRISIS CONDITIONS

Tetiana Pantiuk

Ivan Franko Drohobych State Pedagogical University, Ukraine

Mykola Pantiuk

Ivan Franko Drohobych State Pedagogical University, Ukraine

Myroslav Pahuta

Ivan Franko Drohobych State Pedagogical University, Ukraine

Tetiana Nadimyanova

Ivan Franko Drohobych State Pedagogical University, Ukraine

Iryna Myskiv

Lviv Polytechnic National University, Ukraine

Abstract. *Dramatic events related to the Russian-Ukrainian war shook up not only Ukraine, but the entire civilized world. The war exacerbated not only economic, political, and demographic problems, but also defined as priority tasks the physical rescue of a person, the preservation of his life and health, comprehensive assistance in migration, arranging life and living in critical conditions, overcoming fear and hopelessness. Russia broke all the rules of life on the planet and distinguished itself by atrocities, murders of civilians, looting, and rape. Ukrainians, who are faced with the challenges of life and death today, are looking for ways to preserve not only their territories, above all, their language, culture, education, and authenticity. Our desire for global and European values requires not only the support of the Armed Forces, but each person in his place to work to the best of his ability to support public life in all its dimensions. Education also requires new approaches to content, values, psychological and pedagogical principles, organizational forms, and tools to overcome the challenges facing Ukraine today. In the center of attention of the higher school now is the student whose life, in addition to traditional challenges, has been complicated by war, uncertainty about the future, confusion, despair, a difficult economic situation, the lack of an opportunity to provide basic needs, distance learning, etc. All this, as evidenced by our survey of students of higher education, often leads to maladaptation, depressive states, disappointment, apathy, anxiety, etc. Therefore, the stated situation actualizes the problem of finding optimal ways of adaptation of higher education students in crisis conditions, which will be outlined in our research. In order to identify the peculiarities of students' adaptation to crisis conditions, we conducted a study related to various aspects of their life. It included the possibility to receive psychological support during a crisis period. It is associated with a pandemic and war; awareness and understanding of external and internal factors of crisis conditions that influence student life; the process of adaptation to distance learning in crisis*

conditions; elucidation of the reasons that negatively influence/influenced the distance learning process in crisis conditions; determining positive potential of distance learning in crisis conditions; evaluation by students of educational process effectiveness in crisis conditions.

Keywords: *adaptation, crisis conditions, students, students of higher education, Ukraine, values, war.*

Introduction

The dramatic events that took place at the beginning of the 21-st century in Ukraine demonstrate the instability and precariousness of the modern world. This indicates the importance of wide implementation of such values as freedom, kindness, justice, humanism, honor and dignity. Today, we are observing the tendency of civilization to split into two parts, namely, the democratic world and Russia, good and evil, honor and dishonor, love and hatred. Ukraine is at the epicenter of this struggle. It acts as a guarantor of the victory of good over evil. There is a fierce struggle, the participants of which are men and women; mature, young and old, everyone who understands the importance of Ukraine's victory. We are fighting for life, truth, honor and unity on our God-given land.

The Russian-Ukrainian war exacerbated geopolitical, economic, and demographic problems. It also determined the priorities of human existence in modern realities, i.e. saving life, physical and mental health preservation, assistance to people during migration, arranging everyday life in critical conditions, organizing work, continuing education at various levels, etc.

Facing the challenges of life and death, Ukrainians are looking for ways to preserve not only their territories, mainly, authenticity, language, culture, and education. Our drive towards world and European values puts definite requirements on each person, including work to the best of their ability in order to support social life in all its dimensions. Education is the special component of human civilization that guarantees progress and development. Therefore, its perfect organization remains an important aspect of social life in wartime.

The problem of organizing the educational process in a crisis is not new. Based on interdisciplinary connection has been analyzed in various ways. Researchers substantiate theoretical and applied ways of overcoming the obstacles that appear before a person in a period of crisis. Ukrainian scientists offer real ways to overcome the life crisis of a person in wartime, constructively analysing and substantiating these issues. Thus, Dmitrieva T. & Sysiuk L. (2014) analyse the specifics, reasons and consequences of migration processes in Ukraine; Skotna N. & Pantiuk M. (2019), Kisarchuk Z., Omelchenko Ya. & Lazos P., et al. (2015) develop the concept of psychological and pedagogical support of people affected by migration processes under modern Ukrainian realities.

Issues related to psychological trauma and helping individuals to overcome it are absolutely urgent. In this area, the works of V. Klymchuk (2016) on post-traumatic human growth became important for our research. Larina T. (2012) researches vitality formation as a prerequisite for determining life tasks for progress. Tytarenko T. (2018) analyses the psychological health of a person and means of self-help in conditions of long-term traumatization. Stepanenko L. (2015) discusses peculiarities of the emotional state manifestation in migrant students.

Additionally, some studies are based on the spiritual paradigm and define it as the foundation for recovery from crisis and continuing the constructive search for life sense (Savchyn, 2010; Chykhantsova, 2016), etc.

The purpose of the article is to study the adaptive features and abilities of higher education students during crisis; to analyze external and internal factors that affect the personality in crisis conditions; to determine the difficulties and effectiveness of distance learning.

The theoretical basis of the study

Nowadays, higher education requires new approaches to the content, values, psychological and pedagogical principles, organizational forms and tools to overcome the challenges that emerged for Ukraine as a whole and each learner in particular. "Improving education in the broad sense of this concept is a priority task for those countries that follow the high living standards of their citizens" (Pantiuk, Bodak, Pantiuk, & Hamerska, 2021).

Special attention has been paid to students who face traditional challenges (change of status, place of permanent residence, rhythm of life, environment, communication, living conditions, etc.). In addition, their life has been complicated by war, uncertainty about the future, confusion, despair, difficult economic situation, lack of opportunity to ensure basic needs, distant learning, etc. All this, as our research shows, often leads to maladjustment, depressive states, disappointment, apathy, anxiety, fear, hopelessness, etc. That is why the new tasks of Ukrainian higher education consist in finding ways to adapt students to the dramatic conditions that have developed today. It concerns creating and maintaining a favorable psychological climate; adaptation of educational space to crisis conditions; providing competent professional assistance to higher education students in overcoming personal problems; organizing support for those who need a special individual approach; a professional approach to the implementation of the actual educational process for the professional development of an individual; improving everyday life of those who have lost their homes and are in long-term migration.

We consider the preservation of Ukraine's healthy demographic potential as one of the most important tasks in order to ensure its viability and prosperity

after the Victory in the future. Therefore, each student is treated as a unique personality who has higher calling in life. "Research shows that the main indicators of adaptation of displaced people are the ability to consciously build their lives in new conditions (awareness, reflexivity); the ability to rethink one's own sense of life and values, to develop and improve oneself; stable focus on spiritual and moral values; the ability to make strong-willed efforts to achieve goals; effectiveness. At the same time, this process involves a transition in the hierarchy of person's meaningful life orientations from the motivation to achieve egocentric values-goals to the motivation to achieve socially useful and significant goals. Of course, the needs and motives of personal importance become "embedded" into this structure" (Savchyn, 2016).

It should also be emphasized that people who have suffered from forced migration need psychological and psychotherapeutic help in order to overcome a life crisis and decide on new life priorities. Therefore, we interpret this problem as an interdisciplinary one, as it requires balanced and systematic philosophical, psychological, pedagogical, and medical approaches.

Adaptation of students in crisis conditions is closely related to the issues of organizational, pedagogical, psychological and economic support. In the Ukrainian educational system, a culture of psychological support for students is being formed in order to solve the tasks of adaptation and personal development in wartime conditions. The main goal of comprehensive support is to ensure the success of the adaptation processes, professional self-realization and socialization of students.

In order to identify the peculiarities of students' adaptation to crisis conditions, we conducted a study related to various aspects of their life. It included the possibility to receive psychological support during a crisis period associated with a pandemic and war; awareness and understanding of external and internal factors of crisis conditions that influence student life; the process of adaptation to distance learning in crisis conditions; elucidation of the reasons that negatively influence/influenced the distance learning process in crisis conditions; determining positive potential of distance learning in crisis conditions; evaluation by students of educational process effectiveness in crisis conditions.

Organization of empirical research and analysis of its results

We developed the questionnaire as a part of improvement of educational programs for students of Drohobych Ivan Franko State Pedagogical University. The survey was conducted in the Google Forms format. The questionnaire reflected a wide spectrum of issues under study. This allowed realistic assessment of providing educational services to students; clarifying the points that require correction in the educational process; improvement of the content

and forms of online training format; realizing the problems that have not been adequately solved.

The research covered 170 respondents studying at Drohobych Ivan Franko State Pedagogical University, which is a sufficient basis for clarifying the main points of the research. The participants of the study were students aged 17 to 24 years. The age gradation of the respondents is shown in Figure 1.

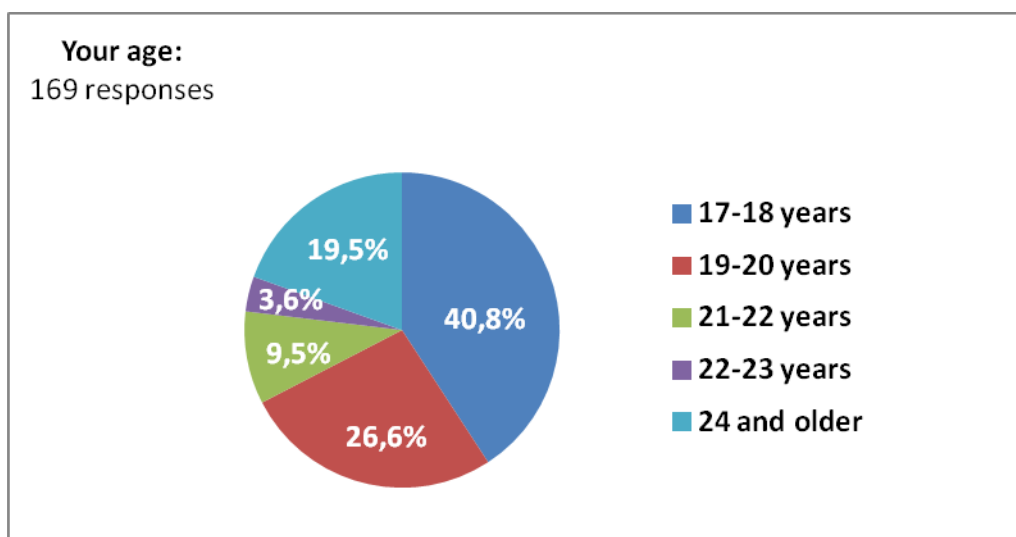


Figure 1 Age gradation of the respondents (created by the authors)

A separate question was about the students' place of residence during the crisis. Notably, Drohobych Ivan Franko State Pedagogical University is located in the west of Ukraine, where there are no active hostilities. That is why the majority of students (89.4%) live at home; only about 10% of students live abroad, in rented accommodation or in a dormitory.

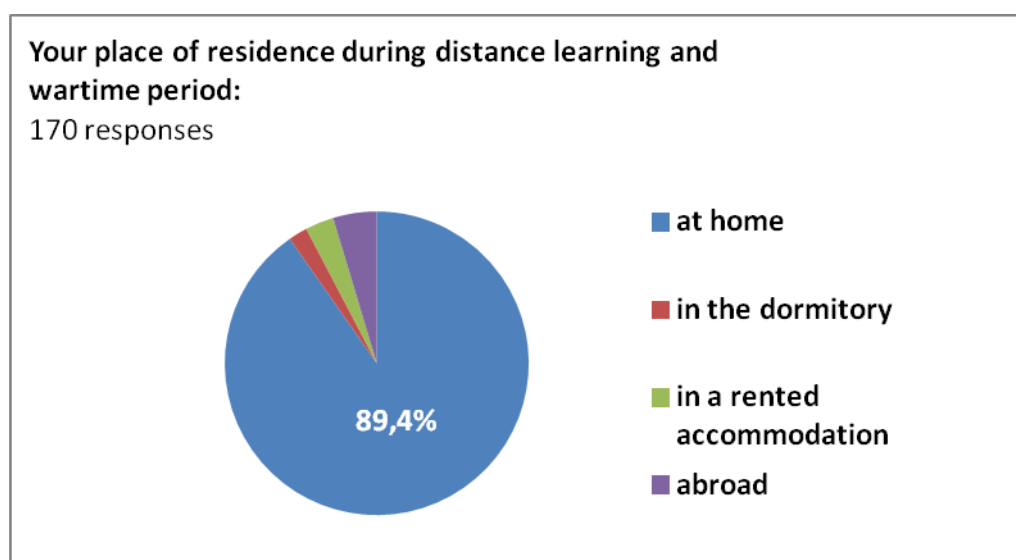


Figure 2 Place of residence of the respondents (created by the authors)

The study emphasized the importance and necessity of psychological support during the crisis period associated with the pandemic and war. The results of our survey, however, prove that only 24.6% of students had the opportunity to receive psychological support during the crisis. Almost half of the respondents (48.5%) did not have such an opportunity; 26.9% received partial and episodic psychological support. This demonstrates society's unpreparedness for such challenges and requires the development of a broad system of psychological support for students during the war.

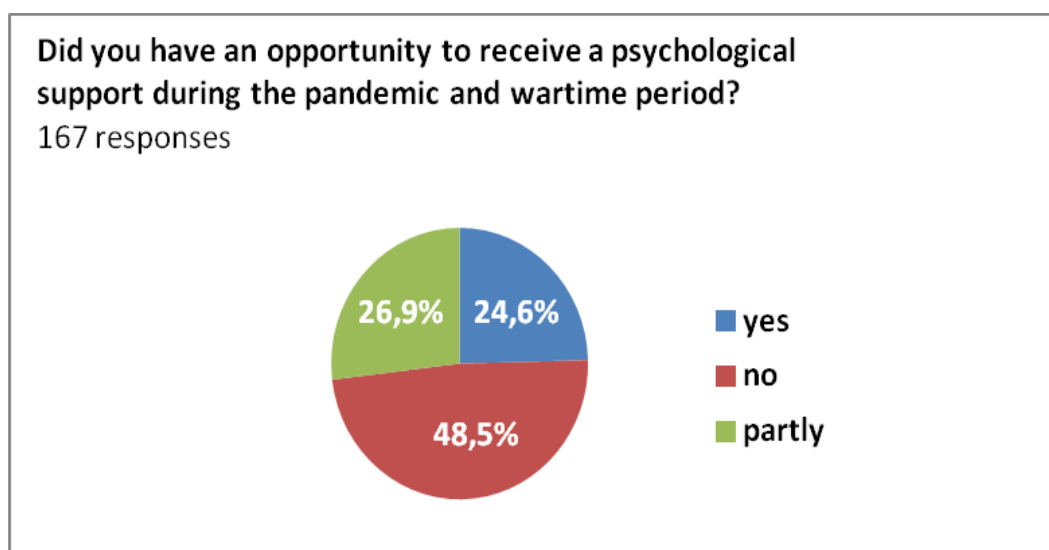


Figure 3 *Availability of psychological help for the respondents* (created by the authors)

Another question considered the impact of external factors in crisis conditions. The survey showed that the most negative factors included air raid alarms and alerts about missile attacks (70.4%); 46% of respondents were concerned about general public anxiety, about the war and had fear of it. Current events (43.8%) also became a significant traumatic factor.

A lot of respondents (40.2%) worried about the violation of their usual work and rest balance. Other factors are distributed as follows: social instability (32%); unpreparedness of surrounding for crisis conditions (17.2%); impossibility to study offline (13%); migration of citizens (11.2%).

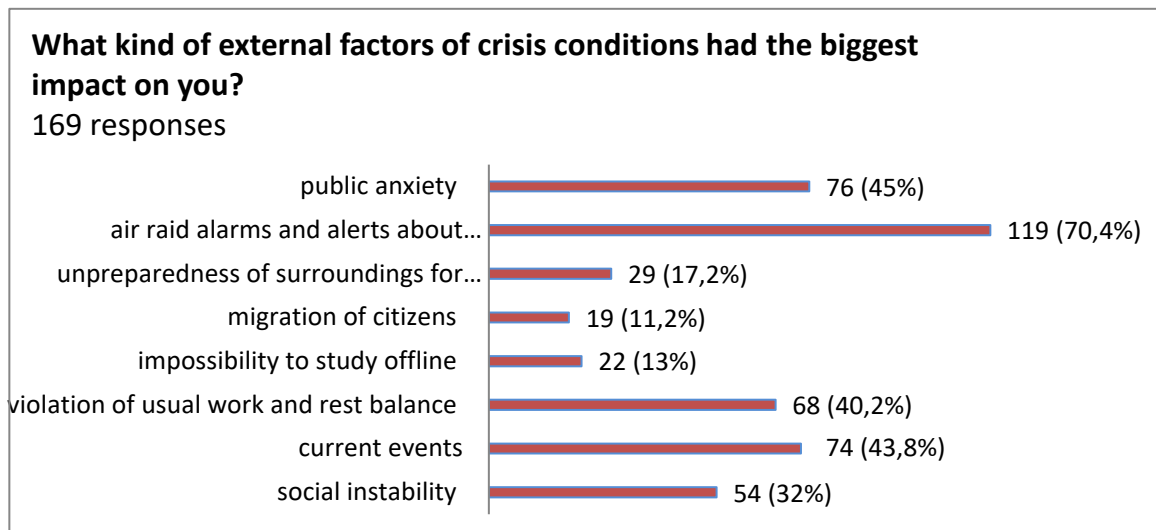


Figure 4 External factors affecting the adaptation process of the respondents in crisis conditions (created by the authors)

The study also analyzed the internal factors that significantly influenced the adaptation process of students in crisis conditions. Students had the opportunity to choose several factors. The survey proves that the most traumatic factors for students are the following: fear (61.4%); misunderstanding of the future prospects (57.2%); insecurity (39.2%); responsibility for relatives (38.6%); confusion about one's own life prospects (29.5%).

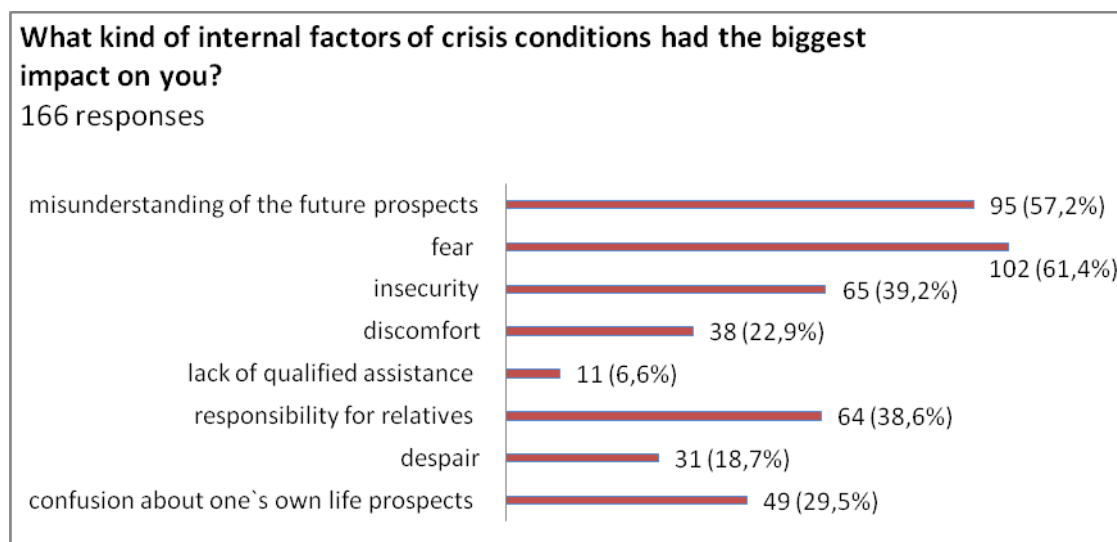


Figure 5 Internal factors affecting the adaptation process of the respondents in crisis conditions (created by the authors)

The research clarified the importance of students' adaptation possibilities to distance learning in crisis conditions. The results of the survey demonstrate high level of adaptability. Thus, 30.6% of students are absolutely adapted, 58.2% - "mainly". The total percentage of adaptation to online learning is 88.8%. We

claim that students can easily cope with educational tasks in distance learning conditions.

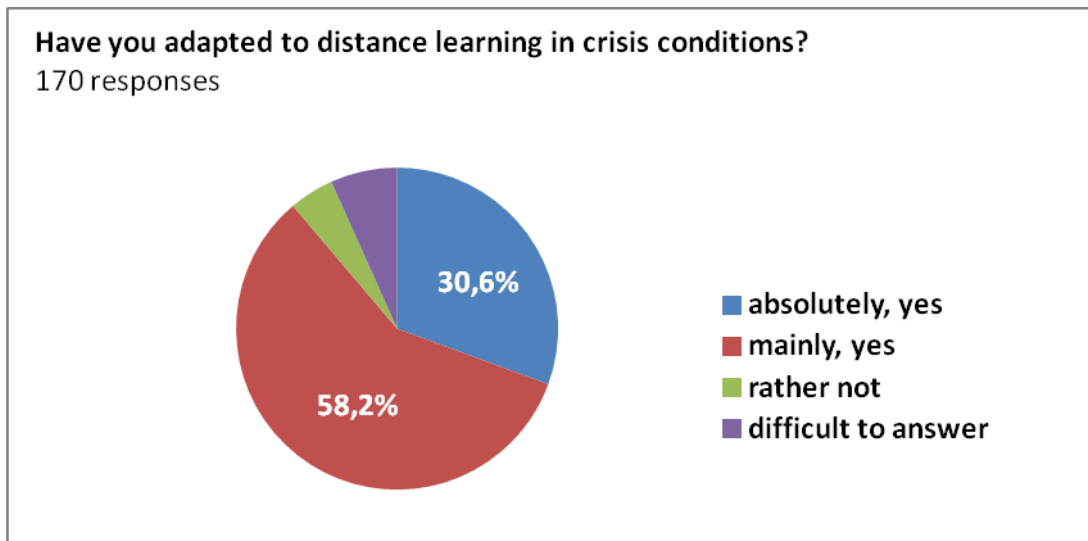


Figure 6 Adaptability of the respondents to distance learning conditions (created by the authors)

The most significant reasons that negatively affect the distance learning process in crisis conditions include technical problems (76.9%) and impossibility of "live" communication (31.4%). Students managed to overcome all other problems quite successfully, so they did not cause any particular discomfort.

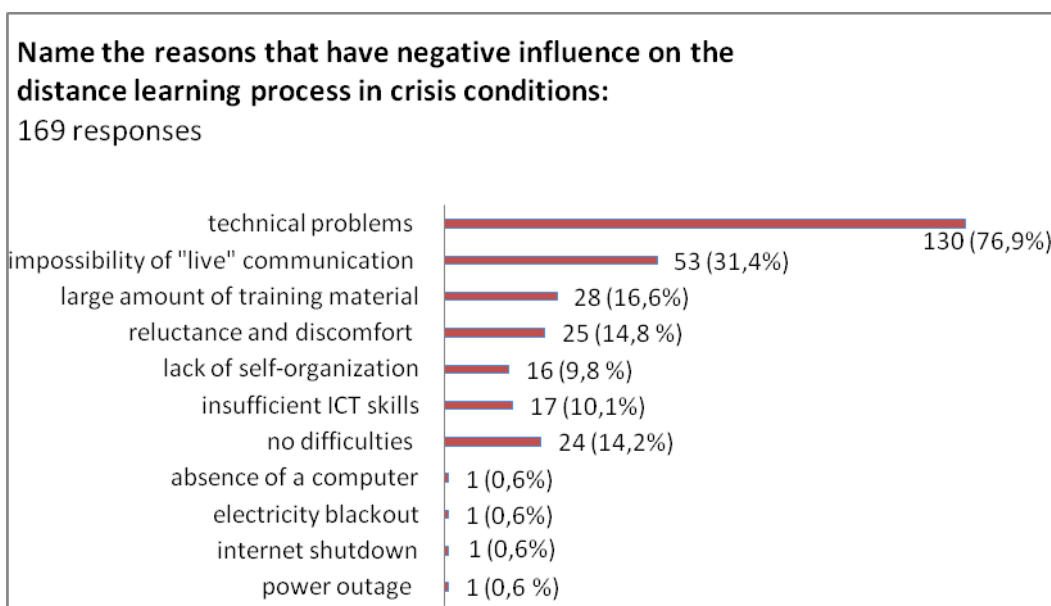


Figure 7 Factors affecting the distance learning process in crisis conditions (created by the authors)

Students also pointed to the significant benefits of distance learning in times of crisis. The advantages include a lot of free time (48.5%); 24-hour availability of educational material (46.7%), possibility to adjust one's workload (43.1%); wide opportunities for self-education (34.1%); realization of the subjectivity of the educational process (11.4%). This proves that students are able to work independently and can be responsible for the results of the educational process.

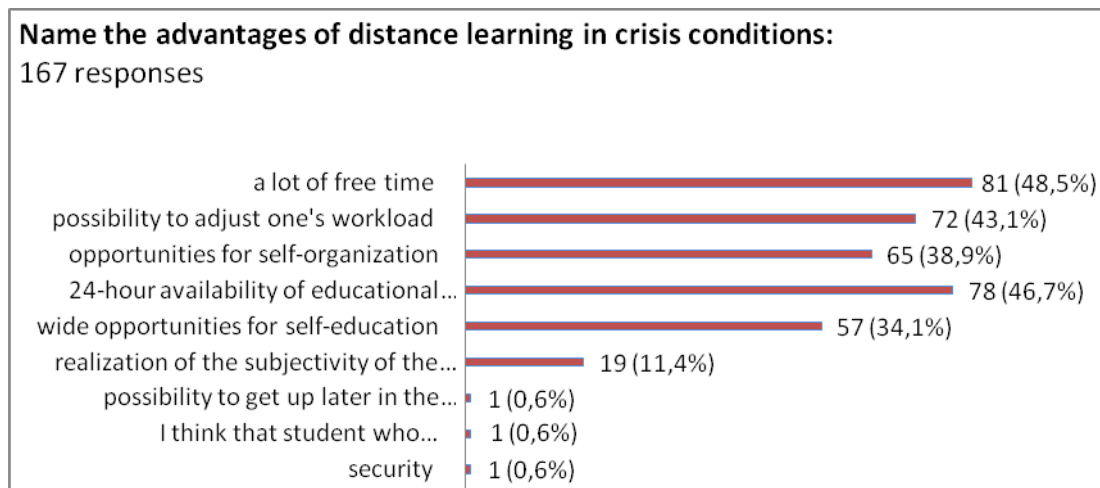


Figure 8 Advantages of distance learning in crisis conditions (created by the authors)

The evaluation of the educational process effectiveness in crisis conditions did not receive very high results (Fig. 9). It is obvious that these indicators are greatly affected by the instability of social conditions, misunderstanding of life prospects, fear and confusion, the need for adaptation and psychological support, disruption of the usual rhythm of peaceful life.

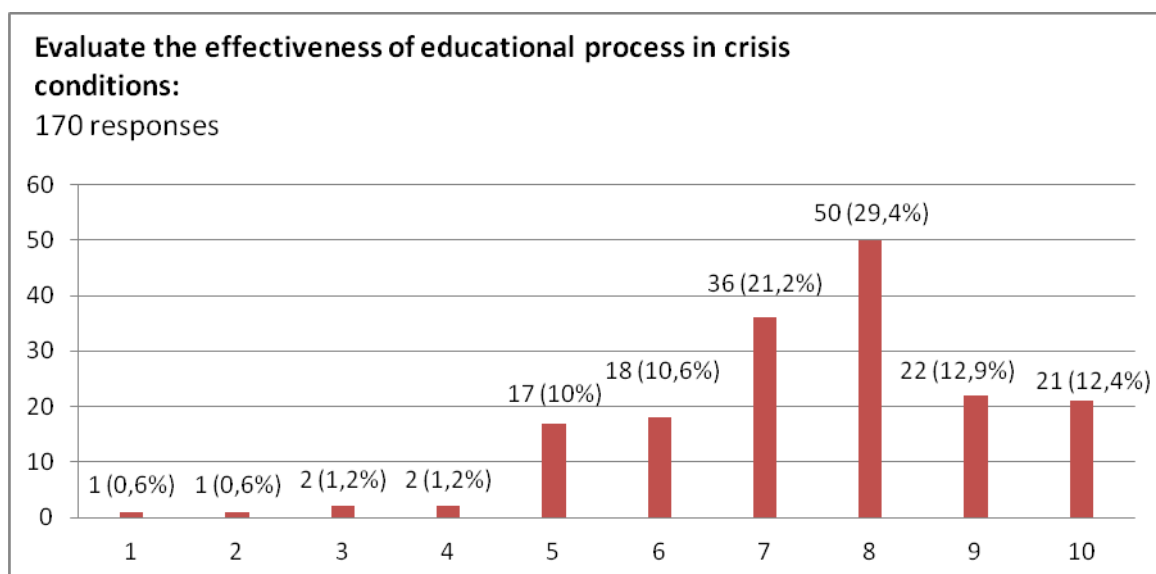


Figure 9 Educational process effectiveness in crisis conditions (created by the authors)

Conclusions

Thus, the new tasks of Ukrainian education consist in finding and implementing optimal ways of adapting higher education students to the conditions of war and social crisis. This concerns the creation of a special educational space; providing professional assistance in overcoming personal problems; systematic organization of support for those who need an individual approach; an innovative approach to the implementation of the educational process; improving and arranging everyday life of those who have lost their homes and are in migration, etc.

In the article, we analyzed adaptive features and abilities of higher education students in crisis conditions; studied external and internal factors that affected students in war conditions; established the difficulties and advantages of distance learning. It is concluded that today students suffer significantly from military actions, worry about the problems of life prospects, the future of their relatives and friends, experience mental and psychological discomfort, etc.

However, the research proves that young people are ready to continue their education. They are looking for opportunities of effective learning and are quite successful in using the advantages of distance learning for the sake of obtaining education and future professional realization. Therefore, Ukraine confidently follows the best European and world values, where education plays a priority role.

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DEVELOPMENT OF MANAGERIAL COMPETENCE OF HEADS OF EDUCATIONAL INSTITUTIONS IN CRISIS CONDITIONS

Valentyna Bodak

Drohobych Ivan Franko State Pedagogical University, Ukraine

Valeria Miliaieva

Borys Grinchenko Kyiv University, Ukraine

Mykola Pantiuk

Drohobych Ivan Franko State Pedagogical University, Ukraine

Olha Prystai

Borys Grinchenko Kyiv University, Ukraine

Zoriana Burkovska

Stepan Gzhytskyi National University of Veterinary Medicine and Biotechnologies of Lviv,
Ukraine

Abstract. *In the crisis conditions of challenges and restrictions caused by the Covid-19 pandemic and the martial law in Ukraine, it is important to ensure stability and efficiency in the management of educational institutions. It is possible due to the condition of development of managerial competence of managers. We consider the managerial competence of educational institutions leaders is a personal phenomenon. It combines psychological, theoretical and practical readiness for managerial activities in the specific conditions of the institution's existence. For the development of managerial competence, appropriate conditions are important, as well as an actual profile, the structure of which includes: development orientation; emotional intelligence; cooperation; ability to create a safe environment; organizational capacity. As a result of the actualization of the crisis situation, the public demand for managers-leaders is increasing, hence the need to analyze, develop a theory and use leadership strategies by the heads of general secondary education institutions, since they are the basis of the manifestation of their managerial competence in crisis conditions. Our research was organized during 2018/2021 (n 112.) It showed a contradiction between the need for development and the lack of managerial competence and leadership strategies among managers in the field of education. In order to develop this property, a program of psychological and pedagogical support was developed and implemented. The results of the program's implementation confirmed its effectiveness and made it possible to conclude that the development of managerial competence can effectively take place within the*

limits of individual trajectories of professional growth of heads of institutions in the field of education.

Keywords: *crisis conditions, leadership strategies, managerial competence, profile of managerial competence, psychological and pedagogical support.*

Introduction

Ukrainian education has undergone significant changes during the past year. The crisis situation that arose as a result of the beginning of the acute phase of the war with the Russian invaders threatens the destruction of education at all levels: from preschool to higher education. The lack of pedagogical management personnel, caused by the mass emigration of Ukrainians abroad, prevents the quality of education, the development of the New Ukrainian School, and the development of professional education. The consequences of such a situation may lead to the growth of a poorly educated generation of Ukrainian citizens. However, in contrast to this we can state the increasing of the heads of educational institutions' readiness to overcome the specified threats and challenges. Management competence is considered by us as an important property of every leader in modern Ukrainian education. In general, competence is a unit of measurement of education of a person, the ability to act in crisis and problematic situations, is a guarantee of transition from the "qualifying" model of professional development to the "competence" model.

The problem of the development of "competence education" is not new. It was first studied by scientists from the USA and Great Britain during the 60s of the last century. In the European Union, the competencies of managers are defined at two levels: the supranational and individual EU member states (the Netherlands, Poland, Estonia, Ireland, etc.). They are also defined in the countries of the Euro-Atlantic community, namely in Canada (Stoian, 2019). The issue of determining the components and designing the profile of managerial competence is considered to be important. In our previous publications, 5 main competencies are presented. They are based on the managerial activity of modern head of general secondary educational institution. These competencies are: orientation development; emotional intelligence; cooperation; ability to create a safe environment; organizational capacity. We have also developed and described a profile that specifies 20 main qualities of a competent head of a general secondary educational institution (Prystai, 2021). In this publication, we present the results of our latest scientific explorations.

The aim of research is to analyze the leadership strategies of the heads of general secondary educational institutions with different levels of managerial competence, which they choose in crisis conditions; to present the program of psychological and pedagogical support for the development of managerial competence of heads of educational institutions; experimental confirmation of the effectiveness of the specified program. To realize the goal and tasks of the

research, we used the following experimental methods: observation, questionnaire of D. Liusin's (Liusin, 2006) emotional intelligence, questionnaires, focus groups, clusters analysis. Experimental tests were also used in the research, namely: volitional organization of the individual by M. Hutkin, G. Mikhalchenko, A. Prudylo (Hutkin, Mikhalchenko, & Prudylo, 2000), creativity of Torrens (Torrance, 1974); V. Boyko's (Boyko, 1996) tests were used to diagnose empathy.

Theoretical basis of the research

In modern realities, the center of scientific consideration is management in crisis situations. Under the crisis situation, we understand the difficult transition situation, the sharp fracture that includes risk and threat of the system as a whole. S. Booth (2015) also considers the crisis not so much a problem, but rather "opening new opportunities and freeing innovative ideas." K. Zalohina defines a crisis as a point of bifurcation, which contains a potential of both destructive and constructive nature (Zalohina, 2004). Crises occur regularly; they are inevitable and are a part of development. However, they have many threats and challenges. In particular: new needs arise, but there are no obvious ways to satisfy them; previous experience is no longer relevant; uncertainty and instability prevail; there is a shortage of resources; emotional tension; the threat of destruction of the system. The crisis necessitates decisive constructive actions on the part of the management. And the field of education is no exception – the lack of effective actions by leaders can lead to the destruction of the system.

G. Meyers and J. Holusha (Meyers & Holusha, 1984) emphasize that the crisis sets the potential for constructive actions of the manager. He must make changes or restructure the organization's activities in order to overcome the crisis and enter the next stage of the educational institution's development. To implement this, it may be necessary to mobilize all unused or hidden resources of the system, to change fundamentally and restructure the organization of activities.

Komives and Wagner have similar positions in their 7C theory (Komives & Wagner, 2017). They believe that the crisis situation prompts educational organizations to search for leaders who: are aware of their beliefs, values and emotions (consciousness of self); behave sincerely, consistently and honestly (congruence); feel an obligation to serve the team, making intensive and long-term efforts (commitment); can cooperate with others (collaboration); work with common goals and values (common purpose); accepts that differences of opinion are inevitable, and that such differences should be discussed openly, but politely, with respect for others, willingness to hear each other's views, and restraint in criticizing the views and actions of others (controversy with civility);

connect to the community and society through leadership development activities, work for positive changes in society (citizenship).

D. Campbell et al. (Campbell, Dardis & Campbell, 2003) believe that in a crisis situation, the leadership of heads of educational institutions is based on their personal qualities (social activity, indifference to people); interpersonal traits (competence to win the trust, respect and loyalty of others); cognitive, communicative and specific skills. Challenges, crises, all kinds of threatening situations can contribute to the development of managerial competence of leaders.

We believe that a high level of managerial competence of managers in a crisis situation allows them to influence the development of individual crisis processes, and thus increase the overall quality of management. This is manifested in the clear definition of one's own zone of influence and activity within these limits; acceptance of life circumstances that cannot be changed; awareness of the crisis as an inevitable period that has its advantages; readiness for changes, search for new ideas and initiative support; able to organize and implement new processes; using empathy and self-empathy to build quality resource relationships. In our previous research we established that in a crisis situation, the leaders of educational institutions most often demonstrate a leadership "motivation strategy". It is based on systematic and transparent communication and a defined mission that unites team members for the sake of which they are ready to move forward despite all the challenges and problems (Miliaieva & Prystai, 2022). Such a strategy allows managers to emphasize the social significance of their own professional activity, which is reinforced by the system of values that they implement through the professional context.

Rarely, but quite often, the "strategy of responsibility" and "strategy of working with emotions" are manifested in the behavior of leaders. "Responsibility strategy" lies in the ability to take the initiative, make decisions, organize the process and control its implementation (namely take full responsibility for the organization's activities). "Strategy of working with emotions" includes the manager's ability to work with emotional manifestations of varying intensity, to show empathy in difficult situations and to preserve one's own resource as a means of self-empathy. The least expressed among the respondents was the strategy of "creativity" – the ability to find new ways to solve problems, original ideas and non-standard solutions.

With the help of cluster analysis, the relationship between the personal characteristics of the head of the general secondary educational institution and the choice of leadership strategy during a crisis situation was revealed. It was also confirmed that the effectiveness of the implementation of the leadership strategy depends on the level of managerial competence of the head (Miliaieva & Prystai, 2022).

Organization of empirical research and analysis of its results

The purpose of the psychological and pedagogical support program is to form and develop the key competencies and skills that are the basis of the managerial competence of heads of general secondary educational institutions. The program includes 4 modules, which are aimed at the development of competencies that are the basis of the head of general secondary educational institutions managerial competence profile.

Module 1. "Empathy as a management skill".

1. Professional and personal growth webinar training "Empathy in school communication". The aim: development of empathy of education leaders, highlighting the possibilities of using empathy in an educational institution and the managerial activities of the head of general secondary educational institutions, familiarization with the methodology of nonviolent communication. Contents: The first educational module is about the development of the managerial competence of the head of general secondary educational institutions. The members of school teams have the opportunity to familiarize themselves with the methodology of M. Rosenberg (Rosenberg, 2020) and his book "Language of life. Nonviolent communication". The main principles of this approach is to analyze one's own level of empathy, share experiences, discuss certain situations and practice emergency response techniques in groups.

2. Master-class "Methodology of preparation of the project "Creation of an educational space at school". The aim: To provide participants with school commands algorithm of object development, actualization of the need of creation of an environment in educational institution. Contents: Each school team gets a task within the framework of the first module to develop the project "Creation of educational space in school". The participants of the master-class receive the algorithm of objects and the task development to implement the received knowledge in their school space. The work lasts for two months.

3. Presentation of the project "Creation of an educational space at school". The aim: exchange of ideas and experience between participants of different school teams; promotion of safe educational environment creation among educational institution. Contents: Within a month each school team presents its project, shares experience and ideas with colleagues. Educational leaders work in three directions: empathy in communication with colleagues, with students and with parents. Participants of the program rely on the needs of the educational institution, its development strategy and take into account the current situation in the educational sphere.

Expected results. The head is able to find partners and support effective cooperation with them; to understand someone else on the basis of empathy, feelings and thoughts; put himself in the place of the partner with whom he is communicating and consciously assess his inner world; to see and predict the

partner's behavior; to act in conditions of lack of initial information about him, relying on the experience stored in the subconscious; to predict his behavior and respond effectively to it; to create a safe empathic educational environment in the educational institution.

Module 2. «Creative thinking of the head of general secondary educational institutions».

1. Training of professional and personal growth "Creativity as a key skill of the 21st century". The aim: Development of creative thinking, search for unobvious ways of solution of the situation, withdrawal from stereotype. Contents: School team members reveal the concept of creative thinking, actualize the need to develop this skill, get acquainted with possible ways of developing creativity. Education leaders are able to perform tasks that promote the development of creative thinking individually and in teams. They can experience the necessity and resourcefulness of this skill in their own practice, as well as to analyze the factors that can be used to promote the manifestation of creativity in their school teams. Teams receive a list of recommended techniques that allow them to apply this type of thinking as a skill that helps them successfully respond to new social demands in education. 2. Self-introduction of creativity skills in personal and professional life of the leader of education. The aim: formation of creative thinking, looking for ways of its usage in professional activity. Contents: The task of the second module was to practice creative techniques regularly and record the results, as well as to choose one of the techniques and implement it in work with the personnel (on pedagogical or other working meetings). 3. Thematic circle "Ways of using creative practices in professional activity". The aim: sharing experiences and ideas among all participants. Contents: During the thematic circles there is a discussion: what is given easily; what difficulties arise; what changes can be noticed; where it is possible to apply new skills, etc. School teams can use the techniques of creative thinking development on lessons with pupils, which positively influence the educational process.

Expected results. The head can show self-awareness, uniqueness, and specificity of creative thinking when making and implementing managerial decisions in situations requiring new approaches and changes. He can allocate the main idea and understand the essence of the problem using synthesis and generalization. It is also necessary to be in search to make a mental leap and create original ideas. The head should develop and think in detail about the ideas and change his habits.

Module 3. "Emotional intelligence of the educational leader".

1. Webinar-training of professional and personal growth "Emotional literacy". The aim: acquainting the participants with the features of the functioning of the emotional sphere, providing educational leaders with tools for identifying their own emotional state. Contents: During the third module the

participants of the program work on the development of skills of emotional intelligence, which is formed from four interrelated skills. Therefore, the teams undergo 4 trainings, which alternately complement each other and reveal the topic of emotional intelligence of the educational leader. During the first training the heads of general secondary educational institutions become acquainted with the peculiarities of the functioning of the emotional and volitional sphere of the individual. They analyze the causes of various emotions and their impact on work processes or professional activity. Although the heads receive tools for identifying and verbalizing one's emotional state, as well as understanding the need to develop emotional literacy as a skill. 2. Professional and personal growth webinar training "Methods of effective management of one's own emotional state". The aim: acquaintance of heads of general secondary educational institutions with working instruments of influence on own emotional state, searching of ways of self-motivation. Contents: Participants practice in conscious and purposeful management of their own emotional state; learn to call and maintain positive emotions; keep under control negative ones; test various techniques and instruments of influence on the emotional-freedom sphere; study their own peculiarities of its functioning; determine personal resources, possibilities of their renewal, as well as ways of self-motivation and self-organization. 3. Webinar-training of professional and personal growth "Social understanding". The aim: development of social competence, skills of understanding the emotional state of the interlocutor. Contents: The leaders of education during the training carry out various practical tasks that stimulate the development of social competence. They practice better identifying and understanding of the needs and emotional states of interlocutors, identifying them and being able to describe them verbally. 4. Professional and personal growth webinar-training "Relationship Management". The aim: providing educational leaders with tools to influence the emotional and motivational sphere of other people. Content: Teams practice to induce certain emotional states in the surrounding people and influencing their manifestation and intensity; work in pairs and small groups, where they can analyze the impact; share impressions and receive feedback from colleagues. Also, the participants work in the field of motivation, looking for ways to motivate the team based on emotions.

Expected results. The head can realize his emotional state, understand the reasons for its occurrence and verbally describe it. He manages his emotional state, evokes and maintains positive emotions and keeps negative ones under control, and also restores the resources. The head understands the needs and emotional state of the interlocutor and identify them. He causes certain emotional states in the surrounding people and influences their manifestation and intensity. And also motivates himself and others.

Module 4. "Effective communication in managerial activity".

1. Webinar training "Communication tools for making effective management decisions." The aim: providing heads of general secondary educational institutions with tools for effective management communication. Contents: The fourth educational module of the program of psychological and pedagogical support for the formation of managerial competence of the heads of general secondary educational institutions is devoted to communication tools. Working at the training on the topic "Communication tools for making effective management decisions", the participants have the opportunity to get to know and master various communication techniques. In addition, educational leaders use already acquired knowledge and skills from previous modules. 2. Project activity "Determining the needs of school teams". The aim: application of the received knowledge and tools by the leaders of education; development of skills of effective communication; determination of questions and needs of school collectives. Contents: Participants of the program receive the task to define and work in teams dissatisfied with the needs of their colleagues. They should develop a system of measures of influence for their satisfaction and increase of non-material motivation of school employees. The school administration teams are developing a plan to implement these ideas, search for necessary resources, partners and investors. 3. Seminar-workshop "Methods of determining the needs of employees and increasing the non-material motivation of the team." The aim: presentation of own educational institution and results of work of school teams, exchange of experience and ideas with colleagues. Contents: Teams present their results and have the opportunity to receive feedback from their colleagues. They analyze school projects and challenges they face with, and also resources that help to cope with these challenges and continue their work. They also summarize the results of the program. Everyone has the opportunity to talk about their own experience, to be enriched by the ideas and practice of others. During the discussion, everyone has their own vision of creating conditions for the effective formation and development of managerial competence of educational leaders in a specific educational institution.

Expected results. The manager is able to: create a system of effective communication in the educational institution; present and popularize the educational institution; organize and provide communication with the public; ensure social protection of all participants in the educational process.

After completion of the study, an investigation of the development of managerial competence of the heads of general secondary educational institutions was conducted in order to determine its effectiveness. The total sample consisted of women (90.2%) and men (9.8%), totaling 112 people. By age respondents were divided as follows: 15,6% were under 30 years old, 45,8% were between 30 and 40 years old, 21,3% were between 40 and 50 years old, and 17,3% were over 50 years old. Among them: directors – 9%, deputy

directors – 33%, teachers – 44%, psychologists – 9%, social pedagogues – 3%, teacher organizers – 2%.

In order to minimize the influence of other variables, a control subgroup was formed among the participants of the school teams that took part in our research work (KpH). It included those leaders of education who did not attend trainings and were not participants of modular training. Since one of the tasks of the experiment was to study the presence of the formula influence, the control subgroup included respondents with the following characteristics (age, sex, position, work experience), as well as in the experimental group, except for the variable used up to the latter. Repeated psychodiagnosis was carried out in both subgroups (EpH n = 72, KpH n = 40) at the end of the program.

At the beginning and at the end of the training the comparative analysis of the control and experimental sub-groups research results allows to suppose the presence of positive influence of the psychological and pedagogical support of program implementation on the psychological properties development and demonstration, which are the basis of managerial competence of the institutions of general secondary education heads.

The comparative analysis of the obtained results of primary and secondary diagnostics shows that before the beginning of the psychological and pedagogical support program there are no significant differences in the indicators between the sub-groups. After the forming effect we see significant differences in the control and experimental sub-group (Fig. 1). In particular, those respondents who took part in the training and attended the trainings average indicator of the level of emotional intelligence development increased by 0,72, empathies – by 1,25, creative thinking – by 1,19 (from 5). In the control subgroup, after the secondary psychological diagnosis, a sufficient increase in the level of psychological properties is not observed.



Figure 1 *Comparative analysis of research results of control and experimental subgroups at the beginning and at the end of training (created by the authors)*

Next, an analysis of the dynamic changes will be presented. It occurred in the experimental subgroup after the implementation of the psychological and pedagogical support program of managerial competence formation following the profile of the heads of general secondary educational institutions' competences. (Prystai, 2021). According to the results of the formative stage of the experiment, the general positive dynamics of the development of psychological properties were recorded. The psychological properties underlie the manifestation of managerial competence of those educational leaders who were participants in the experimental subgroup (Fig.2).

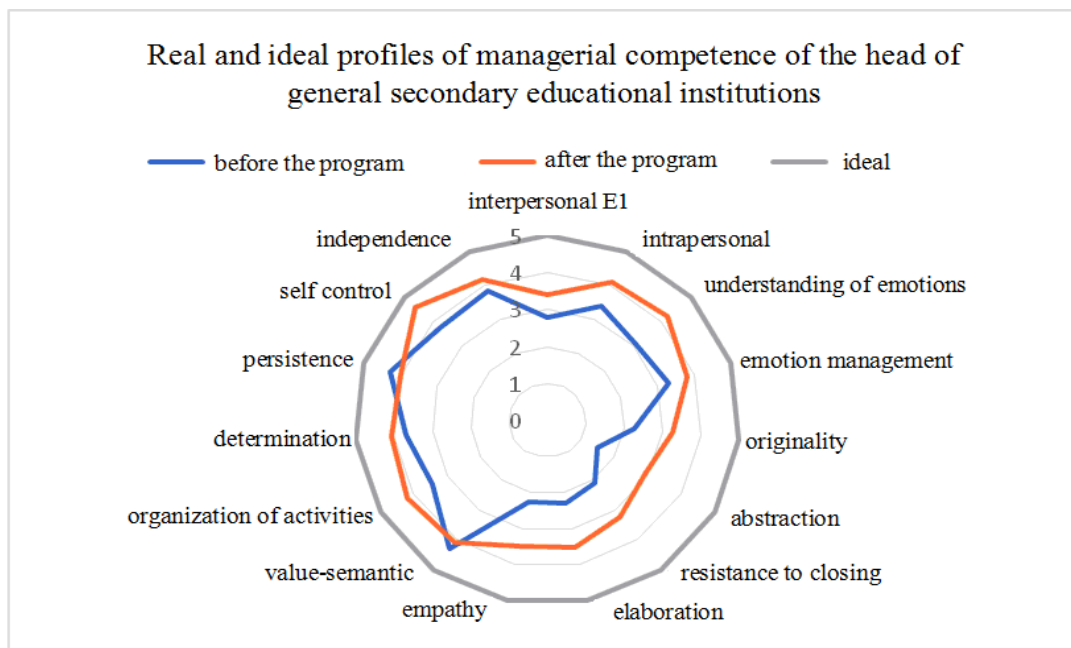


Figure 2 *Dynamic shifts that occurred in the experimental subgroup after the implementation of formative influence (created by the authors)*

Thus, in the experimental sub-group the average value of the indicator forming on each scale (max=5) has undergone the following changes: growth of interpersonal intelligence from 2,8 to 3,4; internal-personal emotional intelligence from 3,4 to 4,1; understanding of emotions from 3,1 to 4,2; managing emotions from 3,3 to 3,8; empathies from 2,25 to 3,5; originality of thinking from 2,27 to 3,27; abstract of thinking from 1,5 to 2,91; development of details from 2,3 to 3,52; resistance to coming from 2,1 to 3,22; self-control from 3,75 to 4,6; independence from 3,83 to 4,16; determination from 3,7 to 4,08; organization of activities from 3,46 to 4,2; reduction of indicators on scales persistence from 4,28 to 4,0; value-based orientation from 4,3 to 4,1. The obtained results are closer to the ideal indicators of the profile of the heads of general secondary educational institutions' managerial competence.

Testing the sample for normality distribution using the non-parametric Wilcoxon T-test. It is used for the statistical difference of indicators of emotional intelligence, empathy and creativity at the level $p < 0.01$. The statistical result of comparing the indicators of two independent samples (EpH and KpH) using the non-parametric U-Mann-Whitney test was also confirmed ($p < 0.01$).

Conclusions

Introduction of the program of psychological and pedagogical support for the development of managerial competence of the heads of general secondary educational institutions and confirmation of its effectiveness allowed us to make such conclusions.

The development of managerial competence of heads of general secondary educational institutions is not limited only by the assimilation of new knowledge. It is a process of constant search for more effective ways to solve problems, overcome challenges and eliminate threats. It is a way of constant self-improvement in one's professional activity. This is a process that provides for the acquisition of specific characteristics, qualities, traits, leadership behavior strategies that contribute to overcoming crisis conditions in modern Ukrainian education.

Introduction of the program of management competence development of the leaders of general secondary educational institutions is a sign of the usage of the best European practices in the system of advanced training of Ukrainian education leaders.

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PACIENTCENTRĒTAS VESELĪBAS APRŪPES PIEEJAS ATTĪSTĪBA MĀSU UN ĀRSTU PALĪGU IZGLĪTĪBĀ

Development of Patient-centred Health Care Approach in the Nurses' and Doctor Assistants' Education

Līvija Jankovska

Daugavpils University Agency "Daugavpils University Daugavpils Medical College", Latvia

Abstract. Nowadays the development of health care system focuses on high quality, effective and safe health services which satisfy patients and clients' needs. Patient-centred health care approach and strategies are important factors to improve medical care process and results. Nurses and doctor assistants' education practises should be based on personalised health care approach and principles. The aim of the article is to identify patient-centred health care components and ways, how to implement them in nurses and doctor's assistants education in order to improve knowledge, skills, competences and attitudes for future work in multi-disciplinary team and multi-cultural environment. The study is based on theoretical and methodological analyses of the concepts and education documents. The results: the deeper understanding of the patient-centred approach and principles, more detailed complex of skills, competences and attitudes appropriate to urgent health care problems and more competent medical worker in the individualized health care system.

Keywords: attitudes, communication skills, medical education, patient-centred, transformative learning.

Ievads Introduction

Zināšanu sabiedrības un straujo tehnoloģiju attīstības posmā tiek pilnveidota veselības aprūpes sistēma, lai uzlabotu pakalpojumu kvalitāti, kas veicinātu sabiedrības veselību un atbilstu pacientu/klientu vajadzībām un augstajām prasībām. Latvijas veselības aprūpes attīstības mērķi ir orientēti uz Eiropas Savienības kvalitatīvas veselības aprūpes kritērijiem, kuros ir uzsvērtā aprūpes sistēmas efektivitāte un pieejamība (*European Commission, Directorate-General for Communication, 2019*).

Šajā dokumentā efektīva pacientu aprūpe tiek saistīta ar pacientcentrētu un personalizētu aprūpes pieeju, veselības veicināšanu un profilaksi, digitālo tehnoloģiju iespēju plašāku izmantošanu un ilgtspējīgu sistēmas attīstību. Patientcentrētas aprūpes termins ir iekļauts Eiropas Savienības un Latvijas veselības aprūpes un medicīniskās izglītības dokumentos, pacientcentrēta pieeja

ir būtiska medicīnisko pakalpojumu sniegšanas kvalitātei. Tāpēc profesionālo medicīnisko studiju procesā ir būtiski attīstīt un pilnveidot pacientcentrētas veselības aprūpes pieejas principus. Māsas (vispārējās aprūpes māsas) kompetencē kā prioritāte ir izvirzīta patstāvīga, uz pacientu centrētas aprūpes īstenošana, nodrošinot aprūpes procesa nepārtrauktību un veicinot pacienta līdzestību (Ministru kabinets, 2009), ievērojot profesionālās ētikas un tiesību normas.

Augstākās izglītības kvalitātes novērtēšanai 2017.gadā Latvijā tika izstrādāta “Augstākās izglītības kvalitātes monitoringa sistēmas koncepcija” (Akadēmiskās informācijas centrs, 2017), kurā formulēta augstākās izglītības kvalitātes definīcija un monitoringa vispārējais modelis. Tajā tika formulēts kvalitatīvais augstākās izglītības kvalitātes monitoringa indikators – profesionālā autonomija. Profesionālā autonomija ir kvalitāte, kas apliecina spēju būt neatkarīgam, pašnoteiktam, pašvadītam lēmumu pieņemšanā, fleksiblam, ar dzīves spēku (resilience) apveltītam, veicot savu profesionālo darbību. Profesionālās autonomijas novērtējumā jāņem vērā četras dimensijas: a) sabiedrības un kultūras, b) informācijas un saziņas procesi, c) pārvaldības un lēmumu pieņemšanas procesi un d) profesionālā un pētniecības ētika, normas, vērtības un profesionālie standarti. Profesionālā autonomija šeit ir definēta kā augstākais studiju rezultāts un ietver pacientcentrētas veselības aprūpes pieejas attīstības nozīmīgus principus un kritērijus.

Pētījuma mērķis ir veicināt izpratni par pacientcentrētas veselības aprūpes pieejas jauno dimensiju attīstību māsu un ārstu palīgu izglītībā, fokusējoties uz starppersonu kompetencēm un attieksmēm. Veselības aprūpes pieeja daudzās valstīs, ieskaitot Latviju, mainās no uz slimību vērstas un sadrumstalotas uz integrētu un pacientvērstu aprūpi. Pārmaiņu īstenošanai ir nepieciešami medicīnas darbinieki, kuriem ir jaunu kompetenču kopums, kas sniedz iespējas īstenot transformatīvos uzdevumus un uzlabot pastāvošo aprūpes praksi atbilstoši pacientcentrētas veselības aprūpes kvalitātes un sarežģīto apstākļu vajadzībām. Pašlaik transformācijas mērķi fokusējas uz tehnoloģiju un caurviju prasmju attīstību, tādu kā analītiskās, starppersonu, starpkultūru prasmes un attieksmes. Medicīnas darbinieku starppersonu prasmju jaunais modelis ietver uz pacientu un cilvēku vērstu komunikāciju, starpprofesionālu komandas darbu, profesionālo un individuālo ētiku, kultūrizpratni un kultūrizpausmi (Maeda & Socha-Dietrich, 2021).

Teorētiskajā literatūrā pacientcentrēta pieeja ir tradicionāls, bet plašs, diferencēts un dinamisks termins, kas iegūst jaunas īpašības un tiek papildināts ar principiem, kas ir atbilstoši medicīnas nozares tekošajām aktualitātēm. Mūsdienās tās ir saistītas ar aprūpes individualizāciju, multidisciplināro pieeju un multikulturālo vidi, sadarbību un pacientu līdzestību. Rakstā tiek sniegts skaidrojums, kāda ir šo jēdzienu būtība, kā padziļināt šīs pieejas izpratni un veicināšanu māsu un ārstu palīgu izglītībā. Lai sagatavotos šo daudzveidīgo un

sarežģīto pacientvērstas aprūpes uzdevumu veikšanai strauju pārmaiņu un izaicinājumu apstākļos, ir būtiski pārskatīt esošās studiju metodes un pieejas, lai studenti aktīvāk iesaistītos studiju procesā, attīstītu kritiskās domāšanas un refleksijas prasmes, kas mainītu formālo zināšanu izpratni, sasaistot to ar personalizētu, multikulturālu un starpdisciplināru aprūpi un ētisku attieksmi. Jaunu vai pieredzes gaitā uzlabotu zināšanu un prasmju ieguve ir viens no transformatīvās mācīšanās principiem, kas paredz studentcentrētu, daudzveidīgu mācību metožu izmantošanu, lai sasniegtu augstus zināšanu lietošanas un prasmju rezultātus, studentu un docētāju sadarbīgu un atbalstošu attiecību izveidošanu, kas nākotnē ietekmēs attieksmes un profesionālo darbību.

Pacientcentrētas veselības aprūpes pieeja ***Patient-centred health care approach***

Veselības aprūpes kvalitātes paaugstināšana ir daudzu valstu un veselības nozares uzmanības centrā. Mūsdienu veselības aprūpei jānodrošina plaši pieejamus, efektīvus, zinātniski pamatotus pakalpojumus, kur tiek ievērotas pacienta tiesības, sniegts psihosociālais atbalsts un pacients tiek iesaistīts aprūpes lēmumu pieņemšanā. Tā tiek saistīta ar daudzveidīgām pacientu vajadzībām un vēlmēm straujo ekonomisko, sociālo un demogrāfisko pārmaiņu apstākļos. Lai veicinātu un saglabātu pacientu veselību, ir nepieciešama inovatīva, sabalansēta, holistiska un uz cilvēku centrēta veselības aprūpes pieeja (*World Health Organization*, 2003). Pacientcentrēta pieeja ir holistiskas veselības aprūpes nozīmīgs princips, kas nosaka, ka pacients ir aprūpes uzmanības centrā, un viņa individuālās slimības, personības, emocionālās un garīgās izpausmes jāņem vērā, lai veiksmīgāk un efektīvāk uzlabotu pacientu veselību, ārstēšanas rezultātus un pieredzi.

Pacientcentrētas aprūpes pamatā ir personības filozofija, kas atzīst, ka cilvēkam, kam ir nepieciešama veselības aprūpe, ir pašam jākontrolē sava veselība un labklājība (Ekman et.al., 2011). Lai gan nav vienotas uz cilvēku vērstas aprūpes konceptuālās definīcijas, kopīgais un svarīgākais princips ir individuālā pacienta unikālās pieredzes, vajadzību un vēlmju ievērošana (Harding, Wait, & Scrutton, 2015). Mūsdienu uz klientu/pacientu vērstas veselības aprūpes modelis ietver terapeitisku komunikāciju, sociāli-psiholoģisku pieeju, pacienta vajadzību un vēlmju apzināšanos, pacienta iesaisti lēmumu pieņemšanā, kultūrizpratni, medicīnas darbinieka ētisku un cieņpilnu attieksmi. Pacient-centrētā aprūpes modelī ir noteicošas aprūpes personas un pacienta attiecības un komunikācija, fokusējoties uz plašākiem psihosociāliem jautājumiem, kas var ietekmēt indivīda atveseļošanās procesu. Pacientcentrēta medicīna uzskata, ka pacienta perspektīva un vēlmes ir būtiskas ārstniecības personas lēmumiem, tāpēc savstarpējām attiecībām ir svarīga nozīme (Brown, Stewart, & Ryan, 2003). Kopīga veselības plāna izstrāde, ņemot vērā pacienta

pieredzi, fizisko un emocionālo stāvokli un ārstniecības personas skaidrojumu par slimību, tās gaitu, ārstniecības mērķi, ir būtiski pacienta līdzestības nodrošināšanai un līdz ar to arī veselības rezultātiem.

Pacientcentrēta aprūpes paradigma ir no jauna pievērsusi uzmanību pretstatā pierādījumos balstītas medicīnas paradigmai, kura ir orientēta uz slimību un tās ārstēšanas zinātnisko pamatu, bet tajā neparādās uz personu vērsta dimensijas. Holistiskā aprūpes modelī šīm paradigmām jābūt integrētām, jo pretējā gadījumā netiek izmantots potenciāls, ko sniedz sadarbība ar pacientu, un līdz ar to tiek zaudēta medicīniskās aprūpes kvalitāte (Bensing, 2000). Pacientcentrēts aprūpes modelis (Brown et al., 2003), kas tiek atzīts daudzās valstīs, piedāvā sešus interaktīvus komponentus tās īstenošanai:

- izpētīt gan slimības, gan slimošanas pieredzi (t.i. pacienta jūtas, domas, cerības);
- saprast personību (t.i. sociālo kontekstu, dzīves vēsturi, attīstības līmeni);
- atrast kopīgu pamatu (par problēmām, prioritātēm, mērķiem un lomām);
- sasaistīt profilaksi ar veselības veicināšanu;
- veicināt pacienta-ārsta attiecības (līdzjūtība, veselīošanās, pašapzināšanās);
- būt reālistiem (attiecībā uz resursiem un laika ierobežojumiem).

Personvērsta aprūpes konceptuālā pieeja izvirza jaunu modeli attiecībām ar veselības aprūpes profesionāļiem (Kottler & Brown, 1996). Efektīva aprūpes maiņa pieprasa uzmanību kā klīniskiem, tā arī neklīniskiem jautājumiem, piemēram, pacienta kognitīvajam un funkcionālajam stāvoklim, ciešākai sadarbībai ar pacientu, nepieciešama pastiprināta koncentrēšanās uz pacienta vajadzībām un vēlmēm, uzlabota komunikācija un ētisku attieksmju lielāka saistība ar kultūras un tradīciju aspektiem. Lai īstenotu pacientcentrētu aprūpi jaunā līmenī, māsām un ārstu palīgiem ir jāiegūst kompetences un attieksmes, kas ir atbilstošas uzlabota aprūpes modeļa ietvaram, kas ir saistīts ar efektīvākām profesionālajām prasmēm, personīgo iesaistīšanos un atbildību. Mācību rezultātiem jāuzlabo māsu un ārsta palīga intelektuālās, psihosociālās un psihomotorās iemaņas, kas veicina spēju pārvaldīt situāciju un veikt profesionālos uzdevumus, izmantot zinātniski pamatotas teorētiskās zināšanas, kā arī sekmē personvērstu attieksmju attīstību, kas izpaužas kā personīgā iesaistīšanās, pacienta jūtu un vajadzību atzīšana un līdzjūtības izrādīšana. Māsu un ārstu palīgu profesionālie standarti uzsver atbildību un autonomiju, kas ir nepieciešami komponenti profesionālās darbības veikšanai, lai novērtētu, plānotu, noteiktu un risinātu problēmas un nodrošinātu pacientam individuālu aprūpi.

Veselības aprūpes visos posmos ir būtiskas starppersonu attiecību prasmes, kas ir terapeitiskās komunikācijas pamatā. Tās ir svarīgas, lai pareizi dibinātu, uzturētu, vadītu un pabeigtu profesionāļa – pacienta / klienta attiecības aprūpes vai konsultēšanas situācijā. Tā ir saistīta ar veselības speciālista pašapziņas un

pārliecības un pacienta drošas un atbalstošas vides izjūtu, neatkarīgi no kultūras, tradīciju, izglītības atšķirībām.

Pētījumi (Moore et al., 2021) atklāj, ka lielākā daļa cilvēku ar vēža diagnozi dod priekšroku uz pacientu vērstai vai uz sadarbību vērstai pieejai (Dowsett et al., 2000; Tariman, Berry, Cochrane, Doorenbos, & Schepp, 2010); tomēr ir mazākums, kas dod priekšroku uz uzdevumu vērstai pieejai. Turklāt ir konstatēts, ka pacientu vēlmes attiecībā uz slikto ziņu paziņošanu ir atkarīgas no kultūras (Fujimori & Uchitomi, 2009). Tāpēc ir obligāti jāsaprot katra pacienta vajadzības (Dowsett et al., 2000; Sepucha & Ozanne 2010). To pierāda pētījuma rezultāti, ka cilvēkiem ar vēzi joprojām ir neapmierinātas komunikācijas vajadzības (Hack, Degner, & Parker, 2005). Teilore (Taylor, 2007) publikācijā atzīst, ka klīniskajās intervijās parasti dominē biomedicīniska saruna, un psihosociāliem jautājumiem veltīts tikai minimāls laiks (Hack et al., 2012; Vail et al., 2011). Spēja sazināties efektīvā veidā ir priekšnoteikums lielākajai daļai veselības aprūpes speciālistu. Tā kā komunikācijas prasmes neuzlabojas tikai ar pieredzi (Cantwell & Ramirez, 1997), komunikācijas prasmju apmācība ir obligāta daudzās apmācību programmās un tiek organizēti komunikācijas prasmju apmācības kursi.

Pētījuma atziņas parāda, ka pacientcentrētas aprūpes pieejas īstenošanā ir daudz neatrisinātu jautājumu un veselības aprūpes izglītības institūcijas pievērš uzmanību, lai uzlabotu tās izpratni, atbilstošas prasmes un attieksmes. Var secināt, ka aprūpes pieejas maiņas īstenošanai un prasmju uzlabošanai ir nozīmīgs individualizēts uz personu orientēts komunikācijas veids, vērtībās un pacienta vajadzībās balstīta sadarbība un profesionālas attieksmes, kas ir saistītas ar ētiskiem un kultūrizpratnes principiem. Lai studenti būtu pilnvērtīgi sagatavojušies pacientcentrētai vai personcentrētai aprūpei, ir svarīgi, lai medicīnisko studiju procesā studenti apgūst ne tikai biomedicīniskās zināšanas, bet arī atbilstošas terapeitiskās komunikācijas, kā arī sociālpsiholoģijā un pedagoģijā balstītas saziņas un sadarbības prasmes, kā arī profesionālas attieksmes.

Komunikācijas, sadarbības prasmju un attieksmes loma patientcentrētā veselības aprūpē

Role of the communication, interpersonal skills and attitudes in patient-centred health care

Mūsdienu pārmaiņu, jaunu epidemioloģisko, sabiedrības novecošanās un cilvēkresursu trūkuma izaicinājumiem veselības aprūpē ir nepieciešamas prasmes, kas ļauj pielāgoties un efektīvi reaģēt uz neparedzamiem un sarežģītiem apstākļiem un arī nodrošināt kvalitatīvus aprūpes pakalpojumus. Lai topošie medicīnas darbinieki sagatavotos darbam, viņiem ir nepieciešams apgūt kritiskās domāšanas, lēmumu pieņemšanas, vadības, starppersonu un emocionālās prasmes (Carrió & Rosa, 2022). Šīs caurviju prasmes ietver komunikāciju, saziņu

un profesionālās attieksmes, kas ir svarīgas kvalitatīvas, pacientcentrētas aprūpes pieejas īstenošanai.

Pacientcentrētā veselības aprūpes pieejā komunikācijai ir nozīmīga loma. Pacientcentrētas komunikācijas mērķis ir palīdzēt veselības aprūpes speciālistiem nodrošināt aprūpi, kas ir saskaņota ar pacienta vērtībām, vajadzībām un vēlmēm, kas ļautu pacientiem dot savu ieguldījumu un aktīvi piedalīties lēmumu pieņemšanā par savu veselību un aprūpi. Pacientcentrētā aprūpes pieeja ietver četrus domēnus: pacienta perspektīvu, psihosociālo kontekstu, kopīgu izpratni, un kopīgu atbildību (Epstein et al., 2005). Efektīva komunikācija veicina pacientu un veselības aprūpes profesionāļu labsajūtu, ārstniecības protokolu izpildi, ietekmē veselības rezultātus un psiholoģisko darbību (Fallowfield, Hall, Maguire, & Baum, 1990; Gattellari, Butow, & Tattersall, 2001; Stewart & Roter, 1989; Horsley et al., 1996). Pacienti cieš no psiholoģiskā stresa, jo viņi cieš sāpes, ir nevarīgi, izjūt trauksmi un bailes, un tādos gadījumos sociālais un emocionālais atbalsts var palīdzēt pārvarēt negatīvās sajūtas. Tāpēc pacientiem ir nepieciešama adekvāta komunikācija par diagnozi, prognozēm un ārstēšanas iespējām (Hack et al., 2012). Savukārt, neefektīva komunikācija var palielināt pacientu satraukumu, nedrošību un neapmierinātību ar aprūpi (Hagerty, Butow, Ellis, Dimitry, & Tattersall, 2005). Neefektīva komunikācija ir arī saistīta ar veselības aprūpes speciālistu paaugstinātu stresu, neapmierinātību ar darbu un emocionālo izdegšanu (Fallowfield, 1998; Ramirez et al., 1995).

Pacientcentrēta komunikācija ietver daudzveidīgas saziņas un sadarbības prasmes, kā arī attieksmes. Tā ir mērķtiecīgi veidota kā mijiedarbīgs, sociāli-psiholoģisks process, lai veidotu partnerīgas un uzticamas attiecības starp aprūpes profesionāli un pacientu, kā rezultātā sasniegtu pēc iespējas labākus ārstniecības rezultātus un pacienta pozitīvu aprūpes novērtējumu. Veselības aprūpes darbinieku būtiskās komunikācijas prasmes ietver:

- informācijas iegūšanas prasmes, tādas kā atvērtie jautājumi, uzvedinoši jautājumi, izskaidrošana un kopsavilkums;
- pacienta perspektīvu atklāšanu, piemēram, uzzinot par bažām;
- ārstēšanas plāna izskaidrošanu, sniedzot atbilstošu informāciju, pārbaudot izpratni, pārrunājot procedūras un nākamās darbības;
- atbalstošas, attiecības veidojošas prasmes, tādas kā empātija, atsaucība uz emocijām vai psiholoģisko stāvokli, atbalsta piedāvāšana (Moore, Rivera, Bravo-Soto, Olivares, & Lawrie, 2018; Silverman et al., 2017).

Efektīva komunikācija parāda, ka pacients tiek uztverts kā individualitāte, ka ir svarīgs viņa viedoklis, un viņš var piedalīties lēmumu pieņemšanā, tiek izrādīta cieņa un sniegta vajadzīgais emocionālais un psiholoģiskais atbalsts, kas veicina pacienta uzticību un veicina viņa līdzestību ārstēšanas procesā. Efektīva komunikācija māsu un ārstu palīgu praksē nozīmē, ka sniedzot aprūpi, tiek veidota sadarbība ar pacientu, lai saprastu viņa raizes, pieredzes un viedokļus, atbilstoši personas vecumam, un veselības izglītības līmenim. Tā ietver verbālās un

neverbālās komunikācijas prasmes, aktīvu klausīšanos un pacienta apmācību, prezentācijas prasmes, izglītošanas, kultūrizpratnes un emocionālās prasmes.

Neverbālās komunikācijas elementu izmantošana, tādu kā sejas izteiksme, acu kontakts, ķermeņa valoda, žesti, poza, smaids un balss tonis ir būtiski, lai radītu saikni. "Aktīvā klausīšanās" nozīmē klausīties, lai saprastu citas personas pieredzi, kurai ir nepieciešama pilnīga uzmanība un iesaistīšanās. Labs līdzeklis, lai radītu uzticēšanos ir izmantot verbālo iedrošinājumu kā "es saprotu", un "turpiniet", izmantot reflektīvu ķermeņa valodu, piemēram, māt ar galvu, smaidīt, bet svarīgi ir nepārtraukt pacientu un saglabāt acu kontaktu.

Efektīvas prezentācijas prasmes ir nepieciešamas, kad māsa nodod informāciju par pacientiem citai mācai vai aprūpes darbiniekam. Šīs prasmes palīdz māsām demonstrēt zināšanas un lietpratību, sniedzot ziņojumu ārstiem par slimniekiem, komunicējot ar aprūpes komandu un pacientiem un viņu ģimenēm par veselības stāvokli, diagnozēm, ārstēšanas plāniem un medicīniskajiem priekšrakstiem.

Pacientu atgriezeniskā mācīšana (*patient teach-back*) ir efektīva komunikācijas stratēģija, kad aprūpes darbinieki lūdz pacientus atkārtot viņiem sniegto informāciju. Šī metode palīdz uzlabot pacientu izpratni un veicina sekot aprūpes instrukcijām. Slikta informācijas izpratne var izraisīt pacientu un viņu ģimenes satraukumu vai likt ieņemt aizsardzības pozīciju. Tāpēc ir svarīgi lūgt pacientu atkārtot dotās instrukcijas par zāļu lietošanu, drošu uzvedību un citām veselībai svarīgām lietām.

Veselības aprūpes speciālistiem ir svarīgi veicināt pacientu uzticību, aktīvi uz klausot un nopietni uztverot katru sūdzību un bažas, kā arī radot ērtu un drošu vidi. Kultūras apziņa ir svarīga, lai māsas un ārstu palīgi sekmīgi strādātu ar pacientiem un kolēģiem, kuri nāk no dažādām sociālajām, kultūras un izglītības jomām. Līdzjūtības paušana ir būtiska komunikācijas prasme veselības aprūpē. Līdzjūtība var palīdzēt ātri atgūties no akūtas slimības, uzlabot hronisku slimību pārvaldību un mazināt trauksmi. Līdzjūtīgu aprūpi var nodrošināt, iejūtoties pacienta stāvoklī un izprotot viņa vajadzības un cerības.

Pētnieki (Moore, Rivera, Bravo-Soto, Olivares, & Lawrie, 2018; Thistlethwaite & Jordan, 1999) norāda, ka neefektīva komunikācija, piemēram, bloķējoša uzvedība, pārtraukšana, nepatiesa pārliecināšana, tikai faktu sniegšana negatīvi ietekmē pacienta veselības stāvokli, uztraukuma līmeni, psiholoģisko stresu, dzīves kvalitāti. Komunikācijas šķēršļi māsu un ārstu palīgu darbībā izraisa vāju pacienta un māsas mijiedarbību un attiecības. Dans Vīvers (Weaver, 2010) identificē trīs izplatītākos saziņas šķēršļus māsu jomā: fizisko, sociālo un psiholoģisko.

Fiziskie šķēršļi ir saistīti ar vidi, kurā notiek saziņa ar pacientu, un kas var būtiski mainīt efektīvu saziņu. Darbīga, skaļa un traucējoša vide var palielināt pacienta stresu, tāpēc jācenšas radīt drošu un komfortablu vidi. Sociālās barjeras ietver valodas, reliģijas, kultūras, vecuma un paražu atšķirības. Izpratne par katra

pacienta kultūras izcelsmi var palīdzēt māsām un ārsta palīgiem izvairīties no aizspriedumiem un skaidri sazināties. Ieteicams pielāgot savas komunikācijas stratēģijas atkarībā no pacienta vecuma, veselības izglītības, tradicionālajām vērtībām. Psiholoģiskās barjeras ir saistītas ar pacientu trauksmi, bailēm, neziņu. Lai palīdzētu samazināt stresu, ir nepieciešams veltīt papildu laiku, lai uzklautu, justu līdzīgu un sniegtu atbalstu. Ir pierādīts, ka šāda psihosociālā aprūpe uzlabo pacientu veselības rezultātus un dzīves kvalitāti.

Māsām un ārstu palīgiem jāpārvar savi psiholoģiskie šķēršļi. Runāšana ar pacientiem un ģimenes locekļiem par nāvi, slimībām un citām jutīgām tēmām var būt satraucoša. Neefektīva komunikācija ir saistīta arī ar aprūpes darbinieka paaugstinātu stresu, neapmierinātību ar darbu un izdegšanu (Fallowfield, 1998; Ramirez et al., 1995), bet efektīva profesionāla komunikācija ir svarīgs priekšnoteikums augstas kvalitātes aprūpes pakalpojumu sniegšanai un pacientu veselības rezultātu uzlabošanai (Moore et al., 2018).

Lielākā daļa pieeju komunikācijas prasmju attīstībai veselības aprūpē ietver kognitīvos, afektīvos un uzvedības komponentus, un vispārējais mērķis ir veicināt veselības aprūpes speciālistu lielāku pašapziņu. Mācības ir orientētas uz prasmju apguvi, piemēram, verbālās, neverbālās komunikācijas, psihosociālās, emociju demonstrēšanas, kas ir būtiskas efektīvai saziņai ar pacientiem. Mācību veicināšanas nozīmīgi elementi ir būtisko prasmju sistemātiska definēšana, izglītojamo novērošana: izmantojot mācību metodes, kas sniedz iespēju praktizēt savas komunikācijas prasmes, izmantot atbalstošu uzvedību un izvairīšanos no uzvedības bloķēšanas “drošā” vidē (Gysels, Richardson, & Higginson, 2004; Stiefel et al., 2010), izmantot simulētus pacientus.

Studiju procesā ir nepieciešams attīstīt efektīvas komunikācijas stratēģijas un starppersonu attiecību prasmes, kas ir terapeitiskās komunikācijas pamatā. Tā ir saistīta ar veselības speciālista pašapziņas un pārliecības un pacienta drošas un atbalstošas vides izjūtu. Terapeitiskā komunikācija ir process, kurā māsa un ārsts palīgs apzināti ietekmē pacientu/klientu vai palīdz klientam labāk izprast sevi un situāciju ar vārdisku vai neverbālu komunikāciju. Terapeitiskā komunikācija ietver īpašas stratēģijas, kas veicina pacienta jūtu un ideju izteikšanu, un kas nodrošina pieņemšanu un cieņu (Slawomirski, Aaraaen, & Klazinga, 2017).

Māsu un ārstu palīgu afektīvo prasmju pilnveidošana veicina attiecību ar pacientu izveidošanu, uzticēšanos, atklātību, pacienta jūtu atzīšanu. Padzīvojušiem un hroniskiem pacientiem ir nepieciešama pastiprināta uzmanība, viņiem ir svarīgi, ka viņus uzklaut, saprot, izrāda līdzjūtīgu un cieņpilnu attieksmi. Te ir nozīmīgas refleksīvās un nerefleksīvās klausīšanās prasmes, uzklaut pacienta stāstu un pieredzi, kas palīdz novērtēšanas un diagnostikas stadijā, intervences un problēmu risināšanā. Šī pieeja uzsver, ka aprūpes centrā nav tikai slimība, bet gan konkrēta persona, kas cieš no slimības. Pētījumā gūtās atziņas parāda komunikācijas un sadarbības prasmju nozīmīgo lomu kvalitatīvu veselības aprūpes pakalpojumu sniegšanā. Tāpēc daudzveidīgu,

mūsdienu veselības aprūpes kvalitātes un sarežģīto tehnoloģisko, sociāli psiholoģisko risinājumu vajadzībām atbilstīgu komunikācijas un starppersonu prasmju un attieksmju attīstība medicīnisko studiju procesā ir būtiska, lai veicinātu nākamo veselības speciālistu profesionālo kompetenci pacientvērstā veselības aprūpē. Pacientcentrēta modeļa īstenošanai ir nepieciešama veselības aprūpes un izglītības transformācija, lai adaptētu pacientcentrētas aprūpes uzvedību un attieksmes, kuru pamatā ir ētiskie principi, un ir būtiski pacientu uztvert kā individualitāti ar savu pieredzi, pārdzīvojumiem un cerībām.

Transformatīvas studijas pacientcentrētas pieejas īstenošanai.
Transformative learning for implementation of the patient-centred approach

Medicīniskās izglītības stratēģiskie mērķi ir orientēti uz zināšanu, prasmju un attieksmju attīstību, kā rezultātā tiek apgūts kompetenču kopums, kas ir nepieciešams sekmīgai profesionālajai darbībai. Ārstniecības programmas mērķi ir saistīti ar aktuālajām veselības aprūpes reformas nostādņēm attiecībā uz jaunu zināšanu radīšanu, inovāciju ieviešanu, veselības aprūpes pakalpojumu efektivitātes un kvalitātes uzlabošanu integrētā pacientcentrētā veselības aprūpes sistēmā (Ministru kabinets, 2022). Aprūpes kvalitātes paaugstināšanas elements ir pacient-centrēta pieejas īstenošana. Pētījuma kontekstā uzmanības centrā ir pacientvērstas komunikācijas un sadarbības prasmju un attieksmju veicināšanas iespējas māsu un ārstu palīgu izglītībā.

Vairākums komunikācijas prasmju mācību pieejas ietver kognitīvos, afektīvos un uzvedības komponentus. Māsu izglītības programmās ir iekļautas norādes par interpersonālo un komunikācijas prasmju attīstību, kā rezultātā var notikt efektīva informācijas apmaiņa un sadarbība ar pacientiem, viņu ģimenēm un citiem veselības profesionāļiem. Programmām jā sagatavo studentus strādāt sadarbīgi starpprofesionālās pacientcentrētās komandās, lietojot verbālās un neverbālās saziņas metodes, izmantot kultūras, ētikas un profesionālos principus veselības aprūpes darbā (*Accreditation Review Commission on Education for the Physician Assistant*, 2022; Valsts izglītības satura centrs, 2020). Pacient-centrētu zināšanu, prasmju un attieksmju, kas sagatavo nākotnes pārmaiņām un neparedzētiem apstākļiem, veidošanai tiek aktualizēta didaktisko, praktisko, tehnoloģiju, digitālo un sociāli-psiholoģisko metožu **transformācija** medicīnisko studiju procesā.

Transformatīva izglītība ir plānota izglītības programma, pieredze, intervence vai pedagoģisko metožu kopums. Lai notiktu mācību metamorfoze, jābūt izglītības programmai vai izveidotam notikumam, kas veicinātu mācību pieredzes, kas rezultējas vai paātrina transformatīvu iznākumu (Stevens-Long, Schapiro, & McClintock, 2012). Studentcentrētas, problēmbalstītas, sadarbīgas un partnerīgas studiju metodes veicina caurviju kompetenču attīstību, kas

savukārt veicina transformatīvus studiju rezultātus vai jaunu, kompleksu kompetenču apguvi (Carrió, Rosa, 2022).

Zinātniskā literatūra piedāvā medicīniskās izglītības pieejas, lai izmainītu zināšanu ieguves veidus, sadarbības un attieksmju veidošanos. Transformatīvās mācīšanās teorija ir paredzēta, lai nodrošinātu izglītības pieredzi, ņemot vērā nākotnes perspektīvu un ir vērsta uz uzvedības maiņu (Hovey & Massfeller, 2012; Phillippi & Wyatt, 2010). Transformatīvas mācīšanās mērķis ir uzlabot spējas vai repertuāru par to, kā mēs reaģējam uz konkrētām situācijām, prasa mums no jauna apgūt klausīšanās un padziļināt faktu un stāstu interpretācijas prasmes (Campinha-Bacote, 2011).

Lai attīstītu pacientcentrētas aprūpes principus medicīniskajā izglītībā, ir būtiska studentu un docētāju pašattīstība, ko var veicināt transformatīvas mācīšanās sniegtās iespējas konfrontēt un iesaistīt kritiskās pārdomas par profesionālo lomu, jaunām attiecībām, nozīmēm un darbību (Hovey & Massfeller, 2012; Hovey & Craig, 2011). Zinātnieki atzīst, ka transformatīvās mācīšanās process būtībā nozīmē mācīties, kā mainīt situācijas interpretāciju, izmantojot aktīvu un pieredzes bagātu mijiedarbību starp dalībniekiem un veicinātājiem (Mezirow, 1991; Phillippi & Wyatt, 2010). Didaktiskās paradigmas transformācijai ir nepieciešams izmainīt domāšanu par zināšanām. Tā ietver vērtības, kas attiecas uz dažādiem zināšanu avotiem un zināšanu veidiem, izmantoto metožu pārvērtēšanu un jaunu pieeju ieviešanu. Didaktiskās pieejas pamatā ir praktiskā rezultāta sasniegšana, kas šajā gadījumā nozīmē efektīvu komunikācijas un sadarbības prasmju, kā arī attieksmju ieguvu, kas veicinātu pacienta-aprūpes darbinieka attiecības. Lai attīstītu pacientcentrētas prasmes, tiek izmantotas dažādas stratēģijas:

- standartizētu vai simulētu pacientu izmantošana (Haidet et al., 2010; Smith, Cookson, Mckendree, & Harden, 2007);
- gadījumu balstīti semināri vai problēmbalstītas mācības (Claramita, Sutomo, Graber & Scherpbier, 2011; Richards & Inglehart, 2006);
- jauktu mācību pieejas, kas integrē lekcijas, lomu spēles, grupu diskusijas, tikšanās ar pacientu (Brown, Pfeifer, Gjerde, Seibert, & Haq, 2004; Ross & Haidet, 2011);
- darbnīcas (*workshops*), lai veiktu starpdisciplināru mācību programmu vai īstenotu paplašinātas darbības pētījumu projektu (Gaiger & Walker, 1996; Lomborg, Nielsen, Jensen, & Jørgensen, 2011).

Rakstā tiek pētīta transformatīva pacientcentrētas izglītības pieeja attiecībā uz komunikācijas, sadarbības prasmju un attieksmju attīstību māsu un ārstu palīgu studiju procesā. Pētījums atklāj, ka šīs prasmes var veicināt, izmantojot aktīvas, studentcentrētas un sadarbīgas metodes, kuras rosina studentiem un izglītotājiem pētīt, pārvērtēt zināšanas un prasmes un izmantot tās jaunā personalizētā un konkretizētā kontekstā, sniedzot iespējas studēt daudzveidīgās un atbalstošās vidēs, uzsvērt akadēmisko un emocionālo attiecību lomu un pilnveidot

attieksmes. Komunikatīvo ieradumu jaunā izpratne uzsver informācijas sasaisti ar personu, tās viedokli, vajadzībām un vēlmēm, attiecīgo situāciju. Medicīniskajā izglītībā tas nozīmē uzlabot māsu un ārstu palīgu komunikatīvās spējas, piedāvājot jaunu saturu un formas, kas veicinātu personvērstu saziņu, prasmi reaģēt uz neierastām situācijām, izpratni par aktīvās klausīšanās lomu un padziļināt faktu un stāstu interpretācijas prasmes. Šeit ir svarīga māsu un ārstu palīgu psiholoģiskā un emocionālā iesaistīšanās, kas ietver atbalstošu kritisku iztaujāšanu un refleksiju (Cranton, 2006). Refleksija rosina apšaubīt un pārskatīt savu zināšanu uztveri un izpratni (Mezirow, 1991), lai pielāgotos jauniem un atšķirīgiem mācīšanās un saziņas veidiem ar pacientu/ģimeni, kā arī starpdisciplināras komandas ietvaros (Hovey & Massfeller, 2012).

Transformatīvā mācību ietvarā vienlaicīgi tiek risinātas afektīvās, sociālās, kognitīvās un kultūras mācību procesa sastāvdaļas. Pārveidojošas mācīšanās modeli raksturo gatavība meklēt jaunu zināšanu izpēti, uztveršanu un pielietošanu, kas izraisa, ko transformatīvās mācīšanās teorētiķi sauc par “dezorientējošu dilemmu” (Mezirow, 1991), kas nozīmē līdzsvara izjaukšanu starp tradicionālo aprūpes izpratni un izmainīto, kas veidojas, balstoties uz pacientu stāstiem un reakcijām. Šī afektīvā mācīšanās pārveido teorētiskās faktu zināšanas par kontekstualizētām, tātad tās ir ieguvušas jaunu saturu un nozīmi (Mezirow, 1991; McWilliam, 2007).

Pacientcentrētas transformatīvas izglītības mērķu īstenošanai ir svarīga pedagoģu-studentu lomu pārvērtēšana. Māsu un ārsta palīgu izglītībā tas nozīmē studentu un pedagoģu attiecību maiņu, kas ietekmē studiju procesa stratēģiju, zināšanu apguves veidus, attiecību kvalitāti, attieksmes un studiju rezultātus. Pedagoģa eksperta loma neatbilst studentcentrētu un aktīvu studiju loģikai, drošas un attīstošas studiju vides veicināšanai. Transformatīvu izglītības uzdevumu īstenošanai par atbilstošāku tiek uzskatīta pedagoģa “mentora” vai “trenera” loma, kurš cenšas izveidot ar studentiem intelektuālas un emocionālas attiecības, kas nodrošina studentiem atbalstu un veicina uzticību un refleksiju (Mann, Gordon, & MacLeod, 2009).

Transformatīvās pacientcentrētas pieejas pamatā ir koncentrēšanās uz kontekstu, studentu centrētību, un studiju rezultātiem, kam ir nepieciešama programmu modificēšana vai jaunu mācību formu un daudzveidīgas mācību vides ieviešana (Staun, Bergström, & Wadensten, 2010; Krupat et al., 2009). Veiksmīgas programmas ir fokusētas uz starpdisciplināriem ietvariem un daudzveidīgiem mācību kontekstiem, kas vērsti uz aktīvu studentu darbību, sadarbību, un kas balstās studentu vajadzībās un ņem vērā studentu individuālos mācību stilus. Starpprofesionāli mācību konteksti nodrošina studentiem piekļuvi vairākām profesionālajām vidēm un sniedz iespēju dažādām profesionālajām lomām, iepazīt saziņas un sadarbības modeļus, kā arī praksei starpdisciplinārā komandā un tādā veidā veicina izpratni par holistisku aprūpi (Morris & Leonard,

2007). Tas uzlabo spēju pieņemt lēmumus un pacientcentrētu komunikācijas prasmju apguvi (Ruston & Tavabie, 2011).

Starpdisciplināru studiju kontekstu pozitīvi rezultāti ir saistīti ar kritiskās refleksijas kvalitāti. Tā ir atkarīga no pozitīvām, uzticamām un cieņpilnām attiecībām starp pedagogiem, prakšu vadītājiem un studentiem. Kritiskās refleksijas veicināšana ir būtisks pacientcentrēta izglītības procesa komponents (Bower et al., 2009; Brown et al., 2004; Lomborg et al., 2011; Bergvik, Wynn, & Sørlie, 2008). To var īstenot attiecībā uz darbu mazās grupās, lomu spēļu saturu, pacientcentrētu video ierakstu, prakses vadītāju tiešu novērojumu saturu un pacienta-profesionāla savstarpējās sadarbības ierakstu, kā arī pamatojoties uz ierakstiem žurnālā. Refleksijas prasmju attīstībai ir noderīgas: labi pārdomātas, aprakstošas atsauksmes, kas var būt mutiskas vai rakstiskas, video vai audio ieraksti un pārskats, kas ļauj veikt pašrefleksiju, atkārtota prakse, aktīva mazo grupu vai individuālā mācīšanās, kas vērsta uz izglītojamo, pieredzējuši kursu vadītāji (Bylund et al., 2009).

Izglītības transformācijas procesi fokusējas uz digitālo rīku plašāku izmantošanu, tāpēc tiešsaistes mācības un digitālie rīki piedāvā daudzveidīgas mācību materiālu un uz to balstītās refleksijas iespējas. Savos pētījumos Lomborgs (Lomborg et al., 2011) māsu apmācībai praksē izmantoja reflektīvus dialogus par videoierakstītajiem māsu dialogiem mijiedarbībā ar pacientiem kā vadošo mācību formu. Izmantojot aprūpes sniegšanas video, tika veikta analīze un kritiski pārdomāta prakse, attiecībā uz izmantoto vārdu krājumu un uzvedību ar pacientiem. Pārveidojošie rezultāti ietvēra jaunas perspektīvas par māsu aprūpes mērķiem pacientiem ar hronisku obstruktīvu plaušu slimību. Tie bija saistīti ar ievērojami uzlabotu aprūpes pieredzi profesionālajā un afektīvajā līmenī. Māsa atzina tādas pārmaiņas kā attīstību no klusās novērošanas un vienpusējas lēmumu pieņemšanas par aprūpi uz tādu, kas balstās uz profesionālo novērojumu, domu un bažu apmaiņu ar pacientiem, iesaistot viņus situācijas klīniskajā novērtējumā. Šī metode palīdzēja apgūt jaunas komunikācijas prasmes, izprast, ko nozīmē aktīva klausīšanās, iegūt terapeitiskajai komunikācijai atbilstošu jaunu vārdu krājumu.

Refleksijas prasmju attīstībai tiek izmantotas alternatīvas metodes, kas ir saistītas ar "citādu zināšanu" veidiem, kas ir pretstatā instrumentālajām mācībām. Iesaistot estētiskās, ētiskās, morālās jūtas un pārdzīvojumus (piemēram, skumjas, bailes, cerības, dusmas) palīdz integrēt biomedicīniskās zināšanas ar slimības pieredzes sarežģīto dabu. Šeit tiek izmantots pacientu stāsts un viņu psihoemocionālās izpausmes. Tādā veidā tiek pievērsta uzmanība pacienta domām un pieredzei kā svarīgam aprūpes elementam, lai pilnīgāk izprastu pacienta vajadzības un vēlmes un sniegtu individualizētu aprūpi.

Pētījumu rezultāti liecina, ka studenti atzīst interaktīvu, ētisku un atbalstošu attiecību studiju vidē un praksē svarīgo lomu. Studenti augsti vērtē mentoringu un diskusiju iespējas, attiecību ar personālu, mācībspēkiem un pacientiem ilgumu;

komforta un koleģialitātes sajūtu starp mentoru un mācekli; pastāvīgu biedru atbalstu, pedagoga sniegto detalizēto atgriezenisko saiti (Thistlethwaite & Jordan, 1999). Studenti norāda, ka vislielāko ietekmi uz pacientcentrētas aprūpes izpratni sniedz novērojumi un piemēri no pozitīvas, cieņpilnas un ētiskas starpdisciplinārās studiju un prakses vides, pacient-centrētiem saziņas un attiecību modeļiem (Ruston & Tavabie, 2011; Morris & Leonard, 2007).

Tātad, pacientcentrētas aprūpes pieejas principu apgūšanu var veicināt transformatīvs māsu un ārstu palīgu studiju process, kas ir fokusēts uz jaunu studentu-pedagogu attiecību veidošanu, studentcentrētu un interaktīvu studiju un prakses vidi, kontekstuālu un starpdisciplināru zināšanu apguvi, efektīvu sociālpsiholoģijā balstītu, pacientcentrētu komunikācijas un sadarbības prasmju attīstību.

Secinājumi **Conclusions**

Medicīniskās izglītības studiju mērķi un rezultāti ietver pacient-centrētu zināšanu, prasmju un attieksmju apguvi. Latvijas māsu standarts ietver zināšanu lietošanas un profesionālās prasmes, daudzveidīgu spēju, komunikācijas un sadarbības prasmju un attieksmju attīstību. Taču pētījumu autori atzīst, ka reālā praksē netiek apmierinātas daudzas pacientu vajadzības, pietrūkst efektīvu komunikācijas prasmju, pārsvarā tiek īstenota biomedicīniska aprūpe. Savukārt, studenti atzīst, ka ir nepietiekama sadarbība, viņiem pietrūkst saiknes, atgriezeniskās saites un atbalsta no pedagogiem. Prakses kontekstā personvērsta pieejas īstenošanu kavē ātrais darba temps, nogurums un vajadzība pēc pašsaglabāšanās, kas negatīvi ietekmē aprūpes kvalitāti un rezultātus.

Rodas loģisks jautājums, vai izglītības procesā tiek izmantotas atbilstošas pieejas, metodes un šo prasmju attīstības veicinoša vide. Te ir nepieciešams balstīties uz perspektīvu pacientcentrētu studiju stratēģiju pētījumiem un salīdzināt ar reālās studijās izmantotajām metodēm. Raksta ietvaros tika noskaidrots, ka pozitīvus rezultātus pacien-centrētā izglītībā var sasniegt, ieviešot kontekstbalstītu un studentcentrētu mācību inovācijas, kas veicina mācīšanos, balstoties starpdisciplināros kontekstos, refleksijā un sadarbīgās starppersonu attiecībās studiju un prakses vidē.

Tam ir nepieciešamas transformatīvas zināšanas, prasmes un attieksmes, pārskatot ierastās pieejas, lomas, zināšanu lietošanu, metodes un formas. Pārejai uz personcentrētu pieeju ir svarīga atbalstoša sociālā studiju vide, efektīvas saziņas un sadarbības prakses, kas balstītas pacienta vajadzībās un vērtībās, pieredze, kritiska refleksija un atgriezeniskā saite. Tas nozīmē, pierādījumos balstītu zināšanu ciešāku integrāciju ar personvērsta aprūpes prasmēm, uzsverot komunikācijas, saziņas, sadarbības un attiecību nozīmīgo lomu kvalitatīvai aprūpes sniegšanai. Efektīvas komunikācijas un sadarbības prasmes ir svarīgas ne

tikai pacientu vajadzību nodrošināšanai, bet arī māsu un ārstu palīgu profesionālajai pašapziņai, ka viņi spēj nodibināt pozitīvu saikni ar pacientu, viņi seko ārstēšanas norādēm un kopā sasniedz labus rezultātus.

Lai māsas un ārstu palīgi dziļāk izprastu un apzinātos personvērstās aprūpes pieejas būtību, studiju procesā ir jāsniedz vairāk iespēju profesionālu attieksmju veicināšanai, jo pacienti augstu novērtē cieņu, līdzjūtību, uzmanību, izpratni un atbildību. Māsu un ārstu palīgu izglītība transformatīvā studiju procesā, aktualizējot jaunu didaktisko, praktisko, digitālo un sociāli-psiholoģisko metožu potenciālu, sniedz iespējas starpdisciplināru, dziļāku, uz nākotni un pārmaiņām vērstu pacientcentrētu zināšanu, prasmju un attieksmju veidošanai, lai sekmīgi strādātu starpprofesionālās komandās un sniegtu mūsdienu medicīnas attīstības un pacientu pieaugušajām vajadzībām atbilstošu veselības aprūpi.

Summary

Medical education learning goals and results include patient-centred knowledge, skills and attitudes. Latvian nursing standards focus on advancing of knowledge use and professional skills, different abilities, communication competences and attitudes. However, many authors admit that in real learning and practice environments important patients' needs are not satisfied because of the mostly biomedical care approach, lack of effective communication and interpersonal skills and inefficient teachers' support and feedback. Health care professionals' complicated working conditions, stressful situations and burnout are serious barriers for high quality person-centred care services. So it is necessary to find out reasons, problems and solutions in regard to the use of sufficient learning approaches, facilitating methods and environment. Analyses of the research-based methodology of the patient-centred education strategies and real learning process can help to improve learning results.

Theoretical study reveals that positive patient-centred education results can be achieved by implementing context-based and student-centred learning innovations, based on interdisciplinary principles as well as reflection and improvement of interpersonal relations in learning and practice environments. Transformative learning experiences, creating new knowledge, skills and attitudes and change of traditional approaches, roles, methods and forms are necessary to facilitate learning experiences. In general, it means to integrate evidence-based and patient-centred approach, focusing on effective communication, interpersonal relations and person-based attitudes. The main components are supportive social learning and practice environment, effective cooperation and relationship experiences which are orientated on patients' needs and values, critical reflection and feedback.

If nurses' education process would offer more opportunities to promote professional skills and attitudes, it should result in better understanding of the role

of the respect, empathy, rapport and responsibility in patient-centred care. Implementation of new didactic, practical, digital and socio-psychological methods in transformative educational frame facilitates development of the deeper, interdisciplinary future and changes directed knowledge, skills, competences and attitudes in order to work successfully in patient-centred multi-disciplinary teams and provide high quality care.

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SEXUAL HARASSMENT IN ACADEMICS: THE PARADIGM OF LEGAL EVALUATION IN LITHUANIA

Raimundas Jurka

Utena University of Applied Sciences, Law Firm “Jurka & Losis”
Lithuania

Eglė Jurkienė

Utena University of Applied Sciences, Law Firm “Jurka & Losis”
Lithuania

Abstract. *The article focuses on the insights` analysis of the nowadays relevant social problems, related to sexual harassment in the academics, its legal evaluation in Lithuania. It is discussed, whether sexual harassment situations, that could be faced or happened in academics, could be seen as the ethic, moral violations or even more – criminal deeds. The authors go into deep and analyse the relationships between culprit and victim as they are not equal as such in the academic community. They have vertical relations, for instance, a lecturer and a student, etc. Then the principal question is raised – whether the guilty of the culprit should be proved / argued using presumption of innocence or there is a converse – the words and emotions of a victim take the prior place to incriminate a culprit. Another one question should be seen as the relevant one – does the legal situation change if there are enough assumptions to say “a culprit intended to have intimate relations with the victim”? It is also argued, that one of the biggest problems to uncover the situation’s real face is time of victim’s keeping silence as a victim, usually, is depending on culprit’s will (for instance, the lecturer and the student still have educational relations).*

Keywords: *academic environment, criminal responsibility, ethic violation, sexual harassment, victim’s and culprit’s behaviour.*

Introduction

Aspects of sexual harassment and its legal treatment are considered to be the most complex issues of public relations in the modern society. The reason for the complexity of these issues can be attributed to the fact that such relations are characterised not only by their latency, but also by the diversity, which often leads the treatment of such relations to a dead end, to a certain confusion of the identity of these relations. This is confirmed by scientific studies – “in society, the perception of sexual harassment behaviour is often confused with flirting, which is defined as a form of communicative interaction between two people in an effort to attract the attention of the person the other likes. Flirting, which is usually

enjoyable for both flirting parties, causes satisfaction, both parties feel good, flirting is based on equality, and cannot be equated with sexual harassment. In order to distinguish sexual harassment from friendly courtesy or favouritism, it is important to identify the attitude towards these acts. Sometimes <...> behaviour that has the characteristics of sexual harassment could be similar to compliments, but if they make a person feel uncomfortable, because they humiliate, insult, make someone unable to perform official tasks, study or engage in other activities, then it should be considered as sexual harassment <...>. <...> in the context of the organisation, various jokes, hints, chars, etc. are common but not always treated as unwanted behaviour or sexual harassment <...>” (Stundžė, 2021, p. 30)”. Other studies also reveal that “sexual harassment is defined as any unwanted conduct of a sexual nature. However, a legal definition of the phenomenon is not enough to ensure proper recognition of sexual harassment. <...> the recognition of sexual harassment can be significantly influenced by environmental factors, the demographic characteristics of the person and the peculiarities of the situation of sexual harassment. <...> studies have revealed that the recognition of situations of sexual harassment differs depending not only on the evaluator, but also on the gender of the victim and the culprit depicted in the situation and their status. <...> sexual harassment is best understood if it corresponds to the stereotypical perception that the victim is a woman, and the culprit is a man. <...> men attribute fewer forms of behaviour to sexual harassment than women and tend to view situations as less threatening” (Čeponytė & Žardeckaitė-Matulaitienė, 2018, p. 35).

So, it stands to reason that the problem of defining sexual harassment is highly relevant, especially in the specific environments, as academic institutions and etc. This actuality is even more highlighted by the expression of the analysed phenomenon in the academic environment, i.e., in higher education institutions, where the content of relations between students and teachers, mutual relations between lecturers, trainees and social partners leading the training, as well as other related persons is often unacceptable and having particular signs of harassment. Unfortunately, it is not always possible to recognise these relationships as sexual in their nature, and if it is possible to do so, not always in time. Ultimately, the problem of legal treatment of such issues also emerges – in a specific case, it is necessary to determine the intent of the culprit, the motives, the nature of the relationship between the culprit and the victim, as well as answer the question of whether the victim was dependent on the culprit or not, etc.

The objective of this article is to analyse the signs of sexual harassment in the academic environment and the diversity of legal treatment of such harassment.

Various methods are used to achieve this objective, such as generalisation, systematic analysis, criticism, comparative analysis, random screening and documentary analysis methods.

Sexual Harassment: The Diversity of Legal Treatment

In the legal regulation of Lithuanian Republic, legal practice, and also in studies, considerable attention is paid to the concept of sexual harassment as a common issue. However, despite this fact, the legal definition of this phenomenon (to the extent that it is necessary to qualify the legal responsibility of the infringer, as well as to identify the legal protection of the victim) is not as clear as it may seem at first glance. This is important in differentiating sexual harassment as an ethical, disciplinary and, of course, criminal act. It is needed to overview the common understanding of legal treatment of sexual harassment.

This is what is provided for in Article 2 (7) of the Law on Equal Opportunities of the Republic of Lithuania: “Harassment means unwanted conduct related to the sex, race, nationality, citizenship, language, origin, social status, faith, beliefs or opinions, age, sexual orientation, disability, ethnicity, religion of a person that occurs with the purpose or effect of violating the dignity of a person, and of creating an intimidating, hostile, humiliating or offensive environment” (Seimas of the Lithuanian Republic, 2003). The concept of sexual harassment is defined in Article 2(6) of the Law on Equal Opportunities for Women and Men of the Republic of Lithuania, where it is stated that: “Sexual harassment means any form of unwanted and insulting verbal, written or physical conduct of a sexual nature with a person, with the purpose or effect of violating the dignity of a person, in particular when creating an intimidating, hostile, humiliating or offensive environment” (Seimas of the Lithuanian Republic, 1998).

Clause *d* of Article 2(1) of the Directive 2006/54/EC of the European Parliament and of the Council of 5 July 2006 on the implementation of the principle of equal opportunities and equal treatment of men and women in matters of employment and occupation provides for the description of a sexual harassment as the „sexual harassment“: where any form of unwanted verbal, non-verbal or physical conduct of a sexual nature occurs, with the purpose or effect of violating the dignity of a person, in particular when creating an intimidating, hostile, degrading, humiliating or offensive environment“ (European Parliament and of the Council, 2006). Sexual harassment is one of the forms of discrimination, which is recognised not only in Lithuania, but also in the world as a serious problem of gender equality, a manifestation of gender-based discrimination and a gross violation of human rights.

Thus, the provisions of Article 2(6-7) of the Law on Equal Opportunities for Women and Men of the Republic of Lithuania reproduce the provisions of the implementation of the principle of Directive 2006/54/EC of the European Parliament and of the Council consolidating the fact that sexual harassment means any form of unwanted and insulting verbal, written or physical conduct of a sexual nature with a person, with the purpose or effect of violating the dignity of a person,

in particular when creating an intimidating, hostile, humiliating or offensive environment, and the harassment means an unwanted conduct related to the sex of a person that occurs with the purpose or effect of violating the dignity of a person, and of creating an intimidating, hostile, humiliating or offensive environment. The preamble to the above mentioned Directive states, *inter alia*, that harassment and sexual harassment are contrary to the principle of equal treatment between men and women and constitute discrimination on grounds of sex. Article 2(2) of the Directive 2006/54 provides for the fact that the discrimination includes harassment and sexual harassment, as well as any less favourable treatment based on a person's rejection of or submission to such conduct. Thus, sexual harassment (as well as each fact of such harassment individually) can also be considered as less favourable treatment of a person, i.e., as a direct discrimination. Legal acts additionally indicate that such behaviour is determined by the purpose or effect of violating the dignity of a person. In order to state a sexual harassment, unlawful intent must be proven.

For instance, the Constitutional Court of the Republic of Lithuania in its conclusion No. KT20-II/2017 as of 19 December 2017 regarding possible conduct of sexual harassment of a member of parliament has stated, that the (former) member of the parliament K. P. has humiliated the assistant with the conduct considered as harassment and sexual harassment on grounds of sex, as well as humiliated the assistant and the violated the dignity of those applying for this position, and violated the right to the inviolability of their person and private life, and the right not to be discriminated against, which are protected according to Article 21 (1, 2, 3), Article 22 (1, 4), and Article 29 of the Constitution of the Republic of Lithuania. In this conclusion, the Court expressed the opinion on other relevant issues, indicating that a harassment on the basis of sex or sexual harassment which is understood as unacceptable or unwanted behaviour expressed by a physical, verbal or non-verbal conduct (such as by touch, gesture, verbal, written conduct or image) and relating to the sex, that, among other things, occurs with the purpose or effect of violating the dignity of a person and of creating an intimidating, hostile, humiliating or offensive environment for the person treated in this way. Thus, sexual harassment, which is a form of a sex-based harassment, is characterised by unwanted sexual behaviour on the part of the person being harassed (Constitutional Court of the Republic of Lithuania, 2017).

The criminal laws of the Republic of Lithuania (Seimas of the Lithuanian Republic, 2002) (Article 152 of the Criminal Code) provide for the responsibility of those who seek sexual contact or satisfaction, harasses a person subordinate to him in office or otherwise by vulgar or comparable actions or by making offers or hints. The main value protected by this Law is the freedom of sexual self-determination. Such freedom is understood as a safety of a person from any coercion in sexual intercourse, i.e., the free will of each person to choose a sexual

partner, methods, time, place of sexual communication, etc. An additional value protected by this law is human honour and dignity, but the mere violation of these values does not make a person criminally liable according to Article 152 of the Criminal Code. These characteristic features show that criminal liability could be imposed when the nature of the conduct, the purpose, the form of addiction, and the dangerousness of the conduct is clearly determined.

Sexual harassment as a criminal behaviour appears as a vulgar or similar conduct, suggestions, or hints. Vulgar or similar conduct means unwanted, sexual physical contact with a person (touching, caressing, hugging, etc.). Vulgar or similar suggestions or hints mean a verbal or non-verbal sexual behaviour of a person that is clearly unacceptable to the victim, humiliating and insulting, insolent, clearly deviating from the standards of conduct (for instance humiliating conversations of a sexual nature, comments about appearance of a person related to a sex, various kinds of promises and suggestions related to sexual intercourse, demonstration of sexually explicit prints, video or audio recordings, gestures of a sexual nature, writing SMS messages, notes, letters and telephone conversations on sexual topics, buying intimate gifts, etc.). This conduct must take the form of active actions and they must be undesirable, unacceptable, and repulsive to the person against whom these actions are performed.

When determining the presence (absence) of the objective of the culprit, namely the desire to have sexual contact or sexual satisfaction, the behaviour of the culprit towards the victim (the way of sexual harassment, the extent of the physical actions performed and/or the content of the suggestions or hints made) shall be analysed in conjunction with the systematicity and intensity of behaviour of the culprit (repeatability, continuity), the environment in which the sexual behaviour of the culprit appears (place and time) and other circumstances that can confirm or deny the intent of the culprit. It is sufficient to prove the desire for sexual communication or sexual satisfaction for criminal liability to arise, and as explained in Court Practice, in criminal cases regarding violation of a person's freedom of sexual self-determination and inviolability, the facts of whether the culprit felt sexual satisfaction or pleasure are not necessarily established, because criminal liability for these actions arises after dangerous actions have been performed (formal composition) (Supreme Court of Lithuania, 2014, 2020).

Thus, the legal doctrine stipulates that, when determining the purpose of sexual harassment, the generality of the circumstances in which acts of sexual harassment may have been committed shall be assessed, and it is assessed whether the vulgar acts performed in such circumstances, the specific phrases or hints said could indicate the desire for sexual satisfaction. Actions, suggestions and hints of a sexual nature usually become sexual harassment when such behaviour by the culprit is not one-time but lasts for a certain period of time (is repeated or systematic) and when such an act of the culprit has been reacted to in an unambiguously negative way. Moreover, some scientific sources provide for the

opinion that the considered phenomenon can also occur in the online space – “the most common forms of risky behaviour the Internet are the disclosure of personal information and communication with strangers, as they often lead to other forms of risky behaviour, such as risky sexual behaviour or harassment” (Paluckaitė & Žardeckaitė-Matulaitienė, 2015, p. 34). Also, the term “sexual harassment” is largely a misnomer. Most sexual harassment entails disrespect, not desire, and certainly not romance. There are the occasional come-ons: unwanted sexual advances, touches, kisses, or bribes and threats used to coerce sexual activity” (Clancy, Cortina, & Kirkland, 2020, p. 22614).

It can be concluded that, according to Lithuanian legislation, acts of sexual harassment committed against another person do not impose criminal liability only if the culprit and the victim do not have any official, labour, or other dependent relationships. And what these relationships (especially in academic level) are like will be discussed in the next section of this article. So it means, if sexual harassment behaviour arises in the academic environment, this question is very close to whether it is criminal nature or not.

Dependence of the Victim of Sexual Harassment on the Culprit in Academia

In common a necessary feature of the criminal offense established in Article 152 of the Criminal Code (Seimas of the Lithuanian Republic, 2002) is the dependence of the victim on the culprit.

Taking advantage of the dependency of the victim appears in the fact that the culprit, while committing a criminal act, abuses the existing dependency between him and the victim, which may arise due to kinship, labour relations, material dependency and other grounds. The analysed scientific sources states that „it is measured sexual harassment along three dimensions: gender harassment, unwanted sexual attention, and sexual coercion. Gender harassment involves negative treatment of women that is not necessarily sexual but may include things like a supervisor or co-worker making sexist remarks, telling inappropriate stories, or displaying sexist material. Unwanted sexual attention includes co-worker or supervisor behaviours such as staring, leering, ogling, or unwanted touching. Sexual coercion includes bribing or pressuring women to engage in sexual behaviour” (Johnson, Keplinger, Kirk, & Barnes, 2019).

Thus, the form of sexual harassment as a criminal conduct in academic environment includes two possible forms of dependency: 1) co-workers and 2) other dependent persons.

Dependency by labour relations means that the victim and the culprit are bound by office or labour relations, regulated by the provisions of the Labour Laws (Seimas of the Lithuanian Republic, 2016), the Law on the Civil Service of the Republic of Lithuania (Seimas of the Lithuanian Republic, 1999), etc. laws

that determine the rights and duties of the employer and the employee. However, as referred to in scientific sources, sexual harassment at work cannot be equated with bullying, mobbing because “bullying at work occurs in the workplace as a negative behaviour directed at the person(s) resulting in harmful consequences for persons and organisations. Negative behaviour is usually of a psychological nature, so sexual harassment and physical aggression are usually not included in this phenomenon”, “sexual harassment and physical aggression are part of the phenomenon of harassment, and in the case of bullying, these forms of aggressive behaviour are more often distinguished. Thus, <...> harassment is a broader, more encompassing phenomenon than bullying at work” (Astrauskaitė & Kern, 2013).

Other dependence on the culprit and at the same time the most important in the context of this study, because it concerns with relationships of student – student, student – lecturer, student – other academic staff etc., may appear in various forms. Even in this case, the relationship of dependence must have a certain objective basis, confirming that the culprit (for instance, lecturer) and the victim (usually – student) are connected by a certain relationship (usually during the academic session, but not after), which enables the culprit to significantly influence (affect) the position of the victim with his decisions. Here we have the significant factor, that makes an impact on the precondition of victim’s vulnerability. The possibility to affect the position of, for instance, student, should be considered regarding to objective basis.

Usually, the objective basis of dependence shall be considered the dependence of persons on the basis of civil law (contractual, obligatory, etc.), family relations (between spouses (cohabitants), children and parents, kinship, custody and care, etc.), as well as relations between separate groups of persons, the parties of which have certain opposing rights and obligations (for example, doctor-patient, teacher-pupil, lecturer-student, etc.) or which are related by material dependence. Other actual situations can also be recognised as the objective basis of dependency, when physical or psychological obstacles created by the culprit, limiting freedom of action of the victim, enable him to significantly influence the victim's position.

The dangerousness of sexual harassment to a victim dependent on the culprit depends on several aspects – on its continuity, intensity, permanence and on how this behaviour was perceived by the person who was harassed, because sexual harassment is an unwanted conduct. Generally, harassment (both sexual and gender-based) is determined by an economic, social, physical, or symbolic (e.g., related to patriarchal stereotypes) power disparity between the harasser and the person being harassed. Therefore, a person may be confused, scared, not know how to act. Considering this, to establish the facts of harassment, it is not necessary that the person who is being harassed clearly and categorically opposes such behaviour, when it is obvious that such behaviour was unacceptable and objectively offensive to this person. Consequently, all the actions, suggestions and

hints of a sexual nature become sexual harassment in the form of criminal conduct when such behaviour by the culprit is not one-time but lasts for a certain period of time (is repeated or systematic) and when such an act of the culprit has been reacted to in an unambiguously negative way. It is the repetition of unwanted vulgar or similar actions, suggestions or hints of a sexual nature that allows us to decide on the intensity and systematicity of such actions and to consider such an act as dangerous in the sense of criminal law. Nevertheless, it is discussed if these considerations are applied to situations of sexual harassment in academia. All the actions of a sexual nature become sexual harassment in the form of criminal conduct in academic environment when such behaviour by the culprit is even one-time. The level of gravity of such illegal behaviour is based on the following reasons. First, usually the student, who is dependent on the culprit, feels vulnerable due to the fact he/she is bound by the process of studying. Second, he/she is afraid of possible revenge (for instance, ploughing at the examination, etc.) as the culprit lecturer will be changed by other one. Third, a victim cannot even recognize / identify the behaviour manifestations which are certainly as sexual harassment.

As for the manifestations of sexual harassment (including the one in the academic environment) and their legal assessment, they can appear in the following forms: (a) unwanted physical contact; (b) verbal or written humiliation (laughter and jokes offensive to a person or a group of persons, constant comments, hate, denunciation, spreading rumours, slander, etc.); (c) demonstration of offensive pictures, notes or other material, offensive gestures; (d) deliberate isolation or lack of communication, separation from social activities; (e) obsessive intention to communicate, following a person or collecting information about him, when this is not related to the performed work functions; (f) threats or other intimidating behaviour aimed at restricting a freedom of self-determination of the person; (g) influencing a person to obtain certain conduct, services or sexual services not related to studies or the performance of work functions; (h) inconsistent deterioration of study, work or other conditions compared to other persons. Of course, this list of forms is not exhaustive – harassment, sexual harassment or chasing can also take other forms that are not obvious, but create an intimidating, hostile, humiliating or offensive environment. These forms of manifestation, if the victim's dependence on the culprit is determined during them, may lead to criminal prosecution of the culprit.

It also could be stated that cases of sexual harassment in academic environment may be distinguished by what the culprit is trying to achieve and whether the victim of the harassment is dependent on the culprit.

For example, the subordination content of the lecturer-student relationship should not be interpreted in a narrow sense. Alternatively, the content of such relationships should be interpreted depending on how formal and informal the lecturer-student relationship is. Usually, there are no major issues in explaining

the relationship between these persons during the study process, during the semester, during the session. Issues related to legal treatment arise when explaining cases of sexual harassment by a lecturer towards a student, when the lecturer and the student do not or no longer have a formal relationship – some time has passed, after the student has finished his studies, and only later the inappropriate behaviour of the lecturer towards the student became apparent. These issues are caused, among other things, by certain subjective reasons – sexist attitudes and myths of sexual harassment. The literature sources provides that “sexist beliefs not only create and support myths of sexual harassment – false but widely spread beliefs about sexual harassment in society – but are also related to the treatment of situations of sexual harassment” (Čeponytė & Žardeckaitė-Matulaitienė, 2018, p. 91).

Particular studies have shown that four main groups of false sexist beliefs can be distinguished: 1) exaggeration/imagining (the belief that women only excogitate experiencing sexual harassment or misinterpret actions of the harasser); 2) ulterior motives (the belief that sexual harassment complaints are filed for personal gain); 3) natural heterosexuality (assigning sexual harassment to romantic relationships); 4) women's responsibility (conviction that women themselves provoke unwanted sexual conduct and are responsible for preventing this behaviour) (Čeponytė & Žardeckaitė-Matulaitienė, 2018).

These misconceptions are also very common and propagating in cases of sexual harassment in the academic environment. The existence of such beliefs makes it extremely difficult not only to prevent such cases, but also to reveal them due to a delayed reaction, due to the closedness of the academic environment, due to the fact that the employees and students of the academic environment do not try to understand that the behaviour expressed in verbal form, writing or physical actions can cause unpleasant, unwanted, dignifying consequences, may disturb another person in the work or study environment, for instance: (a) a familiar way of greeting in the work environment; (b) compliments that are not related to the professional qualities and performed functions of the person; (c) comments about physical appearance or clothing, or person's identity; (d) unethical comments about a person's views, weaknesses or strengths, private life; (e) unethical addresses (for example, short names, nicknames, diminutive addresses); (f) jokes of a sexual nature, offensive or disrespectful; (g) physical touching of a person, causing physical or psychological discomfort without maintaining a respectful physical distance; (h) obsessive attention, gazing at physical appearance; (i) tone of voice, sounds and movements that may offend, humiliate a person or raise associations of a sexual nature; (j) the use of visual means degrading honour and dignity (e.g., posters, photos, pictures, objects, etc.); (k) sending messages of an offensive nature, humiliating honour and dignity, messages not related to work functions; (l) provocative, indecent clothing.

Conclusions

The perception and description of sexual harassment in the academic environment as a phenomenon corresponds to the signs and criteria of the concept of sexual harassment stipulated in legal acts. However, at the same time, it should be noted that the definition of this phenomenon in the academic environment may also have specific characteristics, which are determined by the environment, participants in social relations and the content of their relations.

Cases of sexual harassment in higher education institutions are characterized by latency. This is preconditioned by the institutional atmosphere of the academic environment, internal informal politics, the solidarity mentality of the academic community (lecturers), as well as the moderation of students, perhaps even the lack of courage to make such cases public, other stigmatizations. This usually results in the discovery of cases of sexual harassment in higher education only after some time has passed.

The most severe legal liability that can arise for sexual harassment is criminal liability. This type of legal liability is possible only if the culprit and the victim are related by a service, work or other dependency relationship. In the academic environment, the relationship between lecturers and students can usually be equated to other relationships of dependence, which, once it is established, and at the same time as it is established that the lecturer sought sexual communication or sexual satisfaction with the student and thus performed acts of sexual harassment, there are all the prerequisites for initiating the criminal prosecution of the culprit when there is a complaint of the victim or a statement of his legal representative, and in the cases provided for by the law – and a request of the prosecutor.

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THE HISTORICAL ASPECT OF DUAL CAREER IN EU AND GROWTH OPPORTUNITIES IN LATVIA

Agita Abele

Latvian Academy of Sport Education, Latvia

Ilvis Abelkalns

University of Latvia, Latvia

Anna Liduma

University of Latvia, Latvia

Abstract. *From the information of organisations EUSA (2020), EAS (2022) and FISU (2022) documents, it is indicated that dual careers have been one of the priorities at the EU level in the last decade. Today's complex conditions in the world and in Latvia require paying more attention to Dual career support for student-athletes. Mentor support centres are being created for this in the world. There is no such centre in Latvia yet. The time of an athlete's career is short, so support is needed for students-athletes both for successful studies and high sports achievements.*

The purpose of the article is to explore the historical formation and growth opportunities of Dual Career in Latvia.

Materials and methods. Theoretical method – Analysis of theoretical sources and documents.

The study analyses Dual career terminology, historical formation in the world and Dual career opportunities in Latvia. The support of University Sports Centres and mentor centre is needed to provide up-to-date information to student-athletes. Important information for the creation of a dual career centre is identified Within the framework of FISU-NUSF Projects 2022 – Establishment of a Dual Career Mentor Centre in Latvia.

Keywords: *Dual Career, LSFP support, Mentor centre, student-athletes.*

Introduction

From the information of organisations EUSA, EAS and FISU documents it is indicated that dual careers have been one of the priorities at the EU level in the last decade. Today's complex conditions in the world and in Latvia require paying more attention to Dual career support for student-athletes. Mentor support centres are being created for this in the world including Lithuania (2020.10.05.) (LSU, 2020). “In Estonia, services for dual career are organised at government level through national policy, under the auspices of several ministries” (Support, 2020, p. 3). There is no such centre in Latvia yet.

Experience shows that at junior age sports careers are usually stopped because a choice needs to be made – to do sports or to focus on education/learn a trade. The fast pace of events in sports requires to solve the question of how to combine both in the available time. For young people to have a purposeful sports career while leading a focused academic life, there needs to be support from the university. According to a study conducted by the European Commission [EC], each year $\frac{1}{3}$ of young athletes aged 10 to 17 cease training, because other priorities appear (European Commission, 2007).

The term “Dual Career” [DC] can be described as a harmonized process, in which the athlete develops her/his athletic and academic competences, while improving psycho-social and psychological well-being. The essence of a dual career is to create an environment for the athlete in which they can do sports, gain an education or professional qualification in parallel, and make themselves ready for the job market after their sports career. So, the athlete gains knowledge useful for the life after their sports career as well as during.

Data available from the Latvian Olympic committee showed that 45% of the Latvian Olympic team (53% of Summer Olympics, and 36% of Winter Olympics contestants) are students or University graduates (Latvijas Olimpiskā Komiteja, 2012). The time of an athlete's career is short, so support is needed for students-athletes both for successful studies and high sporting achievements.

The purpose of the article is to explore the historical formation and growth opportunities of Dual Career in Latvia.

Materials and methods. Theoretical method – analysis of theoretical sources and documents. The study analyses historical formation of DC in the world and DC opportunities in Latvia.

Materials and methods: Theoretical background on Dual Career

History of DC creation: European Commission documents.

Discussions about DC have been going on in Europe since the beginning of 21st century, and some research shows significant results. In 2003 research titled “Combining sport and education: support for athletes in the EU Member States” looked at support opportunities for students-athletes in EU countries: 1. School education opportunities; 2. Financial support for active athletes, financial support to top-level athletes to cover training and competition expenses. 3. Grants for retired professionals to study at university or financial support to current professional athletes who wish to combine a full-time sports career with a university course. 4. Quotas for the entry of athletes to university. 5. Flexibility within the university system (timetable etc.), 6. Special athlete support programs (Flanagan, & Winther, European Parliament, 2003, pp.10-11).

Since 2005 the International Olympic Committee [IOC] has deployed a High-performance sports athletes' career program, with the help of which athletes are brought into the job market after the eventual end of their sports career. European Commission's 2007 "White book on sports" states that it is important to provide athletes with a "dual career" education from a young age to ensure the reintegration of professional athletes into the job market after their sports careers end (European Commission, 2007).

A 2008 EU Council declaration invites to strengthen dialogue with the IOC and representatives from the sports world, especially on the combined sports training and education process for young people, to achieve a state where young high-achievement athletes are ensured good quality education in parallel with their sports training. In education, life skills, and employment were emphasized again to promote both formal and informal education among athletes (Council of the European Union, 2008).

EU guidelines on supporting athlete's dual career in high-achievement sports, which meets the goals of "Europe 2020" criteria, were confirmed by the EU expert group in the Poznan meeting "Education and tuition in sports" on the 28th of September 2012. They bind the administration to advance high-achievement dual career development in each member country within the available means (European Union, 2012).

In 2016 significant research was undertaken in the EU on dual career promotion.

The aim of this study is to provide background information on the current situation of the combination of elite sports and education/work (i.e., dual career) commitments of European athletes. Based on the analysis of the scientific literature on several dimensions of European student-athletes, the EU-funded projects, policy systems and best practices of dual career across eight European Member States, this study highlights challenges and recommendations for implementing policy actions to integrate university and sports in dual career paths (Capranica & Guidotti, 2016).

Key findings were as follows:

Athletes could prepare for a post-athletic career within or outside the sport sector. Qualifications in the sport sector should be based on the formal, nonformal, and informal education. Alignment of sport qualifications to the European Qualification Framework [EQF] and the European Credit system for Vocational Education and Training [ECVET] principles could facilitate the integration of non-formal education into formal educational paths. Sport is considered a tremendous environment for informal learning of life skills that represent important attributes of European citizens and productive workers. The recognition of the non-formal and informal learning of elite athletes is deemed central to implement academic curricula and define suitable dual career study models. Former elite athletes with a dual career degree could achieve greater educational

and labour market success with respect to their non-athlete counterparts. Academic programs should include dual career courses to prepare dual career experts/support providers to be employed in the sports and work sectors (Capranica & Guidotti, 2016).

The co-authors paper (Vidal-Vilaplana et al., 2022) provides an overview of DC research's current state. The results indicate that research on DC is in an intermediate state with the growing interest during the last years.

International organisations that support DC students

There are three dual career supporting umbrella institutions: International University Sports Federation [FISU], European University Sports Association [EUSA] and European Athlete Student [EAS], in whose work participate Latvian University Sport federation [LUSF] board members A.Abele and I.Abalkalns.

FISU included DC in its 21st century strategy and started this academic year with a Dual Career Webinar (2022). It consisted of presentations about dual career as a part of FISU global strategy, and discussed activities deemed to be topical in the future. It was emphasized that to enact a DC, it is necessary to gain university support. It is also important to organize a volunteer movement. DC will be one of the main topics in the upcoming FISU World conference, and FISU World forum. In 2022/2023 a “Development of a Dual Career Toolkit dedicated to the stakeholders of the University Sports Movement” is also planned. In 2023/2024 it is planned to hold an “Update and promotion of good practices”. With the support of the European funding mechanisms, several project funding opportunities enable activities and implementation of the EU guidelines on dual careers. FISU are currently working on two dual career projects - Brand Value Alignment through Dual Career [BRAVA] and Micro Learning Entrepreneurship for Athletes [MLEA], both co-funded by the Erasmus+ program of the European Union.

One of the best review studies in the FISU DC webinar was presented by Siobhan James - General Manager International Programs & National Leagues UniSport Australia (FISU DC webinar, 2022). She gave a presentation on Elite Athletes' Education Network [EAEN] in Australia: 1) the program; 2) its guiding principles; 3) takeaways from experience: flexible study opportunities; actions of elites student-athlete coordinators; dual career opportunities not just for elite athletes, but also other students with a passion for a sport; promotion of students' critical thinking; maximal support not only for achievements of student-athletes, but also for facilitation of professional career. Every AIS (Australian Institute of Sport) confirmed TAFE (Technical and Further Education) has an Elite Athletes' coordinator, who supports athletes by enacting the Elite Athlete Education Network's fundamental principles. This countrywide network supports Australian athletes in a high-performance sports system. TAFE NSW is Australia's largest

vocational education and training provider based in New South Wales (FISU DC webinar, 2022).

There was also interesting case study in the FISU DC webinar, presented by Palestinian student-athlete Yazan AL Bawwab OLY, Canadian FISU Ambassador (FISU DC webinar, 2022). In his experience DC requires good time management: a good plan, self-discipline, enough moments of rest, but not too much, the priority is rest-sleep (8-9h), not entertainment events. It is important to make good use of and save time for professional activities and sports. Support can be found in the family/team, proper nutrition, power naps (20 minutes max) - a short nap during the working day to restore mental alertness. Smartly organized studies. It is important to evaluate priorities in a DC: when studying, the priority is the student, followed by the athlete. DC is not for everyone! The main goal is to balance a healthy lifestyle. Maximum University support is required) (FISU DC webinar, 2022). At the FISU World Forum in Cartago, Costa Rica (December 5-9, 2022), LUSF President Agita Abele, together with Executive Director Kitija Senkane, presented on the development of DC in Latvia, which was followed by active discussions about the best opportunities and examples of overcoming difficulties in DC (FISU, 2022).

The other organization - EUSA was founded in November 1999 in Vienna/Austria by 25 national federations. It is a non-governmental [NGO], non-profit organization, working in the field of university sport in Europe. It links national university sport federations, universities, teams, individual competitors, volunteers and other partners in 45 countries throughout Europe. EUSA activities promote values of especially university students aged 17-30, to actively involve both academic level as well as being active in sports career; without any discrimination (EUSA, 2021). EUSA also encourages educational activities in the field of student sports - mainly through Conferences, Seminars and Conventions. EUSA board implements and encourages participation in different educational programs and sports projects (EUSA, 2020).

The third organization - EAS Network is registered in Malta, founded in 2004 with the support of the European Commission. It is for universities, sports schools and other educational establishments interested in high performance sport, sports clubs and federations which are willing to help their athletes in their studies. The main aim is to support European athletes in combining high performance sport and education. Supporting the "dual career" means that the EAS-Network strives to optimize the training conditions for athlete/students but also that their future gets secured by making it possible for them to get an education or vocational training, so that they have a safe platform to start from when their sports career is over (EAS, 2022).

Formation of dual career support in Latvia

In an informative report (Ministru kabinets, 2021) by the Latvian Ministry of Education and Science written for the EC (Brussels) it says: "On the issues within the competence of the Ministry of Education and Science to be considered at the Council of Ministers of Education, Youth, Culture and Sports of the European Union on 29-30 November 2021 is Latvia's position on what has been done to support DC in Latvia" (Ministru kabinets, 2021). This document described the situation regarding DC in the EU member states. The need to involve ministries and other institutions (sports organizations, administrative structures, educational institutions and companies) for dual career support was emphasized. It has been found that there is insufficient support for high-achieving student athletes. Information exchange and cooperation are needed at the EU level. Support centres are needed for dual professional training of young athletes (Ministru kabinets, 2021).

In Latvia, the work was coordinated with the document "Sports policy guidelines for 2014-2020" (Ministru kabinets, 2013). The opportunities of all high-achieving athletes (including those with disabilities) to combine training work with studies in budget groups until obtaining a bachelor's degree in the chosen specialty, who have successfully represented Latvia at the Olympic Games, European or World Championships, were promoted. Support programs for high-achieving athletes operate in universities: individual study plan, remote studies in the environment, reduced tuition fees and scholarships, since 2007 state budget scholarships are available (Ministru kabinets, 2013).

In 2021, the University of Latvia, as the leading partner of the "More than gold" project co-financed by the Erasmus+ project, published "Guidelines for promoting the DC of athletes-students: Methodology for universities and Handbook for institutions" in cooperation with universities of several EU member states (Ābelkalns et al., 2021b).

According to the 2021-2024 EU Work Plan for Sport (European Union, 2020), DC should be promoted in correlation with European values: security, integrity, solidarity, athletes' health, and respect for human rights. Exchange of experience, support for high-performance athletes to combine studies with growth in sports, and preparation of substitutes for national teams should be promoted. Exchange of information on DC at institutional, local, regional, and national level is needed. High-achieving athletes, coaches, sports managers are a model of a healthy lifestyle for young people. Scientific publications on DC should be supported to ensure evidence-based sustainable policy in the EU (Ministru kabinets, 2021).

Since 2007 (LSFP, 2022) differentiated scholarships are awarded to athletes - students who have high sports results in the given year and who are successful in studies. Scholarships are financed from state budget funds intended for the

purpose of sports. Out of 114 received applications from student athletes, the scholarship committee awarded scholarships to 56 applicants in 2022. The biggest number of scholarships were won by students from the University of Latvia (15), Latvian Sports Pedagogy Academy (13), Riga Technical University (13), Riga Stradins University (5), and Daugavpils University (4). Representatives of 26 sports will receive scholarships: floorball, orienteering, track and field, freestyle skiing, shooting, kayaking, cross-country skiing, biathlon, motorsport (speedway), curling, checkers, 3x3 basketball, basketball, figure skating, rowing, fitness, gymnastics, boxing, swimming, BMX cycling, triathlon, chess, table tennis, road cycling, sailing and karate (LSFP, 2022).

Chairwoman of the scholarship commission, LASE professor A. Abele stated that the concept of a dual career is becoming more and more important among athletes, as evidenced by the record number of scholarship applications received. For athletes it is important to feel supported and to know that their results so far in their career are valued (LSFP, 2022).

The most important DC key concepts

A sports career is a set of sports activities voluntarily chosen by an athlete over several years with the aim of achieving the highest individual sports results in one or more sports (Stambulova, Alfermann, Statler, & Cote, 2009). International and professional sports, or high-performance sports are sports at the level of international competitions, including the training process to prepare for them. In high-performance sports are athletes from the age of 15-16 who are purposefully engaged in sports in sports schools and clubs, have entered Latvian youth or junior national teams and participate in Latvian and international competitions with the aim of achieving high results (Ministru kabinets, 2013). High-performance athletes are those who are included in the Latvian national team in one of the sports and in team sports, athletes who participate at least in the national championships of the highest division (Ābelkalns, 2014). A high-performance athlete is defined as an athlete recognized by the relevant sports federations as a member/candidate of the national team in the adult age group. DC athletes are high-performance athletes and/or university athletes who studies in a higher education study program and participates in high-level competitions (Ābelkalns et al., 2021a; Ābelkalns et al., 2021b).

Scientific background for Dual career in Latvia (models, theory, projects)

In Latvia, the subject of DC is written on by prof. Juris Grants, ass. professor Ivars Kravalis, prof. Inga Belousa, and prof. Janis Zidens. J. Grants and I. Kravalis presented the topic “Dual career in Latvia” on 14th-15th November 2013 in Helsinki on Latvian experience about simultaneously succeeding in high

achievement sports and performing well academically in Latvian Universities (Spīķe, 2013).

In 2014, LU ass. professor I. Abelkalns defended his PhD thesis on *Management of high-performance athletes' dual career in Latvian Universities*. Within it he developed a *high-performance athletes' education and sports improvement model in Latvia* (Ābeļkalns, 2014). Work on this topic was continued by I. Abelkalns (2019-2021), who lead the LU international ERASMUS+ project MORE THAN GOLD (Ābeļkalns et al., 2021b). During this project guideline were created for EU dual career student-athletes on how to combine high performance sports with education in universities. A. Paikena accentuates that high achievement sports is also characterized with skill development, dedication, competitiveness, excelling, and result seeking. The term “high performance sports” according to Latvian guidelines begins to be applicable from the age of 15, with some exceptions being permitted in a few sports (Paikena, 2019). This topic is continued in 2020 by A. Abele and I. Amantova (2020), who have created a *Dual career model for Latvia's environment* (see Figure 1).

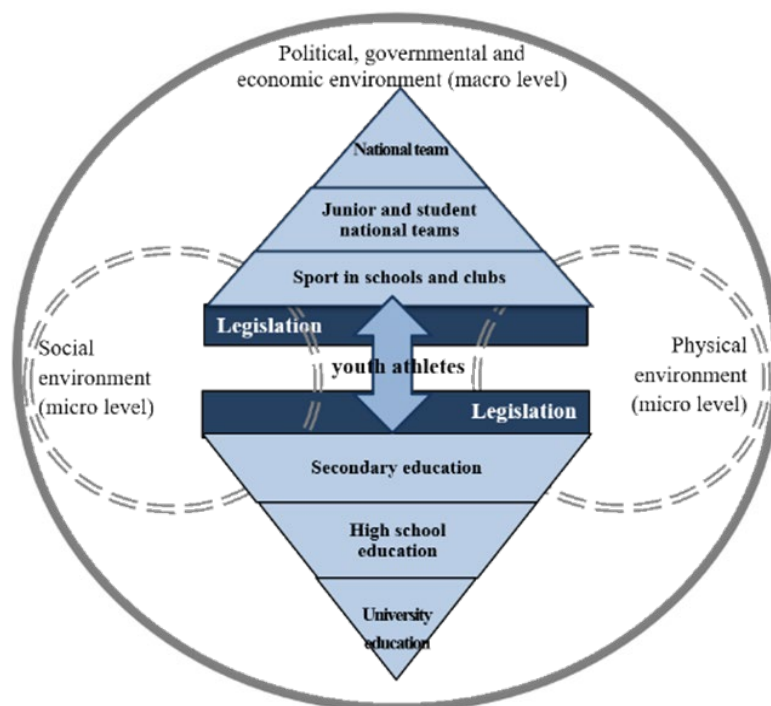


Figure 1 *Dual career model in Latvia's environment* (Amantova, Abele, 2020)

Unlike the leading EU countries, Latvia has not yet created a Dual career mentor centre. Along with this I. Abelkalns also points out the following shortcomings: a) the offered support is not organized at a state level; b) Latvian Universities generally either own insufficient sports facilities, or do not own them at all (Ābeļkalns, 2014). The afore mentioned points motivated LUSF to raise the necessity of creating a Dual career sports centre. This led to a joint FISU and NUSF project aiming to establish a Dual career mentor centre in Latvia.

Conclusion

The study analyses historical formation of Dual career in the world and DC opportunities in Latvia. Research shows there is interested among student-athletes in information about DC opportunities in Latvia. Support by Latvian University Sports Federation, Universities Sports centres and the DC mentor centre is essential in providing student-athletes with relevant and up-to-date information. Important information for the creation of a DC centre is identified within the framework of FISU-NUSF Projects 2022 – Establishment of a Dual Career Mentor Centre in Latvia.

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APPLYING OF DESIGN THINKING APPROACH IN THE DEVELOPMENT OF FOREIGN LANGUAGE COURSE

Mārīte Opincāne

Daugavpils University, Latvia

Karīne Laganovska

Daugavpils University, LBTU Malnava college, Latvia

Abstract. *A lot of people comprehend the necessity to acquire foreign languages and particularly foreign languages for their professional needs, but in most cases, their enthusiasm and motivation decrease and sometimes even disappear when hard work on a regular basis starts. The greatest advantages of the Design Thinking approach in teaching foreign languages are the development of foreign languages' competencies and the making of the learners more motivated. The aim of the paper is to analyze the development outcomes of communicative competencies by applying the Design Thinking approach to teaching foreign languages to Bachelor level law students who acquire legal English and Bachelor level Information Technology students who study German as a second foreign language. The following methods were used while doing the research: survey data analysis of the foreign languages courses' target audience and the qualitative analysis of the data content. A questionnaire of the students was developed and carried out, the answers were processed. The research experience was analyzed, the conclusions were drawn and the proposals for future work were worked out. The framework of learning was based on the Stanford method: empathizing, defining the problem, ideating, prototyping, and testing. The results of the study proved that the design thinking approach is effective as the learners solve many real-life problems. This encouraged collaboration and activity as they discussed simulated professional and real-life issues. The results also proved that the design thinking approach is recommended for learners with a higher level of foreign language proficiency. The pros and cons of the approach, based on the learners' results and questionnaires have been summarized.*

Keywords: *acquisition of a second foreign language, communicative competencies, design Thinking approach, legal English.*

Introduction

Nowadays more and more new digital tools, which support and promote the acquisition of foreign languages are being developed, as they are particularly convenient to be used in independent studies or as additional means in learning of foreign languages. These tools can assist in productive acquisition of grammar and phonetics topics, but it is more complicated to develop communicative competence. Even more, communicative competence in foreign

languages becomes more and more topical as the partners of communication get into the situations when they have to maintain the conversation without using any additional tools.

A lot of people comprehend the necessity to acquire foreign languages and particularly foreign languages for their professional needs, but in most cases, their enthusiasm and motivation decrease and sometimes even disappear when hard work on a regular basis starts. Learning and teaching of foreign languages is a creative and changing process where the teachers apply different methods in a masterly way and look for new ways to make the study process not only more interesting and captivating but also in order to provide the outcomes desired. One of the approaches, which gradually enters into the teaching of foreign languages is Design Thinking. The greatest advantages of the Design Thinking approach in teaching foreign languages are the development of foreign languages competencies and the making of the learners more motivated.

The object of the research: to analyze the development outcomes of communicative competencies by applying the Design Thinking approach to teaching foreign languages to Bachelor level law students who acquire legal English and Bachelor level Information Technology students who study German as a second foreign language.

The purpose of the research: to reveal the principle of Design Thinking approach in the acquisition of foreign languages, additionally showing how this approach can be applied in the mastering of both the first and the second foreign language

Research tasks: to carry out the questionnaire on the self - evaluation of the communicative competence among the target audience and develop the model based on Design Thinking, which reflects the integrating of the approach into the process of foreign languages' acquisition.

Methodological approach: methodological approach of the research consists of the sources' review on the Design Thinking approach; working out and carrying out the questionnaire among the target audience, the analysis of the data acquired.

In the 1990s, the design thinking approach developed as an innovative approach to creative processes. Initially, it was applied only in the design of different goods and services. The basic idea is that the goods have been worked out well only if they are well-accommodated to the human needs (Dam & Siang, 2022). Any conceptions are viable only if they solve human problems. The framework of learning is based on the Stanford method (Thienen et al, 2018): empathizing, defining the problem, ideating, prototyping, and testing. As the Design Thinking approach develops creativity, innovation and collaboration, it can be efficiently applied in the education process, including the acquisition of foreign languages. Design Thinking develops students' language skills as well as makes students more motivated. Design Thinking in foreign languages'

acquisition is perceived as the process of five stages. Empathizing teaches students to comprehend the true needs of the imagined customers or of the target audience. At the stage of defining they have to identify the problem to be solved, but at the stage of ideating they have to find solutions to the problems. This is the brainstorming phase. Understanding and improving brainstorming skills enables teams to develop more innovative options for prototyping. Prototyping is linked with the implementation of the best idea. Prototyping is linked with learning by combining and connecting different ideas. The last stage is based on getting feedback from the students.

The main advantages of this problem-based approach are that it teaches and encourages students to listen to each other's opinion and it means that it improves their communication skills. The design-based language learning approach assists to promote communicative grammar comprehension through oral and written communication practice, systematic problem solving and thinking, presentation and structured content.

Lightbown and Spada have emphasized that thinking skills operate effectively when students voice their analysis and take part in the learning process occurring in the classroom (Lightbown & Spada, 2013, 135). R. Jones states that language facilitates creativity because it is both rule governed and ambiguous, and socially situated and dialogic (Jones, 2016, 16 - 21). Chappell considers that any language is socially situated and dialogic and requires imagination and empathy to interpret others and bridge the gaps of understanding in everyday conversation R. Gotlieb, E. Jahner, M. Immordino-Yang and S. Kaufman have emphasized that reflexivity, empathy and social-emotional imagination allow students to visualize different perspectives and future selves, think creatively, and communicate appropriately (Gotlieb, Jahner, Immordino-Yang, & Kaufman, 2016, 308 - 336). Therefore, creativity should be seen not only as an artistic process but also as an essential part of communication, facilitating memory and collaboration.

Nowadays the process of globalization has closely connected different nations, and therefore it has enhanced their personal and professional relations. The necessity of learning foreign languages for professional purposes increases. It emphasizes the importance of the development of communicative competences, both oral and written during foreign languages' classes for students' future professional purposes. Communicative competences are distinguished by their especially complex nature. A lot of problems are linked with them (rate of delivery, the shyness of the students, lack of motivation to involve, redundancy, clustering, lack of knowledge, insufficient knowledge on formal and informal written language (Brown, 2007, 324). Before designing communicative activities, the list of the features that are typical for professional activities have to be made. Based on the list, the activities, which require discussion, argumentation, problem solution, summary and report of the ideas

conveyed inside the group, decision making, defending one's own position, etc. have to be developed. These features are essential for future professionals and ESP academics have to develop these competences.

In order to develop an effective foreign language course, an efficient syllabus has to be developed. D. Nunan states that syllabus design means the selection, sequencing and justification of the content of curriculum (Nunan, 2014, 55). The selection process is determined by the needs' analysis. An efficient foreign language syllabus for specific purposes is designed to meet students' needs, is relevant to the students, is successful in mastering learning, and is related to the content (terminology, topics, grammar structures) of the particular study fields. Questionnaires and surveys can be carried out to specify students' needs, but not always academics can rely only on students' opinion, particularly at bachelor's level, as they do not have any professional experience in the chosen professional field. For successful learning, the incorporation of *real world* needs – and the development of students' abilities to transfer the mastered language knowledge to novel situations, together with the usage of acquired competences in real life communication are considered to be vital parts of the efficient syllabus. On the whole, needs analysis is a complex process, which is usually followed by syllabus design, selection of course materials, teaching/learning a course, and its evaluation. Students often find it difficult to define what foreign language needs they have and are not able to distinguish between needs, wants and lacks. Here their academics are responsible for successful learning. Identifying and analyzing essential language and discourses is also very important. The trends in this sphere vary and change, for example in the 1980s the emphasis was put on business letters, but now e-communication is topical. The emphasis is put more on language function than on specific language items. The main advantages of the efficient foreign languages' syllabus for specific purposes are speed, efficiency and effectiveness in learning.

Research Results

93 respondents participated in the questionnaire - Rezekne Academy of Technologies' students who are studying in different programmes. The questionnaire was organized with the aim to clarify students' self-assessment on their ability to communicate in a foreign language (Independently of the fact if it is their first foreign language or the second one; either they are studying it now or have already acquired it). In the questionnaire the students reveal the obstacles, which influence their ability to communicate in the foreign language. Dividing the respondents according to the age groups, it can be seen that 52.7 % of respondents are young people of age from 18 to 23; correspondingly the following age groups are divided in the following way: 31.2 % are in the age group between 24 and 35 and 16.1% of respondents are in the age group starting

with 36 and older. The dominating acquired foreign languages mentioned are English, German, Russian; in more rare cases - Polish, French, Swedish, Chinese and Japanese. 45.2% of the respondents answered in affirmative the question on the usefulness of foreign language knowledge for professional purposes, in its turn, 38.7% of the respondents recognised that knowledge could be useful, and only 6 respondents (6.5%) answered in negative, considering that they would not need foreign language the foreign language in their professional field.

In the next question the respondents were asked to evaluate separate competences of the foreign language's usage in the professional field.

Table 1 Evaluation of the communicative competence's importance for professional aims (compiled by the authors based on the results of the questionnaire)

Competence	Number of respondents' answers			
	very important	more likely is important	more likely is not important	not important
Ability to communicate in the foreign language orally	52	33	6	2
Ability to communicate in the foreign language in written form	45	39	8	1
Ability to read and comprehend texts in the professional field	56	32	5	0
Ability to perceive and comprehend speech in the professional field	62	26	4	1

The answers of the respondents, which have been summarized in the table, reveal that both oral and written communicative competences, as well as ability to perceive the read and the heard information are equally essential. It indicates that all these kinds of communication in foreign languages' acquisition have to be developed and perfected both during the classes and out of them. In addition, concerning the issue of self-evaluation of their professional aims of the foreign languages' communicative skills 47 (50.5%) respondents acknowledged that they are mediocre, that is why it is necessary to improve them. Besides, only 3 (3.2%) evaluated that they are excellent, the same number of respondents (3)

evaluated them as very weak. Correspondingly, 19 (20.4%) - as weak, 21 (22.6%) - as good.

The last question required the respondents to evaluate the reasons, which influence or do not influence their communication skills in the professional field. One third of respondents (31) concluded that this is a lack of regular communication opportunities in the foreign language; 45 respondents answered that the basis of vocabulary is of crucial importance (25 of them pointed at insufficient knowledge of professional terminology, 21 - insufficient knowledge of general vocabulary). It is interesting that uncertainty and unconvincingness of their own skill are not obstructive, 39 respondents answered in negative.

The authors of the paper chose the perfection of oral communicative competence at English for Specific Purposes (ESP) course for lawyers-in-training, and the perfection of written communicative competence at German as the second foreign language course for professional purposes based in Design thinking approach.

As the students pointed out in the questionnaire that vocabulary and terminology are essential cornerstones, which prevent communication in the foreign language on professional topics, it is taken into consideration working out English and German courses based on the Design Thinking approach. In order to present the particular scenarios, it is first necessary to make sure that students have enough knowledge. The Design Thinking approach is user-oriented. That is why the target group is defined at the beginning and their needs are fixed. Based on the needs of the target group, particular and sequential tasks are defined. The needs of the target group are changed into ideas.

The syllabi of both foreign languages' courses are linked with the acquisition of professional terminology and discussing of the professional topics.

Legal terminology is pretty broad and complicated and it is not possible to fully acquire it during 32 contact hours and 28 hours of independent work, which is the amount of hours for the first year Bachelor level students. The level of students' English knowledge is pretty high, but they have mainly acquired general lexis at secondary schools and just a little bit of legal terminology.

Now the students have to acquire different topics on legal terminology - *Professions in law, Crimes and offenses, Criminals and wrongdoers, Court work, Verdicts and sentences, Idioms to do with crime, Verbs to do with crime, etc.* The principles of Design Thinking approach can be used from the very beginning of the course, but they can be used more efficiently when the students have acquired at least several topics.

In order to develop a teaching model, using Design Thinking, which would advance written communicative competence in the German course, a preliminary independent preparation is necessary. Students themselves have to offer a more varied lexical material. If the lexical material is prepared during the

classes in advance, it would be the same to all the students. Usually the students start studying German at University level without preliminary knowledge, as the dominating second foreign language, which has been chosen at comprehensive schools, is Russian. Taking into consideration the condition that German knowledge is at beginner's level, the principles of Design Thinking can be tried only in a definite period of time. when students can already form simple, structured sentences and have already acquired a certain amount of lexis.

The aim of the application of Design Thinking approach is to develop students' oral communication competences via simulating role plays in court, deciding on verdicts, discussing on duties of different law specialists, etc. The table below reflects the steps of the simulation of court trial reflecting steps of problem solving based on the Design Thinking approach.

Table 2 The elements of the Design Thinking approach for improvement of communicative competence in a foreign language (compiled by the authors)

Simulation of the situation	<i>The students have to simulate the procedure of the court trial. They have to simulate the roles of a suspect, a barrister, a prosecutor, a judge and witnesses. They also have to decide on the verdict</i>	
Step of Design Thinking	Practical activity	Result
Comprehension	The academic and the students together analyze the situation .	Everybody has comprehension on the problem and their task.
Visualization of the problem	The students individually prepare for the simulation of their roles, thinking about legal terminology.	Every student has visualized his/her problem- the reason why the crime has been committed, what is his/ her role during the trial, appropriate terminology.
Developing of ideas	The simulated role of every participant has been discussed in the groups.	The students consolidate the acquired legal terminology, and add some new terminology items, also ask for the help and advice from the academic.
	It has been decided in the group, which issues every of them will work on in the future. The students put down the main 2 problem issues on separate sheets of paper for solution. The students help each other in the groups.	The students develop their main arguments.

Grouping of ideas	Voting for the best arguments takes place in the group (every participant votes for 2 ideas, which s/he considers to be the best). The best ideas have been selected and are directed for the presentation.	The students select the terminology for the simulation of their roles.
Prototyping and testing	Students prepare the presentation, summarizing lexical material and grammar structures for the formulating of answers.	Students have prepared the text of the reply in the presentation.

As the aim in the Design Thinking approach is to come from the problem to solution by the assistance of a particular sequence of steps, work can considerably differ at separate stages. Developing communicative competence in German for beginners, attention is paid to applied written communication. On the one hand, the rules of correct applied communications are taught, but it is not less important to form short, particular texts, using both the acquired language knowledge and thinking creatively, as they have to formulate the answer themselves. The particular steps of Design Thinking, which have been integrated in the studies' module, have been reflected in the table below.

Table 3 The elements of Design Thinking approach for the perfection of written competence in the foreign language (compiled by the authors)

Simulation of the situation	<i>The students have received an e- letter from the employer, which contains the invitation to arrive at the work meeting. The task is to prepare a written reply and refuse to arrive because of objective reasons.</i>	
Step of Design Thinking	Practical activity	Result
Comprehension	The academic and the students together analyze the situation, described in the text.	Everybody has comprehension on the problem and the task.
Visualization of the problem	The students individually make a sketch of the defined problem; they add the words, which explain the situation.	Every student has visualized his/her problem - the reason why participation has been declined, which has been supplemented by the particular lexis.

Developing of ideas	Individual results have been revealed and discussed in the students' group.	The students consolidate their vocabulary, add the new vocabulary items, which have been acquired from the others in the group.
	It has been decided in the group, which problem they will work on in the future. The students put down 3 ideas on separate sheets of paper for a solution. The task is done until a sufficient amount of ideas has been collected.	The students form phrases and sentences for generation of ideas.
Grouping of ideas	Voting for the best ideas takes place in the group (every participant votes for 3 ideas, which s/he considers to be the best). The best ideas have been selected and are directed for the presentation.	The students select the lexical material for the preparation of the text.
Prototyping and testing	Students prepare the presentation of the simulated court trial, summarizing legal terminology and grammar structures for their speeches, arguments, questions, testimonies, etc.	Students have prepared their simulated speeches.

Conclusions

The Design Thinking approach provides a working process that helps to develop 21st century skills such as critical thinking, empathy, creativity, and cognitive flexibility. Design Thinking assists to develop a classroom atmosphere that is motivating for students and that stimulates deep thinking and collaboration to find solutions to real life and professional problems. Using a Design Thinking approach in a foreign language class facilitates communicative creativity and creative engagement in foreign languages' learning.

Carefully planned communicative activities and tasks in foreign languages' acquisition, based on the Design Thinking approach, efficiently improve students' communication skills and help to achieve their professional aims.

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THE INFLUENCE OF AGILITY INDICATORS ON FORMATION OF VOCATIONAL READINESS IN LAW ENFORCEMENT OFFICERS

Andrii Andres

Lviv Polytechnic National University, Ukraine

Valerii Kryzhanovskij

Ivan Bobersky Lviv State University of Physical Culture, Ukraine
Kyiv Institute of the National Guard of Ukraine, Ukraine

Inesa Krasovska

National Aerospace University "KHAI", Ukraine

Olena Bodnarchuk

Ivan Bobersky Lviv State University of Physical Culture, Ukraine

Olena Khanikiants

Ivan Bobersky Lviv State University of Physical Culture, Ukraine

Andrii Mandiuk

Ivan Bobersky Lviv State University of Physical Culture, Ukraine

Olha Rymar

Ivan Bobersky Lviv State University of Physical Culture, Ukraine

Alla Solovey

Ivan Bobersky Lviv State University of Physical Culture, Ukraine

Nataliya Sorokolit

Ivan Bobersky Lviv State University of Physical Culture, Ukraine

Markiiian Stefanushyn

Ivan Bobersky Lviv State University of Physical Culture, Ukraine

Marta Yaroshyk

Ivan Bobersky Lviv State University of Physical Culture, Ukraine

Abstract. *The experience of warfare in Ukraine proves the importance of increasing the degree of psychophysical readiness in law enforcement officers. The aim - to determine the significance of the main components of physical readiness of law enforcement officers for productive work performing. Material and methods: Servicemen (n=368) of the National Guard of Ukraine were interviewed. Spearman's rank correlation analysis of indicators' interrelation was carried out. The opinions of experts and beginners reliably differed on a number of indicators. Coordination of movements was significantly correlated with relatively the largest number of indicators of physical readiness, as well as psychological performance of servicemen. It has been established that agility is related to concentration, endurance, span and switching of attention. Conclusions: For the successful professional growth of the students of educational institutions of the National Guard of Ukraine, it is necessary to develop their agility, and especially coordination of movements. It is associated with improving the speed and strength of the officers of the National Guard of Ukraine, as well as attention and logical thinking.*

Keywords: *cadets, important qualities, professionally psychophysical training, students, servicemen.*

Introduction

The experience of warfare in Ukraine, transformation of power structures to NATO standards surely prove that increasing the degree of psychophysical readiness of law enforcement officers is relevant. A high level of development of psychophysical qualities of a specialist contributes to success in professional activities of numerous specialists, and in extreme conditions ensures the preservation of work capacity, health and life. The aim of study - to determine the significance of the main components of physical readiness of law enforcement officers for productive work performing.

Literature review

Analysis of special literature showed that psychophysical training contributes to solving the tasks of preparation for work. The expediency of increasing level of development of psychophysical preparation in students-representatives of relatively peaceful professions: IT specialists, railway workers, economists, designers (Andres, 2019; Andres, 2021; Chernovsky & Kolumbet, 2016; Kozina et al., 2014; Ostapenko, 2014; Pichurin, 2015) has been proven. At the same time, it has been proven that training programs, using agility development tools are particularly effective for the formation of a number of professionally important competencies (Kozina et al., 2014; Lisowski & Mihuta, 2013; Ostapenko, 2014; Pichurin, 2015; Rolyuk, 2015; Shalupin et al., 2022).

Agility is a fundamental quality for our interaction with physical, social and cultural environment. It ensures balance, accuracy and creativity of human movements in everyday life. Agility is important at any age. In preschool age, it contributes to the formation of reading and writing skills (Emami et al., 2019; Planinsec, 2002; Uhrich & Swalm, 2007). Coordination exercises improve the

cognitive performance of adolescents in tasks that require flexible attention and short reaction time (Alesi et al., 2016; Burns et al., 2017; Emami et al., 2019; Zach & Shalom, 2016). They improve academic success of middle school students in geometry, drawing, etc. (Allen et al., 2019; Hötting et al., 2012; Kwok et al., 2011; Latino et al., 2021). Physical agility exercises help to reduce the level of personal anxiety in young people (Pichurin, 2015). Performance of agility exercises improves memory and spatial cognition in healthy adults (Dunsky, 2019; Rogge et al., 2017), visual memory and executive function (Berti et al., 2019; Duru et al., 2020). In the elderly, coordination and balance training activates visual-spatial connections in the brain, prevents mental and physical deterioration (Crush & Loprinzi, 2017; Wołoszyn et al., 2020), improves cognitive and executive functions (Lopes et al., 2019), and reduces depression (Crush & Loprinzi, 2017).

There are significant differences in assessment of the achieving professionally important qualities. There is no information about the opinions of cadets of higher education institutions of the National Guard of Ukraine regarding the importance of agility for increasing the degree of their professional readiness to act as assigned. The lack of analysis of the degree of importance of each component of agility for improving the readiness components of law enforcement officers complicates the process of selecting effective means of physical education in students of higher education institutions of the National Guard of Ukraine, for preparation of psychophysical training programs, inhibits the increase in degree of professional readiness of internal affairs officers to act as assigned. This is detrimental to ensuring the country's defense capability, increasing the security of its citizens, and maintaining law and order of the state.

Methodology and organization of the research

The questionnaire developed by us was consisted of 3 parts: the current state of psychophysical preparedness of the military; physical and psychological training of military personnel, mental qualities; socio-demographic data of respondents (age, length of military service, duration of sports activities, etc.). The required sample size was determined using G*Power software (Faul et al., 2007) with an alpha level of $p = 0.05$, a power of 0.95, and a mean effect size of $d = 0.50$. A power analysis for the t-test (difference between two independent means) suggests that we would need a sample size of $n = 176-246$ participants (distribution coefficient 1–0.5). The research was conducted in November-December 2021. Each participant provided informed consent to participate in the study. Measures were taken to ensure the anonymity of the participants. A questionnaire was distributed among cadets and teachers of higher educational institutions of the National Guard of Ukraine via GoogleForms. Respondents assessed the degree of importance of professionally important physical qualities and psychological indicators for the performance of the assigned actions by the

personnel of the National Guard of Ukraine on a 5-point scale (where 5 is the highest value). Questionnaires in which answers to questions were omitted were not taken into account during the analysis. The participants were introduced to the purpose and tasks of the study. The participants were servicemen of the National Guard of Ukraine. Depending on the work experience, the respondents were divided into two groups (Table 1).

Table 1 Respondents' sample characteristic (made by authors)

Indicators	«Experts», n=131			«Beginners», n=237			p<
	mo	X	σ	mo	X	σ	
Military rank	Major, lieutenant colonel, colonel			Soldier, senior soldier, lieutenant, senior lieutenant			–
Age	31	35.87	7.68	4	26.05	5.98	0.000
Work experience	9	16.20	7.64	4	3.46	4.19	0.000

The group of "experts" was represented by senior officers aged 24 to 52. The group of beginners (beginners) included junior officers and soldiers aged 19 to 46. The reliability of differences between the average values of both samples was calculated using the Student's t-test. In order to confirm the hypothesis and ensure its completeness in order to triangulate the survey, Spearman's correlation analysis of relations between indicators was conducted. The closeness of correlation was considered noticeable when correlation coefficients ranged from $r=0.60-0.70$ and dense when correlation coefficients were within $r=0.70-0.90$.

Results of the research

The importance of physical and psychological qualities for the vocational training of the National Guard of Ukraine personnel is higher than average, as on a 5-point scale it is estimated to be 4 points and above (Table 2). The highest rating points were given to such manifestations of agility as coordination of movements, a sense of rhythm, ability to differentiate efforts and movements in space, as well as ability to keep static and dynamic balance. Among psychological performance, respondents consider logical thinking, concentration and stability of attention, long-term memory, concentration and attention span to be professionally important.

Table 2 Importance of physical and psychological qualities in vocational training of National Guard of Ukraine personnel (points, on a 5-points scale) (made by authors)

Physical qualities (abilities)	Indicators	Importance, points (as per a 5-points scale)
Agility	Movements' coordination	4.35±0.73
	Sense of rhythm	4.26±0.81
	Ability to differentiate movements in space	4.23±0.78

	Ability to keep dynamic balance	4.23±0.84
	Ability to keep static balance	4.18±0.86
	Ability to differentiate efforts	4.14±0.78
	Ability to differentiate time periods	4.09±0.82
Strength	Speed force	4.29±0.77
	Maximum strength	4.21±0.73
Stamina	Strength endurance	4.27±0.77
	Aerobic endurance	3.93±0.84
Speed	Speed	4.27±0.82
	The time of a simple reaction to a visual stimulus	4.21±0.89
	Speed of a single movement	4.19±0.82
	Movements' frequency	4.17±0.80
	Time of a simple reaction to an acoustic stimulus	4.14±0.93
	Time for choice reaction	4.14±0.88
	Complex reaction time	4.03±0.91
Flexibility	Flexibility	3.92±1.04
Psychological performance	Logical thinking	4.39±0.85
	Attention stability	4.37±0.82
	Concentration	4.37±0.83
	Long-term memory	4.34±0.82
	Attention span	4.29±0.81
	Attention distribution	4.15±0.88
	Attention switch	4.11±0.93
	Imagination	4.10±0.97
	Short-term memory	3.73±1.23

The results of the research (Fig. 1) showed that there are significant differences between indicators of senior and junior officers. Thus, representatives of the senior officers attached a significantly greater ($p < 0.05-0.01$) value to such physical qualities as: speed of simple reaction to a visual stimulus, speed of complex reaction, speed of reaction with a choice, frequency of movements, ability to keep a static and as well as dynamic balance (according to which the reliability of the differences of the indicators approached the reliable level, - $p = 0.059$).

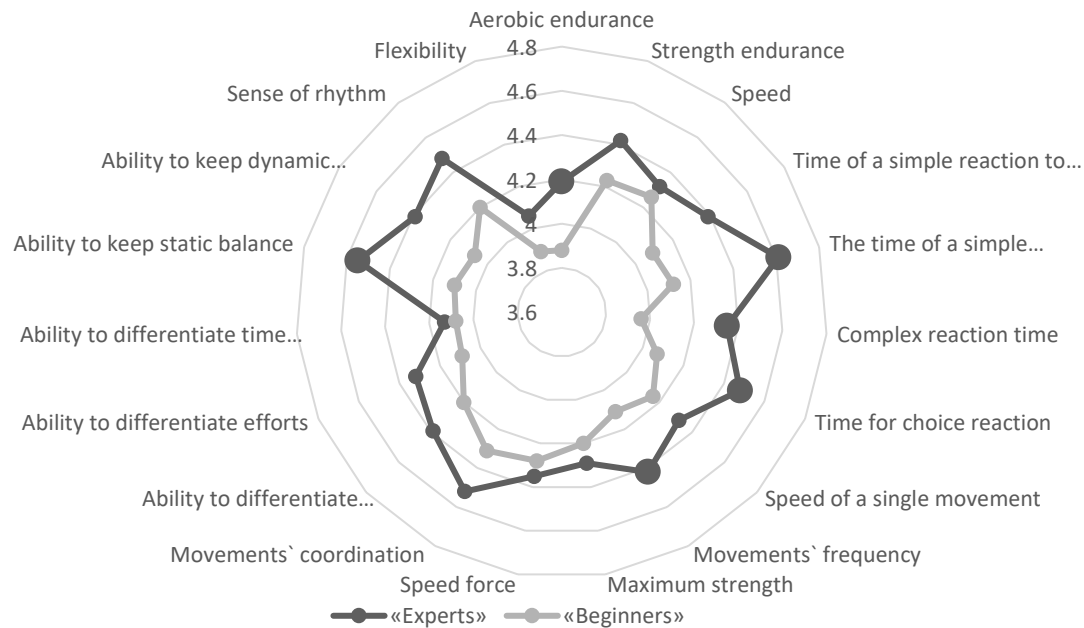


Figure 1 The importance of physical qualities for vocational performance of the National Guard of Ukraine officers from the point of view of "experts" and "beginners" (made by authors)

Indicators with statistically significant differences are marked as large: aerobic endurance - $p=0.0580$, simple reaction time to a visual stimulus - $p=0.008$, complex reaction time - $p=0.026$, choice reaction time - $p=0.017$, movement frequency - $p=0.052$, ability to keep static balance - $p=0.009$, ability to keep dynamic balance - $p=0.059$

Also, answers of junior officers differed in number of psychological performance indicators: short-term memory, long-term memory, concentration, switching of attention and logical thinking for the successful performance of their official duties as assigned (Fig. 2).

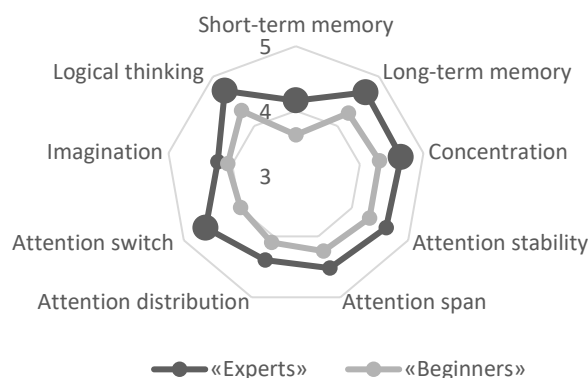


Figure 2 The importance of psychological performance for the successful work of the National Guard of Ukraine officers from the point of view of "experts" and "beginners" (made by authors)

Indicators with statistically significant differences are marked as large: short-term memory - $p=0.029$, long-term memory - $p=0.010$, concentration of attention - $p=0.040$, logical thinking - $p=0.019$, attention switching - $p=0.001$

It should be noted that all indicators of agility showed reliable correlation coefficients of noticeable density with other manifestations (Table 3).

Table 3 Correlation of agility indicators in servicemen (made by authors)

Physical qualities		1	2	3	4	5	6	7
1	Coordination	1.00	<i>712</i>	645	673	<i>707</i>	663	587
2	Differentiation of movements in space	<i>712</i>	1,00	<i>715</i>	697	691	697	624
3	Differentiation of efforts	645	<i>715</i>	1,00	696	<i>712</i>	<i>704</i>	641
4	Differentiation of time periods	673	697	696	1,00	667	661	665
5	Static balance	<i>707</i>	691	<i>712</i>	667	1,00	<i>744</i>	<i>778</i>
6	Dynamic balance	663	697	<i>704</i>	661	<i>744</i>	1,00	623
7	Sense of rhythm	587	624	641	665	<i>778</i>	623	1.00

Notes:

1. prominent correlation coefficients are marked in bold; in italics - close correlation coefficients;
2. zero and point are omitted

The agility indicators were not so often correlated with other physical qualities (Table 4). Most often (5 times) such a manifestation as coordination of movements was noticeably and tightly correlated.

Table 4 Correlation between agility indicators and physical preparedness indicators in servicemen (made by authors)

Physical qualities/agility types	1*	2	3	4	5	6	7
Aerobic endurance	563	512	572	450	547	551	427
Strength endurance	451	472	389	387	523	472	426
Speed	586	439	499	428	566	500	485
SRT to acoustic stimulus	509	447	396	473	399	442	327
SRT to visual stimulus	558	587	517	567	546	582	499
Time for complex reaction	623	613	597	564	595	619	524
Time for choice reaction	695	561	510	527	592	590	537
Speed of single move	573	654	563	576	568	610	551
Frequency of moves	662	647	574	522	661	<i>704</i>	545
Maximum strength	635	503	522	535	644	537	516
Speed force	607	685	578	442	437	514	420
Flexibility	457	500	571	495	541	577	503

Notes:

1. prominent correlation coefficients are marked in bold; in italics - close correlation coefficients;
2. zero and point are omitted;
3. * - the numbering of the agility types is the same as in table 3

Significant correlation coefficients of physical fitness indicators among themselves were even rarer (Table 5). Only speed indicators: time of a simple reaction to an auditory and visual stimulus, time for complex reaction and choice reaction, speed of a single movement and frequency of movements were significantly correlated with other (except flexibility) physical qualities, were often close to agility.

Table 5 Correlation between physical preparedness indicators in servicemen (made by authors)

Physical qualities	Aerobic endurance	Strength endurance	Speed	SRT to acoustic stimulus	SRT to visual stimulus	Complex reaction time	Choice reaction time	Speed of single movement	Movement frequency	Maximum strength	Sped force
Aerobic endurance	1.00	569	492	383	535	556	530	464	520	429	078
Strength endurance	569	1.00	568	256	445	481	455	495	516	469	008
Speed	492	568	1.00	410	448	396	501	373	449	551	405
SRT to acoustic stimulus	383	256	410	1.00	629	531	439	496	474	300	347
SRT to visual stimulus	535	445	448	629	1.00	677	611	621	633	280	592
Complex reaction time	556	481	396	531	677	1.00	639	598	627	422	106
Choice reaction time	530	455	501	439	611	639	1.00	570	632	401	522
Speed of single movement	464	495	373	496	621	598	570	1.00	665	469	678
Moves frequency	520	516	449	474	633	627	632	665	1.00	437	437
Maximum strength	429	469	551	300	280	422	401	469	437	1.00	584
Speed force	078	008	405	347	592	106	522	678	437	584	1.00
Coordination	560	451	586	509	558	623	695	573	662	635	607
Differentiation of movements in space	512	472	439	447	587	613	561	654	647	503	685
Differentiation of efforts	572	389	499	396	517	597	510	563	574	522	578
Differentiation of time periods	450	387	428	473	567	564	527	576	522	535	442
Static balance	547	523	566	399	546	595	592	568	661	644	437
Dynamic balance	551	472	500	442	582	619	590	610	704	537	514
sense of rhythm	427	426	485	327	499	524	537	551	545	516	420
Flexibility	545	433	488	388	500	513	506	437	508	470	493

Notes:

1. prominent correlation coefficients are marked in bold; in italics - close correlation coefficients;
2. zero and point are omitted

Physical qualities were noticeably correlated with indicators of mental training not as often as with indicators of physical readiness (Table 6). However, agility indicators showed tangible relations much more often than other physical qualities. To be noted that, as previously, such a type of agility as coordination (5 out of 9 in psychological performance) showed the largest number of noticeable relations with mental indicators.

Table 6 Correlation of physical indicators and psychological performance in servicemen
(made by authors)

Indicators	Short-term memory	Long-term memory	Concentration	Attention stability	Attention span	Imagination	Attention distribution	Switching attention	Logical thinking
Aerobic endurance	325	482	477	442	517	417	506	488	414
Strength endurance	199	454	440	478	410	329	392	299	375
Flexibility	353	509	493	484	526	571	521	480	460
Maximum strength	194	324	485	549	477	439	458	422	447
Speed force	205	605	592	522	598	272	451	340	349
Speed	217	440	459	527	448	493	452	387	523
SRT to acoustic stimulus	202	407	445	469	452	384	431	351	382
SRT to visual stimulus	351	560	572	444	573	511	587	577	416
Complex reaction time	430	459	527	461	495	350	508	579	437
Choice reaction time	415	549	566	616	535	472	646	591	625
Speed of single movement	374	570	608	535	544	379	493	352	504
Moves frequency	329	538	632	528	549	460	571	462	523
Coordination	393	549	691	640	610	475	580	612	650
Differentiation of movements in space	416	520	635	528	489	455	520	481	488
Differentiation of efforts	445	539	624	547	604	506	515	542	574
Differentiation of time periods	44	438	570	538	580	491	532	543	544
Static balance	377	506	653	549	536	518	563	532	615
Dynamic balance	501	531	645	597	530	525	552	631	520
Sense of rhythm	344	475	590	513	546	523	477	438	569

Notes:

1. prominent correlation coefficients are marked in bold;

2. zero and point are omitted

Discussion

According to our data, manifestations of agility: coordination, ability to differentiate efforts and movements in space, ability to keep static and dynamic balance were rated the highest by respondents. This confirms the opinion of

(Kozina et al., 2014; Lisowski & Mihuta, 2013; Ostapenko, 2014; Pichurin, 2015; Rolyuk, 2016; Shalupin et al., 2022) that agility indicators have relatively the greatest importance in professional training of military personnel (Pichurin, 2015; Rolyuk, 2016; Shalupin et al., 2022), and proves expediency of including means of improving the coordination of movements in training programs: programs with a priority application of sports games contribute to the development of cognitive indicators in railway students (Pichurin, 2015), special sports training exercises – in students of higher education institutions of civil aviation (Shalupin et al., 2022), military pentathlon exercises – in intelligence officers (Rolyuk, 2016). Agility itself is important for representatives of a number of professions in cases that are dangerous to life and health, as it contributes to increasing the amount of attention and reducing the time required for cognitive processing of information (Emami et al., 2019).

Agility is also important for health, as the amount of motor activity of an adult depends on the number of movements learned in childhood; and the amount of motor activity corresponding to hygienic requirements ensures health. Coordination training contributes to the creation of a cell reserve that affects an ability to learn throughout our life (Kopp, 2012).

The significant differences in assessment of qualities importance for the professional success in "beginners" and "experts", we found out in our research, indicate that junior officers underestimate the importance of developing their agility (sense of rhythm, keeping dynamic balance) and speed (time of simple reaction to a visual stimulus). It has been established that psychological performance such as logical thinking, concentration and attention stability and long-term memory have relatively the greatest importance in preparation for the performance of official duties in officers of the National Guard of Ukraine. According to our data the views of "experts" and "beginners" reliably differed on a number of indicators, so it is obvious that cadets and junior officers underestimate the importance of a number of psychological performance indicators: long-term memory, concentration of attention and logical thinking for successful performance of their official duties. Therefore, in order to increase the level of professional competence in cadets of the National Guard of Ukraine, it is important to provide them with information on importance of relevant psychophysical performance for their further successful work.

In order to objectify the data, we received during the survey, it was decided to find out the relation between agility and other indicators of professional-applied psychophysical preparedness. The results of correlation analysis confirmed the importance of a high level of agility development for successful performance as intended. It was established that most often some indicators of agility were significantly connected with other manifestations, which is explained by the positive "transfer" of some types of agility to others. Commonly, such a manifestation of agility as coordination was significantly correlated (except sense

of rhythm). This indicator was significantly correlated with 5 other indicators of physical fitness: complex reaction time ($r=0.653$), choice reaction time ($r=0.695$), movement frequency ($r=0.662$), speed ($r=0.607$) and maximum strength ($r=0.635$). It showed the largest number of noticeable correlations with mental indicators (5 out of 9 mental qualities) (Fig. 3). Therefore, coordination is the most important professionally important physical quality, the improvement of which will contribute to the formation of a whole range of competencies in defenders of country's interests.

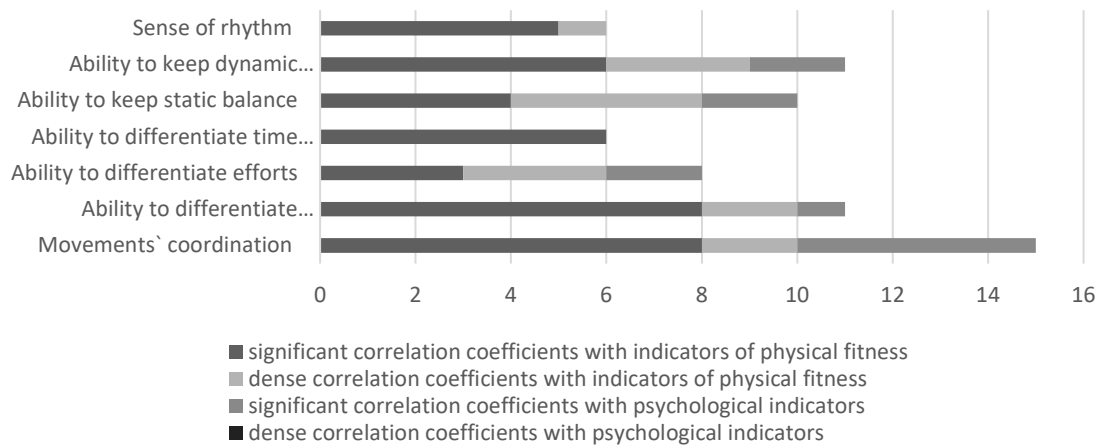


Figure 3 *The number of noticeable and dense correlation coefficients of agility with indicators of physical fitness and psychological performance (made by authors)*

The beneficial effect of physical activity on the brain has been well proven. It was established that not only regular training, but also short-term physical exertion can increase cognitive functions. The relationship between motor activity (in form of short-term running for 10 minutes) and visual attention was revealed (Niedermeier et al., 2020). A single ten-minute jogging intervention can help restore focus after long periods of sedentary study. It is more effective compared to the usual sedentary behavior during breaks between classes. Experts have found that more frequent and more intense motor activity is associated with better indicators of cognitive and mental health (Nakagawa et al., 2020; Voinea et al., 2019). At the same time, only 1-2 sessions per week of at least 10 minutes of moderate-to-vigorous-intensity physical activity (MVPA) were associated with more positive emotions and more mature coping strategies (Nakagawa et al., 2020).

The peculiarities of the impact of individual means of physical education on formation of psychophysical characteristics in students have been established (Pichurin, 2015). Athletics classes contribute to the formation of students' emotional stability, conscious observance of norms and rules of behavior, perseverance in achieving the goal, accuracy, responsibility, business orientation, development of imagination and creative potential of individual. Weightlifting classes contribute to the formation of self-confidence, independence in judgment

and behavior, openness, sociability, attentiveness, and activity in conflict resolution. Sports games contribute to the development of attention indicators in students (Pichurin, 2015). Playing volleyball has a positive effect on indicators of thinking processes, in particular on working memory, speed of mental processes and mental productivity (Salatenko & Dubynskaya, 2015). Bodyflex and Pilates classes contribute to increasing the levels of psychophysiological capabilities, mobility and strength of mental processes (Kozina et al., 2014).

It was determined that concentration, stability, span and switching attention are related to agility (see Table 6). Our results coincide with our previous data on positive influence of agility development tools towards attention indicators in students of the Institute of Information Technologies (Andres, 2019, 2021). Our data confirm the data of specialists (Pichurin, 2015), who proved the fact of improvement in selectivity, concentration and stability of attention with increasing of general level of physical fitness of students and, especially, coordination abilities. A statistically significant correlation of such indicators as agility (ability to estimate space-temporal parameters of movement) and selective attention ($r=-0.433$, $p<0.05$) was revealed (Pichurin, 2015), as well as between general level of physical fitness and selective attention ($r =0.538$, $p<0.05$). Professional exercises selected by specialists (Ostapenko, 2014), (namely for the development of reaction speed, motility, accuracy and coordination of movements, development of various types of memory, relaxation gymnastics complexes that included breathing exercises, static tension and muscle relaxation, i.e. aimed at the development of agility) had a positive effect on of such cognitive indicators of students as a) latent time of choice reaction and simple visual-motor reaction, complex sensorimotor reaction; b) level, speed and strength of excitation of the main nervous processes; c) concentration and attention stability; d) endurance and speed of finger moves.

Similar results were demonstrated in studies (Alesi et al., 2019; Budde et al., 2008; Pichurin, 2015; Salatenko & Dubynskaya, 2015; Wołoszyn et al., 2020) in individuals of a different age. For example, in kindergarten children, scientists have noticed a positive effect of agility training of various intensities on the reduction of reaction time and higher response accuracy (Yu-Kai et al., 2013), cognitive abilities (Planinsec, 2002), improvement of working memory and attention (Alesi et al., 2019). They found out that even short-term coordination exercises improve academic achievements in adolescents (Donnelly & Lambourne, 2011), their ability to understand the text they read (Uhrich & Swalm, 2007), indicators of visual-spatial perception, attention and working memory (Latino et al., 2021; Budde et al., 2008), cognitive functioning (Wołoszyn et al., 2020), and also contribute to the development of selectivity, concentration and stability of attention of young people (Pichurin, 2015).

Conclusions

Agility indicators are quite important during professional training of cadets of higher education institutions of the National Guard of Ukraine. Cadets and junior officers underestimate the importance of such manifestations of agility as a sense of rhythm, keeping of dynamic balance and such a type of speed as time of a simple reaction to a visual stimulus for the successful performance of their official duties. Also, they do not pay enough attention to such psychological performance as long-term memory, concentration of attention and logical thinking.

Coordination is an important type of agility, the improvement of which will contribute to improving the speed and strength of the officers of the National Guard of Ukraine, as well as attention and logical thinking.

The data received testify to importance of including a wide range of means for purposeful development of agility, especially the coordination of movements, in professional training programs for personnel of the National Guard of Ukraine, as well as to high informative significance of the results of agility tests in a set for determining professionally important qualities.

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THE CORPORA-ORIENTED PROJECTS AND COURSES – INNOVATION OF THE UNIVERSITY LIFE

Darejan Tvaltvadze

Ivane Javakhishvili Tbilisi State University, Georgia

Irina Gvelesiani

Ivane Javakhishvili Tbilisi State University, Georgia

Abstract. *The advancement of computer technologies opened up a bunch of opportunities in different spheres of life. Computer science has revolutionized the modes of studying and researching. The educators and policy makers started modernization of educational programs in accordance to the latest achievements in the field. The present paper deals with the presentation of the progressive university courses as well as the projects (winter schools, Akaki Shanidze's Digital Library and Text Corpus, etc.) facilitating the integration of corpora in teaching and researching. The major accept is put on the successful modes of the enhancement of the learners' digital skills (operation, application, problem solving, critical thinking, etc.), corpus-building abilities (annotation, orientation towards the scientific metalanguage, enrichment of metadata, etc.), corpora-based analysis (proper coinage, finding equivalency, plying with concepts and terms, etc.) as well as the corpus-oriented research. Determination of the major challenges and outcomes of the projects and courses, discussion of some gaps, introduction of the convenient opportunities of their "filling" – these are the major issues of the paper. The methodology of research includes observation, analysis and evaluation of the ongoing processes.*

Keywords: *corpora-based analysis, digital library, educational program, language corpus, project.*

Introduction

The way we live and exist greatly depends on today's world, its challenges, tendencies and perspectives. Nowadays, we may definitely say that COVID-19 drastically changed our lives by shifting the world population from socialization to desocialization and from a face-to-face interaction to an online communication. As a result, we became dependent on computer technologies, electronic data, digital factories, etc.

However, a new "electronic" stage of life started before COVID-19, namely, in the beginning of the 21st century. It involved the digitalization of every field of science, even the humanities. Nowadays, scientists speak a lot about digital humanities, which interprets the cultural and social impact of information

technologies and creates or/and applies these technologies to interrogate cultural, social, historical and philological questions (Mozhaeva & Mozhaeva Renha, 2016). Moreover, it is usually treated as “a firstborn of the science of the 21st century, whose origin was determined by the ongoing evolution of human consciousness and being, and became the logical and inevitable result of the digital era” (Tandashvili & Kamarauli, 2021).

Although Schreibman et al. (2004) suggest that we consider digital humanities as a discipline in its own right, its purpose and status have continued to be a subject of numerous debates and its very nature is still being negotiated (Luhmann & Burghardt, 2021). We can only admit that digital humanities should be treated as a transdisciplinary scientific field. This fact is definitely evidenced by numerous innovative, application-oriented resources, which were created as a result of a close cooperation of scholars representing different fields of science. These resources are language corpora, digital dictionaries, computer and mobile applications, digital libraries, digital archives, etc. (Tandashvili & Kamarauli, 2021).

A special attention should be paid to a language corpus (pl. corpora), which has become “all the vogue” and “a profound sensation” during the last decades. Scholars believe that a corpus is “a large collection of naturally occurring examples of a language stored electronically” (Bennet, 2010). Its usage during classroom activities has changed a teaching landscape. Moreover, the corpus-based pedagogy has become extremely popular and useful.

The present paper deals with the presentation of the progressive university courses and projects facilitating the integration of corpora in teaching and researching. The major accept is put on the successful modes of enhancement of learners’ digital skills, corpus-building abilities, corpora-based analysis, etc. The methodology of research includes observation, analysis and evaluation of the projects and their already-achieved/future outcomes.

Development of Corpora and Corpora-Oriented Projects

It is generally assumed that corpus linguistics and corpora are the “products” of the previous century. However, some scholars believe that they existed much earlier. According to Kennedy, “there was a tradition of linguistic analysis based on corpora prior to the nineteenth century, long before the arrival of computers, in the context of biblical and literary studies, in lexicography and dialectology, in language education studies and in grammar studies (Assunção & Araújo, 2019). Svartvik and Stubbs present the list of a few examples of ‘language corpora BC (before computers)’. The most notable one is the corpus of 5 million citation slips compiled by the volunteers in the second half of the 19th century (Biel, 2009). However, the first computer-based corpus, *Brown Corpus*, was

created in 1961 (Bennet, 2010) and at the end of the 20th century corpus linguistics started flourishing.

It is noteworthy that the development of corpus linguistics and corpora-based researches in Georgia is associated with the name of German linguist and Caucasiologist Jost Gippert from Goethe University. He created the first electronic resource for the Georgian language within the framework of TITUS (*Thesaurus Indogermanischer Text- und Sprachmaterialien*), which was a large-scale electronic platform/thesaurus of the Indo-European languages. Jost Gippert has actively collaborated with the Georgian scholars, who have worked at different higher educational institutions of Georgia (Khalvashi, 2018). The history reveals the products of the cooperation – different bilateral projects oriented towards the creation of corpora. The most prominent product – *The Georgian National Corpus (GNC)* – which covers the complete time range from the earliest attestations of written Georgian in the 5th century up to the present day evolved from several corpus building initiatives that have been realized since the late 1980s, mostly in joint endeavors of the German and Georgian partners (Gippert & Tandashvili, 2015). The major importance of *The Georgian National Corpus* lies in the fact that it unites the work of the scholars and students. Among them are the representatives of Ivane Javakhishvili Tbilisi State University (TSU). They work in two directions – *digitalization of Georgian literary monuments* and *annotation of already-existed texts*. The latter is a form of the enrichment of electronic data with a linguistic meta-information presented on different independent levels. The most complete form, the multi-level annotation, characterizes a lexical unit from a lingual point of view and presents the data of alliteration as well as equivalency (namely, the English counterparts).

In addition to GNC, Georgia's digital reality encompassed different projects oriented towards the development of students' digital skills. They were authorized by different universities, for instance:

- The seasonal schools initiated by Batumi State University – *Digital Humanities and Kartvelology; Digital Humanities and Language Documentation*, etc.
- The projects initiated by Ilia University – *The Epigraphic Corpus of Georgian; Georgian Language Corpus; Prosopography of Georgia*, etc.
- The projects initiated by TSU – *Digital Humanities – Kartvelology and the Challenges of the 21st century; Development and Introduction of Multilingual Education Programs at Universities of Georgia and Ukraine; Akaki Shanidze's Digital Library and Text-Corpus*, etc.

Let us discuss two winter schools – “*Digital Humanities – Kartvelology and Challenges of the 21st Century*” and “*Digital Kartvelology – Thematic Corpus and Annotation Issues in the Kartvelian Languages*” – organized by Tbilisi State University and Goethe University. Both winter schools gathered the students of different universities of Georgia.

“*Digital Humanities – Kartvelology and Challenges of the 21st Century*” was held in Bakuriani. Within the framework of this project the Georgian and foreign prominent scholars delivered the lectures on the following topics: *Methods of corpus linguistics; Practical effects of corpus-oriented research; Information structuring issues in Georgian; Problems of an interlinear annotation; Corpus research perspectives – modality, e-learning platforms; Georgian Dialect Corpus – interdisciplinary research resource, National Corpus of the Georgian Language – importance and prospects*, etc. Moreover, the accent was put on the importance of the utilization of *OLAT (Online Learning and Training)* – one of the most developed e-learning programs, which is oriented on self-control, self-education and self-development. The emphasis was also put on the introduction of *eLecture* – a new format of teaching, which is based on the electronic visualization of the taught material.

The winter school “*Digital Kartvelology – Thematic Corpus and Annotation Issues in the Kartvelian Languages*” was held in Tbilisi. Within the framework of this project the Georgian and foreign scholars delivered the lectures on the following topics: *Basic principles of creating a corpus; Linguistic portrait of Georgia – Georgian thematic corpus; Management of a thematic corpus; Basic annotation schemes and models in corpus linguistics; Basic principles of linguistic annotation; Interline annotation and basic principles of glossing*, etc. Moreover, the principles of utilization of *OLAT* and *eLecture* were discussed.

At the end of both winter schools, almost all students made very interesting presentations created on the basis of the studied topics. They illustrated the acquired knowledge in the field of corpus linguistics, for instance, creation and management of a corpus, principles of information structuring, interlinear annotation and glossing, modality, e-learning platforms, etc. As a result, they demonstrated the practical skills of digital research and structuring a thematic corpus.

After the completion of the winter schools, the best students were involved in the new project “*Akaki Shanidze’s Digital Library and Text Corpus*”, which started in 2017. The project aimed at the digitalization of the scientific heritage of famous Georgian scholar Akaki Shanidze, whose scientific works cover different directions: old and new Georgian, dialectology, the history of the Georgian language, the unwritten Kartvelian languages, epigraphic works, lexicology, Rustvelology, etc.

While working on the project, the students performed the following tasks:

- Creation of the electronic versions of the texts in accordance with the international coding standard (UNICODE) (conversion of a text into a digital format);
- Intrastructural processing of the text from the point of view of reference (an electronic version must accurately reflect a structure of a document);

- Processing of the text from the point of view of metadata (entering a text into a special database to make easier for a user to find corpus materials according to relevant signs).

The final products of the project are Akaki Shanidze's text corpus and digital library containing several volumes of his scientific works as well as "Khanmeti Lectionary", "Khanmeti Multichapter", "The Typicon of Petritsoni Monastery" and the prefaces written for the books published under his editorship. In addition, the digital library presents Akaki Shanidze's biography, bibliography, annotated photo archive as well as the books and articles about him.

Akaki Shanidze's text corpus meets the following criteria:

- It is digitized i.e. transferred to the electronic media in order to exist in an electronically processable form (i.e. texts structured with special marks);
- In addition to the primary i.e. linguistic data, it contains secondary information – metadata and linguistic annotation;
- It is equipped with the special corpus management system – the corpus manager (Tvaltvadze, 2019-2020, p. 76).

Akaki Shanidze's text corpus has the multifaceted search program, which facilitates the creation of corpus-based as well as corpus-oriented publications. Moreover, it may be treated as a sub-corpus of the Georgian scientific metalanguage corpus, which enriches the existing database with the new resources.

Corpus-Oriented Courses

Corpus linguistics is one of the technology-based tools that could be very useful in teaching, but still has not been widely used or tested at the higher educational institutions (Dazdarevic, Zoranic, & Fijuljanin, 2015). Nevertheless, Tbilisi State University, as a driving force of the Georgian educational space, has already implemented several corpus-oriented courses, because a direct application of corpora and corpus tools in a classroom support language teaching theories and concepts related to a learner autonomy, use of *realia* and authentic texts, learner-computer interactions and explicit teaching of language features or patterns (Friginal, Dye & Nolen, 2020). Moreover, corpus-based lessons with an appropriate amount of students' interactions and language use opportunities can stimulate learners' interest and improve a learner autonomy (Ma & Mei, 2021).

Let us discuss the BA courses delivered at two directions of the Faculty of Humanities: English Philology and Georgian Philology. The students of English Philology get acquainted with corpus linguistics and corpora while attending two elective courses: “*Foundations of the Lexicography of the English Language*” and “*Abstracting and Reviewing of the English Text*” (ARET). The former is oriented towards teaching the theoretical issues, namely, corpus linguistics, different types

of corpora, development of corpus linguistics in Georgia, peculiarities of Georgian National Corpus, GEKKO pillar, etc.

“*Abstracting and Reviewing of the English Text*” is oriented to multiethnic groups of students and considers the modern approaches to teaching the vocabulary, grammar and translation. The accent is put on the acquisition of the specialized lexical units via labelling/coinage, plying between terminological units as well as corpus-based analysis. Moreover, ARET deals with the practical aspects, namely, the translation of publications from Georgian into English and vice versa. During translation, the learners are allowed to use different bilingual or multilingual dictionaries as well as online corpora. Specific words are defined by means of a corpus-based analysis i.e. searching for the meaning via determining a proper context and a sentential environment. If the equivalency is not determined, new terms are coined. Accordingly, ARET enables the students to make a practical realization of the knowledge acquired during “*Foundations of the Lexicography of the English Language*”.

Within the course “*Abstracting and Reviewing of the English Text*”, students are required to prepare a presentation. One of the necessary conditions is searching for an appropriate empirical material through different types of corpora.

The students’ knowledge gained during attending ARET is measured by the midterm and final tests. They are oriented towards checking the theoretical knowledge (topic/topics – score 10/20) and practical skills (multiple choice – score 10; translation – score 10). The following table presents the achievements of three groups of students (total number – 61) attending ARET during fall semester.

Table 1 The results of the midterm and final tests – fall semester, 2022 (made by authors)

Percentage	The number of students, who wrote the midterm test (the highest score – 30)	The number of students, who wrote the final test (the highest score – 40)
91%-100% of the highest score (HS)	20	22
81%-90% of HS	18	21
71%-80% of HS	11	11
61%-70% of HS	7	4
51%-60% of HS	5	3

The above table reveals the students’ success throughout the semester that definitely indicates to the usefulness of ARET.

The third BA course oriented towards the usage of corpora is “*The History of the Georgian Literary Language*”. It is delivered to the fourth-year students of the direction of Georgian Philology. “*The History of the Georgian Literary Language*” summarizes the knowledge acquired during four years and analyzes

the issues from the synchronic and diachronic viewpoints. It belongs to the group of compulsory courses, whose e-system presents the syllabus, presentations of lectures, teaching materials, tasks and news forum.

Within the course "*The History of the Georgian Literary Language*", students are required to prepare an essay and a presentation. A necessary condition for the preparation is searching for an appropriate empirical material through the electronic databases and corpora presented in the e-system of the course: The Georgian National Corpus and its constituents (*TITUS electronic text base* (University of Frankfurt); *ARMAZI electronic text base* (University of Frankfurt); *GEKKO - Georgian electronic corpus analyzer* (Norway); *Georgian Dialect Corpus* (Georgia), etc.), the corpora created by Ilia University, etc.

During the lectures and seminars, students study how to deal with the mentioned sources. They are instructed by the lecturers, who participated in the seasonal schools and attended the appropriate training courses as well as workshops. Moreover, the flexible search system simplifies research, facilitates the analysis of word forms, makes statistics and draws reliable conclusions. Consequently, a working process becomes easier and more enjoyable. Students learn about modern methods and technologies and use them to conduct their scientific research. The following table presents the achievements of 87 students, who wrote essays while attending "*The History of the Georgian Literary Language*".

*Table 2 The results of the assessment of the essays – spring semester, 2022
(made by authors)*

Percentage	The number of students, who wrote an essay (the highest score – 7)
91%-100% of the highest score	45
81%-90% of the highest score	27
71%-80% of the highest score	6
51%-70% of the highest score	7
The rest	2

Discussion

The 21st century – the century of technological advancements – gradually shifts the society to the stage of the electronic evolution. All fields of science are revolutionized. The overwhelming technological progress sets new goals before educators and policy makers. Tbilisi State University, a leading educational body of the Caucasus region, strives to implement innovative strategies via the cooperation with the prominent western educational institutions. This collaboration is reflected in the bilateral projects oriented towards the creation of different types of corpora and seasonal schools. The latter aim at the development

of students' global skills by introducing the theoretical foundations of corpus-oriented research, basic principles of structuring thematic corpora, glossing, annotation, etc.

The skills acquired during seasonal schools are developed while carrying out the local projects. One of them is "*Akaki Shanidze's Digital Library and Text Corpus*". It facilitates the presentation of the eminent scholar's name and heritage on Georgia's "digital map". This project has an outstanding importance. On the one hand, scholars and students specialized in the Georgian philology, Kartvelology and related branches may use digitally-presented materials on every stage of studying and researching. On the other hand, student-participants' digital skills (operation, application, etc.) and corpus-building abilities (annotation, orientation towards the scientific metalanguage, enrichment of metadata, etc.) are enhanced.

The raise of digitally-skilled generation is facilitated by delivering corpora-oriented courses at the Faculty of Humanities of TSU. The paper discusses "*Foundations of the Lexicography of the English Language*", "*Abstracting and Reviewing of the English Text*" and "*The History of the Georgian Literary Language*". The former is oriented towards teaching the theoretical issues, while others deal with the enhancement of learners' digital skills (problem solving, critical thinking, etc.), corpora-based analysis (finding equivalency, plying with concepts and terms, etc.) as well as the corpus-oriented research. As a result, the process of learning becomes active and student-centered. The concepts of "traditional teacher-dominated classroom" and marginalized students disappear.

Moreover, Tbilisi State University seems to be the only Georgian university, which offers students two corpora-oriented courses "*Foundations of the Lexicography of the English Language*" and "*Abstracting and Reviewing of the English Text*". The majority of BA programs in English Philology of Georgia's higher educational institutions incorporate "*Foundations of the Lexicography of the English Language*" or "*Foundations of the Lexicography*". ARET is offered only by Samtskhe-Javakheti State University. However, its BA program in English Philology does not incorporate "*Foundations of the Lexicography of the English Language*" or "*Foundations of the Lexicography*". Some non-corpora oriented issues related to the lexicography are presented in the course "*Lexicology of the English Language*", which will be renamed into "*Lexicology-Lxicography of the English Language*" (National Centre for Educational Quality Enhancement at the Ministry of Education and Science of Georgia, 2023). Accordingly, the above-mentioned shows the priority of TSU during dissemination of corpora-related knowledge.

However, taking a closer look at the above-mentioned projects and courses reveals certain gaps, for instance, the courses "*Foundations of the Lexicography of the English Language*" and "*Abstracting and Reviewing of the English Text*" are elective. Accordingly, those BA students of the direction of English philology,

who do not choose them, will not get an appropriate knowledge. It is recommended to make these courses compulsory.

Moreover, “*Abstracting and Reviewing of the English Text*” is a one-semester course. It is recommended to deliver ARET during two or three semesters, because this is the only BA course of the direction of English philology, which focuses simultaneously on translation and intensive corpora-based analysis, coinage of new terms and corpora-oriented research. Moreover, it develops the transferable skills that form a solid foundation for being used at the next level of education or during practical activities.

Finally, it is noteworthy that the seasonal schools are periodically organized by different universities of Georgia, especially, by Tbilisi State University and Batumi State University. It is preferable to organize these schools systematically in order to deepen more students’ corpora-oriented skills and make them competitive in the global arena.

Conclusions

In the 21st century, the world population passes through a new “electronic” stage of life. The advancement of computer technologies makes impact on every branch of science. The advent of corpus linguistics revolutionizes a linguistic research as well as methods of teaching and learning. The challenges of the new era stipulate the creation of projects and courses facilitating the development of learners’ digital skills. TSU is one of the leading educational institutions in this respect. The paper presents the projects and courses, which enhance the learners’ digital skills, corpus-building abilities, corpora-based analysis, corpus-oriented research, etc. Participation in the projects and attendance of the mentioned courses raise digitally-oriented generation, which becomes competitive throughout the world. Filling the existing gaps will make the courses and projects more progressive. This will be beneficial to the learners, university and country.

Moreover, the highlighted projects or courses may serve as exemplary models for those educational institutions of the developing countries, which strive to implement innovative student-oriented and digitally-enriched strategies of teaching and researching.

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ANTHROPOLOGICAL IDEAS OF MYKOLA SHLEMKEVICH AS THE FUNDAMENTAL SUBSTITUTE FOR THE FORMATION OF THE NATIONAL CONSCIOUSNESS OF UKRAINIANS

Nadiya Skotna

Drohobych Ivan Franko State Pedagogical University, Ukraine

Nadiya Ashytok

Drohobych Ivan Franko State Pedagogical University, Ukraine

Svitlana Hirniak

Drohobych Ivan Franko State Pedagogical University, Ukraine

Ivan Kutnyak

Drohobych Ivan Franko State Pedagogical University, Ukraine

Oksana Yatsiv

Drohobych Ivan Franko State Pedagogical University, Ukraine

Maryana Klym

Drohobych Ivan Franko State Pedagogical University, Ukraine

Abstract. *The events of the last decade (the Orange Revolution, the Revolution of Dignity, the Russian-Ukrainian war) actualized the problem of the formation of the national self-awareness of Ukrainians. This process has accelerated significantly and acquired more expressive outlines. Therefore, in response to modern challenges, pedagogues intensified the research of the specified problem, based not only on the latest achievements of the human sciences, but also referring to historical experience. Based on the analysis of the Mykola Shlemkevych' works (Shlemkevych, 1956; Shlemkevych, 1958; Shlemkevych, 1961; Shlemkevych, 1962; Shlemkevych, 1992a; Shlemkevych, 1992b), the article deals with his anthropological ideas, substantiates the fundamental basis of the formation of the national consciousness of Ukrainians, defines ideas related to the idea of a person as a bearer of good and evil. In the formation of national consciousness, anthropological ideas are taken into account, that form the basis of this formation. It is about the humanistic principles of the formation of the national consciousness of Ukrainians, which determine the reliance on spiritual and moral values. Mykola Shlemkevych paid great attention to anthropological ideas related to the national consciousness of Ukrainians. Emphasis on the ideals of good in the mind of a person does not mean the absence of evil intentions. However, he always insisted on the need to forgive people for their sins, which accompany the defense of their national interests and the protection of national rights. Today, it seems extremely important to read the*

anthropological views of the teacher from the standpoint of today, which has become the goal of scientific research. As a result of the conducted research, we have come to the conclusion about the need for methodological substantiation and rethinking of the anthropological ideas of scientists P. Yurkevych (1999), K. Ushynskiy (1954), O. Vyshnevskiy (1996), etc., the need to build an educational paradigm based on anthropocentrism, democracy, humanism, determinism, it is defined the fundamental foundation of Ukrainian pedagogy as the reliance on theoretical and applied concepts of world and Ukrainian pedagogical thought.

Keywords: *anthropocentrism; anthropological ideas; basic ideas; humanistic paradigm; Mykola Shlemkevych; national consciousness of Ukrainians.*

Introduction

In the conditions of a post-totalitarian society, military aggression by Russia, which seeks to enslave Ukraine and stop its democratic progress on the way to independence and European integration, the question has arisen before Ukrainian pedagogical science with new urgency: how and for what to educate a person, what significance the future will have for him/her, who a young person should become.

Awareness of responsibility for the future of Ukrainian society, the need to live in an open, rapidly changing and, to some extent, unpredictable world, transforms pedagogical relations, emphasizes the need to build them on the basis of humanity, humanism, personal responsibility in war conditions.

In a methodological sense, this allows the implementation of an anthropological approach, according to which all educational realities are viewed through the prism of a person, as a developing, self-affirming and self-realizing individual. The principles of pedagogical and anthropological research were determined by philosophical anthropology, presented in the concepts of I. Kant (2003), M. Scheler (1996), K. Jaspers (Yaspers, 1996) and others.

In the history of Ukrainian pedagogical anthropology, a prominent role belongs to K. Ushynskiy (1954), O. Vyshnevskiy (Vyshnevskiy, 2015) and others.

It was in the writings of these thinkers that the main question in the light of pedagogical anthropology was actualized – the question of the essence of man and the ways of personal formation.

Pedagogy should not focus on a complete picture of a person, as this limits its views on the future.

O. Vyshnevskiy noted in one of his latest works: “Today, our nation is on the path of learning freedom, and the fate of reforms and the fate of the democracy we strive for depends on this social elimination of illiteracy. And, in fact, here we discover for ourselves the historical mission of education and pedagogy, which is intended to educate a person, to educate in a completely different way than it was done until now, and thereby reduce our historical failures to a minimum” (Vyshnevskiy, 2015, 24). It is no coincidence that

K. Ushynskiy also emphasized that “any significant reform must be based on internal spiritual reform, on the forward movement that takes place in the very spirit of the people...” (Ushynskiy, 1954, 219).

Interesting and constructive in this sense are the anthropological ideas of M. Shlemkevych (Shlemkevych, 1956; Shlemkevych, 1958; Shlemkevych, 1961; Shlemkevych, 1962; Shlemkevych, 1992a; Shlemkevych, 1992b), a Ukrainian researcher and philosopher who, having passed a difficult life path, tirelessly reflected on the problems of the future of Ukrainian society and the Ukrainian person, being deeply convinced that under conditions of independence and freedom, his people are capable of being among civilized nations worthy of an optimistic future. M. Shlemkevych (Berko & Dzera, 2016), widely known in Ukrainian among emigrant, remains little known both to modern Ukrainian teachers and to the world pedagogical community.

Analyzing the scientific literature, we see the multifaceted historiography of the research of scholar’s creative works (Hrabovskiy, 1998; Onatskiy, 1992). Thus, the anthropological ideas of M. Shlemkevych regarding the identification of features of the Ukrainian mentality are investigated by S. Hrabovskiy (1998); S. Bilokin (1992) study the Ukrainian soul; fundamental views on Ukrainian emotionality are analyzed by O. Onatskiy (1992); B. Tsymbalistiy (1992) characterizes the organization of family life. P. Berko and M. Dzera (2016) present the worldview beliefs of Ukrainian researcher and philosopher through the prism of anthropology.

The purpose of the article is to analyze the anthropological views of M. Shlemkevych (Shlemkevych, 1956; Shlemkevych, 1958; Shlemkevych, 1961; Shlemkevych, 1962; Shlemkevych, 1992a; Shlemkevych, 1992b) on the formation of national self-awareness of Ukrainians in order to highlight productive ideas that can be implemented in the practice of modern Ukrainian education. Methodology as a set of approaches, concepts to the construction of educational phenomena and cognitive processes involves the use of the theory of scientific knowledge, worldview and general scientific concepts.

Methodology and methods of the research

The methodological basis of the article is the theory of scientific knowledge, worldview and general scientific positions based on the philosophy of education, upbringing and development, the course of historical events and processes. The important methodological basis is a systematic approach to the study of M. Shlemkevych’s anthropological ideas and the national consciousness of Ukrainians. The use of a systemic approach in writing the article requires compliance with the principle of integrity, according to which the creative heritage of M. Shlemkevych and scientists who study the formation of the national consciousness of Ukrainians at various levels of functioning is an

integral part of Ukrainian pedagogy and corresponds to humanistic, democratic ideas of its development.

The article uses the method of comparative-historical analysis, with the help of which the anthropological ideas of M. Shlemkevych are revealed in the context of the social and political life of pre-war Galicia and the Ukrainian diaspora. The biographical method is used to study the life and creative path of a scientist in contemporary society. As a result of using the hermeneutic method, the biography and anthropological ideas of M. Shlemkevych are explained through the prism of historical and cultural tradition. The application of the phenomenological method made it possible to reveal the meaning of subjective experience as a measure of the essence of a person, which is presented in the anthropological typology of M. Shlemkevych. The synergistic method is used to present the scientist's anthropological ideas by means of non-linear connections between theories and concepts. The application of the paradigmatic method reveals the educational potential of M. Shlemkevych's anthropology from the standpoint of the fundamental foundation in the formation of the national consciousness of Ukrainians.

Main scientific results

The concept of man is the fundamental constant of the scientific heritage of M. Shlemkevych, the strategic and philosophical core of mastering folk culture and folk-pedagogical experience. His cultural and educational activities, in general, his life as a morally mature, perfect person, a patriot, are connected with the ideas of reformist pedagogy, which were related to the study of the classical educational heritage, establishing a connection with the national idea. The latter became a guarantee of the preservation of ethno-cultural identity, the development of the consciousness of Ukrainians and the justification of their needs in connection with national revival.

In the creative heritage of M. Shlemkevych, the interpretation of man is presented in two aspects: man as a spiritual being and man as a social being. A person lives in different planes (personal, social), therefore, in the study of a person's being through the prism of belonging to society, it is important to notice the differences in the organization of life in the community, family, other circles. Ukrainians are characterized by their concern for spirituality, morality, and patriotism.

In the works of M. Shlemkevych "Lost Ukrainian Man" (1954), "Galicianism" (1956), "Soul and Song" (1956), "Peaks of Life and Creativity" (1958) the author's understanding of the essence of the Ukrainian person is presented, the state-building views of the researcher are highlighted. The essence of the phenomenon of man as a social being is presented in the "conservative landowner", "Hohol" man, "Skovoroda" man, "Shevchenko"

man, “strong” man, “new” man. Revealing the essence of each of them, the scholar singles out the positive sides of the character, the desire of each of them for a better life, for self-improvement, and the choice of value orientations. This is evidenced by examples from the historical past of the Ukrainian people, which represent patriotism, heroism, courage, etc. (Shlemkevych, 1992a).

M. Shlemkevych concludes that society can exist only if there is ideological man who is a representative of a decent person, a person-hero, a person-revolutionary. The “decent person” is the head of the hierarchy of people, and harmony is an organic component of the orderly life of a Ukrainian person (Shlemkevych, 1992a). “Man is a weak creature, and one should be forgivable to him/her, to his/her weaknesses. Man wants to live, get settled, have a profit. These are normal and healthy phenomena. This is all about us, this is who we are! But when those human needs and weaknesses are elevated into virtues, when they become a measure of a person’s worth, then society begins to rot. Then it is necessary, of course we need someone who would take on the unpleasant role that Ivan Franko once considered to be his role: - the role of a watchdog that barks again and again so that the conscience of society will not fall asleep... So we consider it lucky when from time to time a sharper word of truth will break through in society. Therefore, forgive us, forgive all who want to sleep when we wake you up” (Anonymous, 1956b).

Reflecting on the meaning of human life, Shlemkevych claims that there are people who, under different regimes and authorities, show special abilities with the help of which they adapt, adjust, that is, they show a high level of agility. The latter should also not be interpreted as a negative quality, as it may be necessary for society at one time or another. However, agility and patriotism are not compatible concepts. The human soul has both clear boulevards and dark alleys, and society, our life, has dark and bright sides. We must take care of our souls, the souls of our society, so that they always shine brightly (Anonymous, 1956b).

The scholar emphasizes the dimension of mental existence, noting that a person does not like questions that disturb his/her peace and cause anxiety. In a healthy society, more capable, more characteristic people of intelligence and will usually come out on top. They are strong people, leaders of the nation, who are extremely necessary for the creation of a state. In a healthy society, they have respect, good reputation, recognition (Anonymous, 1959).

The ideas of M. Shlemkevych regarding the development of man and his/her differences from the creature have not lost their significance. He claims that the “Moscow monster” did everything in order to reproduce the “thing-man”, barbarically to destroy everything “human in man and mercilessly dealing with the resistance of that human, which does not want to adapt to the demands of the monster” (Shlemkevych, 1962, 39).

M. Shlemkevych believes in the birth of a “new” Ukrainian person who will be able to realize the Ukrainian mentality in a free and independent Ukraine, organize cooperation with other people, communicate with God, know and perceive a person as a unique spiritual, physical and socio-mental phenomenon. In his opinion, the new Ukrainian person is a person with moral values, laws of mercy and kindness. The characteristic features of such a person are the Ukrainian idea, the spirit of patriotism, national self-awareness, national orientation, indomitability in the struggle for national ideals, awareness of one’s role in the development of the state, continuing the traditions of glorious heroes, etc. M. Shlemkevych saw the salvation of Ukrainians in themselves, he called on the youth to build their own pro-Ukrainian worldview.

“Ukrainian ambition and Ukrainian ideal should become: - in the current struggle between good and evil, to be the first knight of truth and freedom based on it! Whoever wants to win the war must defeat the fifth column of the enemy in his own society: - we must kill lies in our relations with each other, in our lives, and we must kill them in our relations with the world. We must rebuild the trust of Ukrainians in Ukrainians, and the trust of the world in our words, undermined by lies that have become the political wisdom of individual people and groups” (Anonymous, 1956a).

An ethno-social community of people connected by symbols, origin, value system, awareness of identity, etc. constitutes a nation. Characterizing the Ukrainian nation, which is a product of historical development, M. Shlemkevych wrote: “we are not a nation without ideas, a nation of sung already historical songs and a nation of consumers of wealth accumulated by previous generations. No, we are a spiritually and materially hungry nation, but with rich reserves of spirit and land. The nation is simply intended for modern nationalism, for the struggle for a different face of the world, for the struggle for a worthy place in the renewed world” (Tsentralnyi derzhavnyi istorychnyi arkhiv Ukrayiny, 1938).

The Ukrainian national character was studied by a number of scientists and activists (Lypa, 1953; Chyzhevskyi, 2005; Yarema, 1937, etc.). M. Shlemkevych also had his own vision of this problem. The scientist wrote: “Still, something like a national psyche exists. Otherwise, it would be difficult to explain the unique nature of the culture of this people, its literature, language, folklore, and architecture. This does not exclude changes in character, but there is a certain way of thinking, feeling, and behaving that distinguishes members of one society from members of another” (Shlemkevych, 1961). According to his belief, the traits common to the nation are a product of culture and are transferred to the individual in the process of upbringing.

M. Shlemkevych made an attempt of highlighting the mental traits of Ukrainians. In particular among them, he included hard work, emotionality, soulfulness, hospitality, patriotism and love of freedom. The scientist considers

religiosity as a typical characteristic of the Ukrainian as leaning on faith, confidence in the existence of supernatural forces, that inspires a person and also reveals his need to realize many possibilities. Faith illuminates the most impressive examples of human heroism and the religious soul seeks the omnipresence of God. It helps «to create a good and just order on earth, man could live in the image and likeness of God» (Shlemkevych, 1958). The predominance of the ideal over the material in the national character of Ukrainians, the predominance of the sensory and emotional perception of the world, in the author's opinion is evidence of the humanistic foundations of the formation of national self-awareness.

The researcher also draws attention to the presence of the Ukrainian mentality, those traits that rather prevent them from achieving success in life. In particular, such is the feeling of inferiority. In this regard, he notes: «To spoil the game of others, to be in a senseless opposition, to limit the freedom of others and then to enslave them –all these are character traits of a person possessed by a sense of inferiority». And further: «awareness of one's own limits and free self-criticism of Galicianness should be evidence of a feeling of inferiority... the desire to give, serve, help, attributed to Galicians... should also be a consequence of a feeling of inferiority» (Shlemkevych, 1956).

M. Shlemkevych also emphasizes the individualism that is characteristic of Ukrainians and his conviction that individualism «...without individualities! ... Our individualism is a fear of form» (Shlemkevych, 1992b).

M. Shlemkevych's thesis on the mental national traits assimilation in the process of education is important for pedagogy, because the awareness of the traits of the national character can become a reference point when formulating an educational ideal. These positive traits should become the basis for overcoming defects and thus determine the future of the nation for a long period. The activist also outlined clearly exactly such a perspective for Ukrainians.

Having considered the mental traits of Ukrainians, M. Shlemkevych saw the perspective of Ukrainians in the family of European nations. «So the Ukrainian spirit faces the task of accomplishing in its culture what the current event is trying to accomplish in its civilization. This Europeanness of ours begins where Europe ends, and in this way we can become the inheritor of the European spirit from a storekeeper» (Ivaneyko, 1935).

The dramatic events take place on the territory of Ukraine and give reason to talk about the need to rethink the historical past; analysis of achievements in the liberation struggle and overcoming mistakes; the definition of fundamental vector of the nation's development. It should give grounds to get rid completely of the totalitarian influence of everybody who claim our freedom and unity.

In this sense, a detailed research and deep understanding of the historical development of Ukrainian scientists-patriots, to whom M. Shlemkevych belongs, should become part of the educational and cultural paradigm,

component of the hierarchy of values of our people, where spirituality, morality, national idea, civic position, family are the basic foundations during the calamities of wars, repressions, encroachments on language, culture and faith.

In nowadays conditions, the effective and creative usage of M. Shlemkevych's ideas and practical work involves the development and implementation of the national idea; formation of an active civic position of the individual for the creation of a civilized civil society; effective use of the ethnical and pedagogical experience of Ukrainians as a basis for scientific pedagogy, care and expansion of the range of knowledge about the native language and literature, preservation and multiplication of the heritage of Ukrainian culture in the broadest sense of these processes. M. Shlemkevych pointed out such worldview positions, creating scientific work not only for his peers, but also for future generations. It is vividly reflected in his books, articles and journalistic works.

The scientist predicted the course of Ukrainian history, created for future generations, deeply understood the course of Ukrainian and world history, was a part of bright Ukrainian life in its integrity and perfection. These facts are confirmed by his works and the assessment of the phenomenon of M. Shlemkevych by his contemporaries. Thus, I. Pankivskyi pointed out that «Mykola Ivanovych was a synthesis – it is his favorite word – of all the different traditions. He combined harmoniously the aristocracy of a worthy priestly family of ancient times with the dynamic movement of young Ukrainians» (Pankivskyi, 1974).

The beginning of the XXI century is marked by the tasks of philosophical substantiation of the fundamental foundations of the future; clarifying the hierarchy of values in relation to a person, nature, spiritual essence and life prospects. In this area, the opinions of many philosophers and educators are unanimous – it is precisely within the limits of the Christian paradigm that the most complete understanding of the essence, role and life prospects of a person. The scientific concept of M. Shlemkevych is based on such basic foundations.

M. Shlemkevych's ideas regarding the national idea, Ukrainian identity, the development of the personality and nurturing democratic values are seen as particularly important in nowadays conditions. These positions weren't only scientific postulates of M. Shlemkevych. Throughout the life, working directly and indirectly in the most titled and famous Ukrainian organizations, such as the Shevchenko Scientific Society, the World Congress of Free Ukrainians, the Club of Democratic Thought, the Ukrainian Congressional Committee of America etc., he effectively contributed to the creation of the image of Ukrainians as humanists, patriots, democrats, spiritual, highly cultured, educated people. We believe that the world's support for Ukraine during the modern Russian-Ukrainian war is, to a certain extent, a response to the civilized community's memory of those Ukrainians who created world history over many centuries.

We also emphasize the significant scientist' reflections, that relate to the development of person's spiritual forces, self-improvement, character formation, awareness of the importance of freedom in human life. The scientist considered that every Christian should have such life reserves, prayer, confession, repentance, fasting etc. occupy a significant place. M. Shlemkevych held the opinion that every person experienced suffering, uncertainty, despair, anxiety, overcoming obstacles, difficulties, renunciation during his life, and calmness, optimism, testing oneself in faith, strength of spirit, courage and sacrifice are needed to overcome it. The modern world proves that the historical wheel is moving along such a trajectory today.

M. Shlemkevych's interpretation of a person through the prism of the ideas of God, spirituality, nation, citizenship, culture, education, family and family create a generally complete image of a Ukrainian who seeks freedom on his God-given Earth. We ground the ideal of perfect education in such a way.

Conclusions

Therefore, the conducted research allows us to state that the modern educational paradigm should be considered through the prism of a person, as an individual in his/her development, self-affirmation and self-realization. The historical mission of education, pedagogy and those reforms that should radically change the view of people and their upbringing in order to correct our historical failures becomes special. A significant part of this concept should be the legacy of Mykola Shlemkevych, his views on man, where the strategic and philosophical core is the mastery of folk culture and folk-pedagogical experience. According to the scholar, the new Ukrainian man considers moral laws, ideas of mercy and kindness to be basic values. Another, no less significant part of his/her life is the Ukrainian idea, patriotism, national self-awareness, indomitability in the struggle for national ideals, a clear awareness of one's own civil position.

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INTEGRATION OF NI ELVIS TOOLS INTO THE EDUCATIONAL PROCESS FOR ANALYSIS OF ELECTRONICS SCHEMATICS

Antoni Kozic

Vilniaus kolegija/University of Applied Sciences, Lithuania

Andzej Lucun

Vilniaus kolegija/University of Applied Sciences, Lithuania

Romanas Tumasonis

Vilniaus kolegija/University of Applied Sciences, Lithuania

Eugenijus Macerauskas

Vilniaus kolegija/University of Applied Sciences, Lithuania

Eivin Laukhammer

Vilniaus kolegija/University of Applied Sciences, Lithuania

Abstract. *A receiver circuitry is provided that is primarily controlled by the NI ELVIS instrument and the LabVIEW software package. Thus, it is possible not only to control, but also to process the received signals. This article highlights how easy it is to automate receiver control and receive signal processing with NI ELVIS with LabVIEW. The article presents the practice and perspectives of using the new National Instruments LabVIEW software and NI ELVIS II hardware for teaching in the educational laboratory.*

Keywords: *education process, LabVIEW, NI ELVIS.*

Introduction

The advancements in the living standards and the technological and informational advancement of society result in a transformation of professional disciplines and the educational process. To enhance the appeal of teaching in technology-related fields, various strategies are employed, including stimulation of student motivation through their participation in scientific knowledge-based experiments. It is crucial to consolidate the acquired knowledge through interconnections among academic subjects, such as electronics, programming, signals, and circuits. However, students may face difficulties in applying their knowledge due to a lack of adequate skills in systematizing and generalizing the educational material. As such, the implementation of innovative educational methods is imperative. One of the prominent methods is to enhance the students'

practical skills through hands-on laboratory work, practical experimentation, and educational and applied activities (Chamunorwa, Ursutiu, Samoila, & Modran, 2022).

The purpose of this article is to uncover the power of National Instruments learning technology and to show how such an idea can be easily implemented in education process. The text describes a receiver operating in the AM/FM (Amplitude modulation/Frequency modulation) band, the main control of which is carried out using the NI ELVIS (National Instrument Engineering Laboratory Virtual Instrumentation Suite) instrument suite in conjunction with the LabVIEW (Laboratory Virtual Instrument Engineering Workbench) software package (National Instruments, 2016). The current trend dictates the use of measuring tools created using virtual device technology for educational purposes. Today, such specialized software includes the LabVIEW software package from National Instrument.

The electronic device in question is a receiver operating in the 27 MHz band. The frequency of the receiver is intended for Citizen band radio communication. Such radio communication tools are widely used among transit workers and radio amateurs all over the world. This means of communication has a series of standard frequencies and it is also possible to work in the AM or FM range. As a standard, the channels switch in either 5 kHz or 10 kHz increments.

Recent research sources emphasize that there is a growing need for learning tools that allow learners to self-construct knowledge through hands-on active activities, rather than just being part of the transfer of information (Zhang & Van Reet, 2022). The software in this software environment is developed using visual tools, which does not require extensive programming knowledge from the developer. NI ELVIS II can be successfully used in electronics. Thus, you can easily automate receiver control and process the received signal using NI ELVIS and LabVIEW. The purpose of the article is to reveal the possibilities of teaching technologies and to show how NI technologies make it easy to use measuring devices and adapt them to control electronic circuits (Basher & Isa, 2008). This is why the National Instruments NI ELVIS II advanced integrated learning system could upgrade the learning experience. This implementation of the control of electronic circuits allows you to expand access to the study of electronic circuits, guarantees unlimited possibilities for implementation.

Methodology and research object

In the application of modern research tools based on information technology, various technologies are used. All computerized experiments follow a similar principle and have a similar architecture that can be implemented in a typical suitable National Instruments LabVIEW application (Ursutiu, Cofas, Samoila, Zamfira, & Auer, 2004). Experiments based on information technology are

implemented using computerized measuring equipment. The basis of the experiment is a research setup, which is a computer-controlled measuring device NI ELVIS II. The structure of the IT-based experiment is shown in Fig. 1.

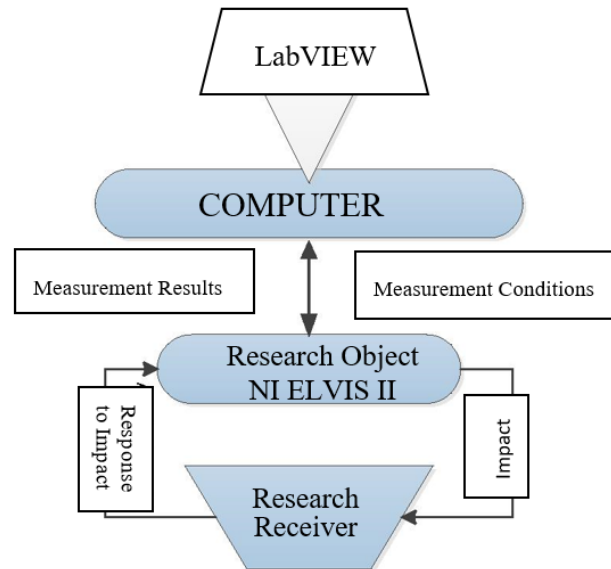


Figure1 Simplified structure of the experiment (made by authors)

The basis of the experiment is a research setup, which is a computer-controlled measuring device (external computer). In this particular instance, the National Instruments ELVIS II test device was utilized. The experiment is managed by a computer that requires both an operating system (Windows) and a control program (LabVIEW) to control the experiment. Specifically, a program written in the LabVIEW programming language was utilized to regulate the experiment.

The LabVIEW program generates and sends measurement conditions to the test device in accordance with user-specified conditions. In the research device, the measurement conditions are set, their fulfilment is accepted, and an electrical control signal is applied to the object being studied. The test object reacts to the received electrical signal and the change is transmitted back to the test device. This cycle is repeated until all measurement conditions are met. The test device sends the measurement results to the computer, which, after receiving them, transfers them to the running LabVIEW program. The program displays test results and saves test data for further processing. In the educational laboratory of electronics, the experiment is carried out according to the presented algorithm, Fig.2.

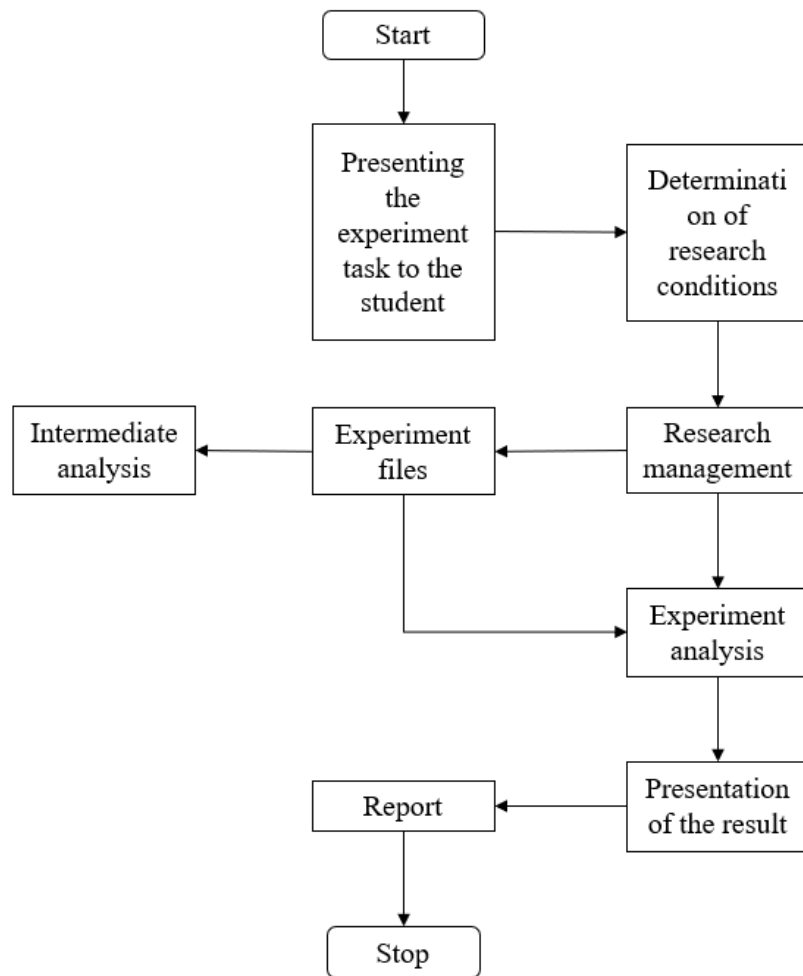


Figure 2 Algorithm for conducting the experiment (made by authors)

The laboratory experiment commences with the presentation of a task to the student, who then determines the conditions of the study using the experiment management program (LabVIEW). The investigation is conducted according to the established conditions, as depicted in Figure 1, followed by the compilation of a report. Based on the visual information, the student makes conclusions regarding the outcome of the study and presents the results of the experiment. Not only does this showcase their knowledge in the realm of electronics and programming but also demonstrates their ability to solve problems experimentally (Macerauskas, Lucun & Kozic, 2019).

The object being studied is a receiver, which is manufactured by AVT. It is illustrated in Figure 3.

- operating on channel 19 (27.180 MHz)
- output power: ~ 300 mW
- used AGC (Automatic Gain Control) scheme
- power supply 8...18 VDC

The aforementioned receiver under study is implemented using TA7358 and TDA1083 chips.

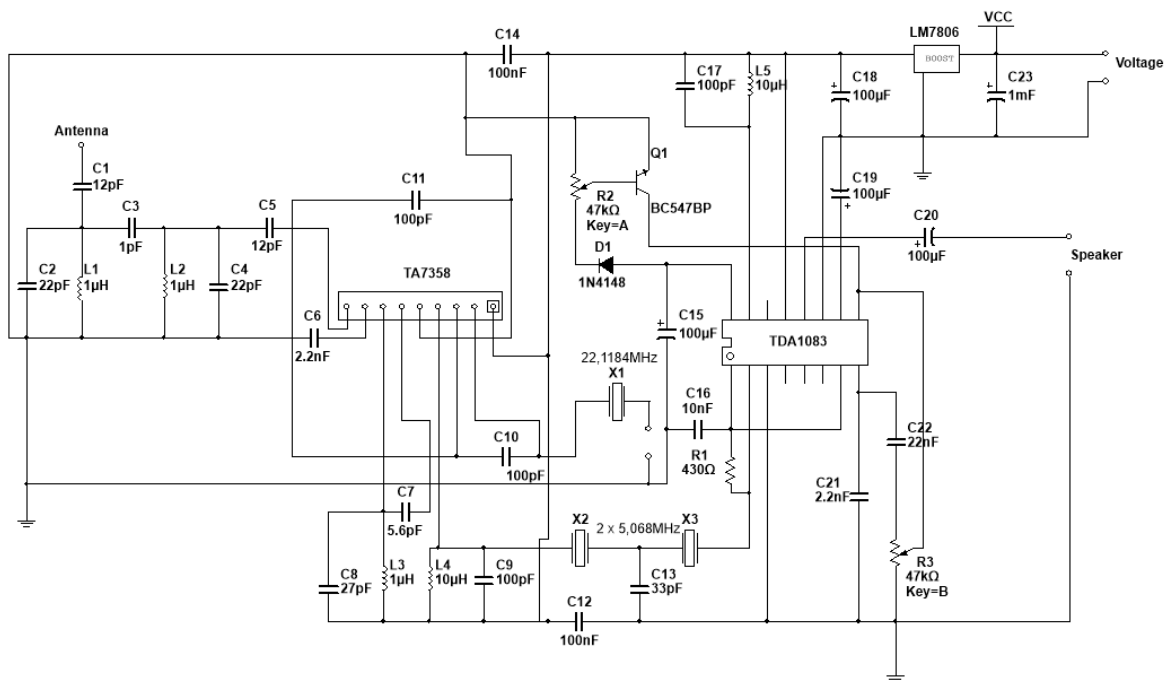


Figure 3 Schematic diagram of the receiver (made by authors)

To control an electronic circuit, you need to understand how it works. The signal that is received from the antenna is filtered (L1, L2, C1 - C5; resonant circuits operating at 27 MHz) and is then sent to the first pin of the TA7358 chip. The filtered and amplified signal is processed in the first stage of the TA7358 through the resonant circuit L3-C8, operating at a frequency of 27 MHz and directed to the primary mixer of the TA7358 through the capacitor C7. Frequency stabilization is performed using resonator X1 - 22.1184 MHz. The frequency of the intermediate signal is obtained through circuits L4-C9 operating at 5MHz and sent through quartz filters X2-X3 (each 5.068MHz), thus obtaining a channel width of about 6kHz. The ensuing signal is processed through the TDA1083 chip, which handles input signal amplification, AM modulation and output signal amplification of about 300 mW. At the output of the amplifier there is a resonant circuit L5-C17 operating at about 5 MHz. The existing generate signal is automatically routed to the AM detector (output 8; C21). The output signal is sent through R3 to the audio amplifier. The amplified signal through C19 is directed to the speaker. The scheme uses an automatic gain adjustment circuit using the Q1 BC547 transistor. In the absence of an input signal, the voltage on output 16 (TDA1083) reaches peak value and the transistor goes into saturation mode (thus eliminating noise). The noise blocking is adjusted by potentiometer R2.

Using the advanced National Instruments NI ELVIS II integrated training system, we can combine theory with practice. This can change the teaching process by moving them to a modern electronic level (Kozic et al. 2016).

Research results

In the first year, students from various engineering electronics specialties undergo an internship in electronics, making it crucial to enhance their motivation and interest in further education from the outset. The authorship of the laboratory experiment system discussed previously belongs to a second-year student. The student experiment not only demonstrates the interdisciplinary linkages between electronics and programming, but also encourages students to rely on their capacity to apply knowledge from other disciplines. The experiment employs hardware, including the National Instruments ELVIS II and circuit diagram, as well as software, such as the LabVIEW program described in the Methodology and Research Object section and depicted in Figures 4, 5, and 6. These control programs are not standard, but rather have been specially developed by the student to control a specific experiment, such as transmitting a signal from a transmitter to the object under study/receiver, recording a signal in real-time on a computer, and conducting further signal processing and analysis.

The NI ELVIS device has a breadboard on which you can assemble the circuit in question or use I/O (input/output) connectors. Since the receiver board was assembled on a printed circuit board (PCB), the terminals used for this are connected to the NI ELVIS device. The output of the receiver is connected to the input of the analog signal together with the speaker.

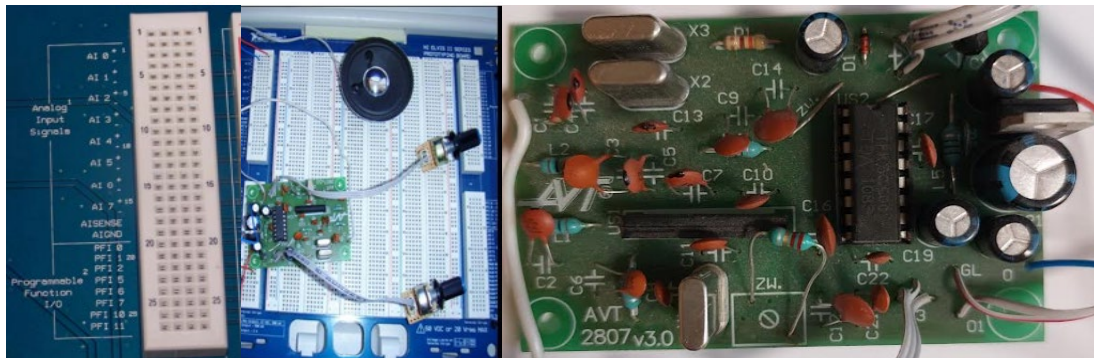


Figure 4 *The receiver is connected to the NI ELVIS II instrument (made by authors)*

Analog input signals (Analog Input Signals — AI) and variable power supplies (Variable Power Supplies — VPS) connectors were used in this project, because the aforementioned receiver circuit under study requires a supply voltage ranging from +8V to +18V. Therefore, the power supply of the NI ELVIS instrument suite can be controlled in several ways through the regulated voltage source. The NI ELVIS II connects through a mounting plate that connects the experimental electronics circuitry through the appropriate data and power inputs (Borodin, Batovrin, & Romanov, 2009).

The study of the circuit is carried out with the help of the LabVIEW software packages, as the circuit is connected through NI ELVIS. In the operating window

of the program, the input of the analog signal (AI) to which the output of the receiver is connected is indicated. The block diagram of the program is shown in Figure 5. By default, the LabVIEW program performs a single reading of the signal, and a loop (While) is used for the recording of the signal. The loop is repeated until the program is stopped by the end user, so we can record a continuous signal. In order to observe the human voice signal visually, a waveform graph (Waveform Graph/LabVIEW) is connected to the analog signal line, which shows the variation of the amplitude of the signal over time. The receiver is set to one specific channel. The received information is not constant. The function of recording the received signal is provided. The received signal can be saved in several formats. The saved signal can be played back at any time and changes can be made.

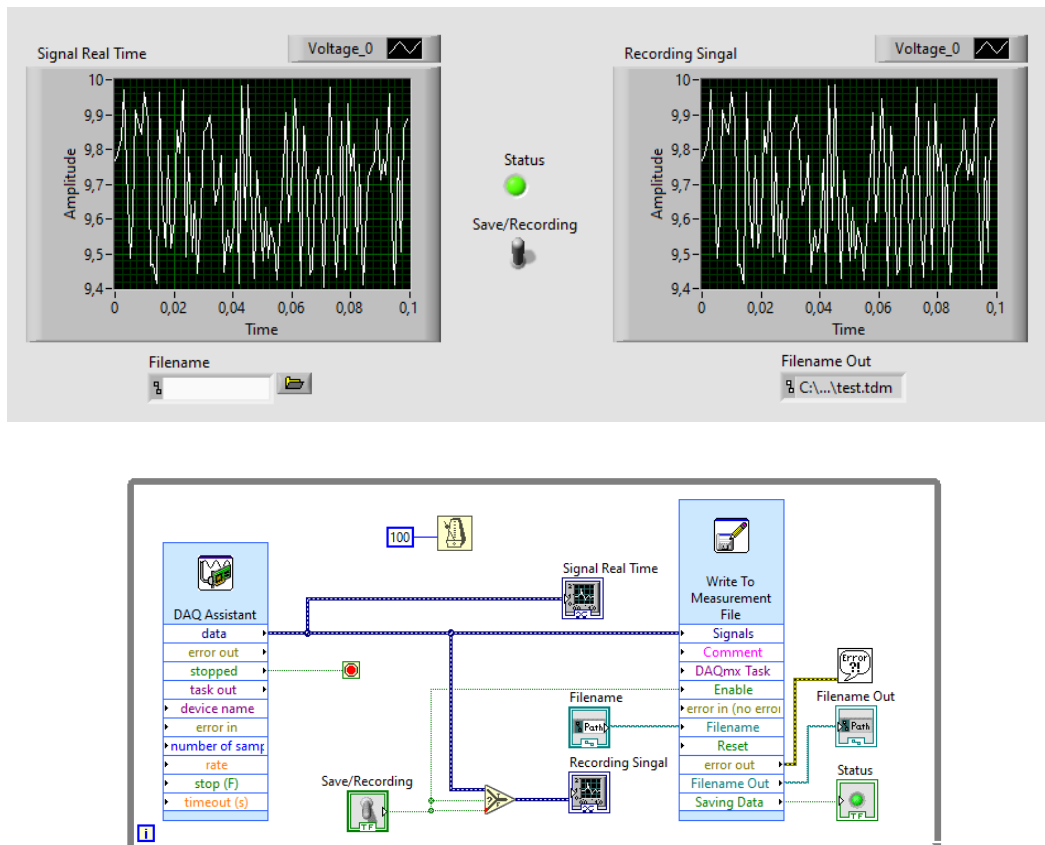


Figure 5 The program for recording of analog signals (made by authors)

The signal is converted into an audio format, which can also be played back by non-specialized programs. Any further signal manipulations are performed specifically with audio files because LabVIEW has built-in functions for processing this audio format. The operating working window of the program for signal processing is shown in Fig. 6.

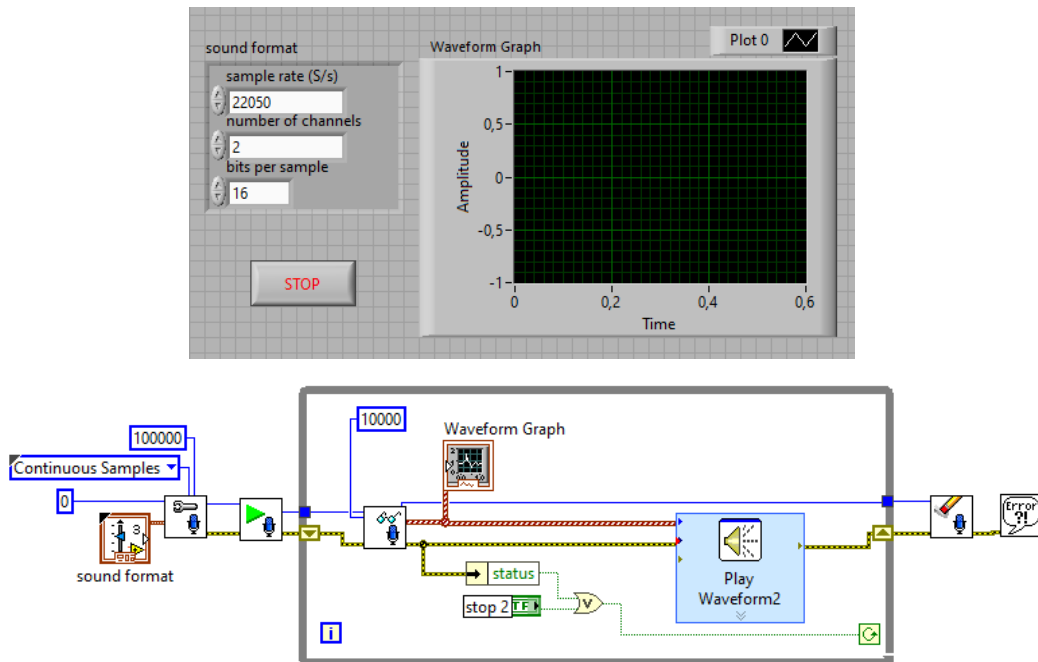


Figure 6 *The window of the program for working with audio signal files (made by authors)*

One of the main reasons for the introduction and integration of such a technique is that the source of a student's knowledge regarding electronic circuitry is usually not acquired through experimentation experience, but rather books and lectures. Experimentation is often not included in the learning process at all. This is due to the complexity and high cost of modern experimentation tools. It should be noted that experimentation plays a very important role in the learning process as it promotes data-driven processes. Students can participate in the study of an electronic circuit, sometimes even gaining new knowledge (Knezevic, Koprivica, Dlabac, Marvucic, & Milovanovic, 2022). This teaching method promotes understanding of the subject, improves students' thinking and understanding of electronic circuits. The process of organizing the research knowledge of students begins with learning, when the student receives a task, the solution of which is already known. At this stage, it is important to show that the student's research work is close to real research in order to obtain new research data in the analysis of electronic circuits. This introduces modern technologies, showing the importance of their knowledge and development for a future career. This paper demonstrates the potential of the NI ELVIS II instrument suite and LabVIEW software suite for enhancing the experimentation process, which could massively improve upon the already existing curriculum and incorporates the aforementioned studies into the learning process.

Conclusions

This paper describes the application of a method for conducting experiments in the educational laboratory of electronics, which is innovative in its approach. During the laboratory experiments, the student not only performs specific measurements but also engages in research work through the application of non-standard tasks. This requires the student to possess not only knowledge of electronics but also interdisciplinary subjects, such as electronics, programming, signals, and circuits.

Conducting research using the NI ELVIS II device and the LabVIEW software suite opens up a wide range of opportunities. Both products are from the same manufacturer, which ensures high mutual compatibility. Combining this equipment, it is possible to carry out research of real-world devices using with virtual devices. Conversion of analog signals into digital ones, their processing using mathematical functions, as well as their storage and retrieval. This is done with the help of intuitive icons, so it is not necessary to have deep knowledge in the field of programming.

Such implementation of the aforementioned virtual systems in to the experimentation process would grant students access to a more streamlined workflow, which would also enhance their knowledge and intuition regarding electronic circuits. The essence of the experiment is that the use of LabVIEW/NI ELVIS II technologies allows you to easily create any measuring complexes, adapt them to training programs.

During the experiment a student is better able to understand as to how the circuit actually functions. This allows the student to more easily understand complex concepts, because by experimenting, he learns how to do it correctly.

- Application of the experiment introduces students to the experiment and allows them to participate in it independently, having only minimal knowledge in the field of electronics;
- It is possible to automate the experiment, process a large volume of information and carry out accurate measurements;
- The LabVIEW software package can be used to create any control environment for a non-standard experiment.

The integration of experiments into the educational process offers a novel approach to teaching and enhances students' motivation for learning. Traditional methods of education in electronics are limited to an introduction to the operation of electronic circuits. The proposed method, however, promotes a different approach to problem-solving and an indirect familiarity with electrical circuits. In many cases, laboratory experiments are excluded from the learning process due to the complexity of the equipment involved. However, it is important to recognize the crucial role experimentation plays in the learning process by demonstrating various processes and patterns. This innovative teaching method

contributes to a deeper understanding of electronics through non-conventional means.

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STUDENTS' VIEWS ON HIGHER EDUCATION TRANSFORMATIONS CAUSED BY THE COVID-19 PANDEMIC: A COMPARATIVE STUDY FOR LATVIA AND UKRAINE

Svetlana Ušča

Rezekne Academy of Technologies, Latvia

Oleksandr Malykhin

Institute of Pedagogy of National Academy of Educational Sciences of Ukraine, Ukraine

Nataliia Aristova

Institute of Pedagogy of National Academy of Educational Sciences of Ukraine, Ukraine

Abstract. *The study's primary purpose was to compare Latvian and Ukrainian students' views on transforming traditional learning process connected with implementing infection control measures aimed at preventing the spread of coronavirus and their consequences on higher education in both countries. In this study, the total number of respondents consisted of 207 undergraduate, graduate and postgraduate students from Latvia and Ukraine. Latvian research sample was presented by 109 students including 11 male students (10.09%) and 98 female students (89.91%). Ukrainian research sample consisted of 98 students including 16 male students (16.33%) and 82 female students (83.67%). A convenience sampling technique was used for selecting the research sample. The survey was conducted in October 2020 - March 2021. The current research is carried out within the project of National Academy of Educational Sciences of Ukraine "Organization of Educational Process in the Content of Unpredicted Changes (the Covid-19 Pandemic): Comparative Analysis (Ukraine – EU countries)", No. 0121U108690.*

Keywords: *Covid-19, educational problems, Latvia, Ukraine, views on transforming traditional learning process.*

Introduction

Since the onset of the Covid-19 pandemic, it has spared no aspect of human life including higher education. In response to the mass coronavirus outbreaks throughout the world the governments in many countries implemented infection control measures and stay-at-home policies to prevent the spread of the disease (UNESCO, 2020; WHO, 2020a; WHO, 2020b). People were advised to limit person-to-person contacts, avoid commuting and gathering together in large groups etc. The governments in many countries closed public and private general secondary schools, high schools, universities and training centers to protect

schoolchildren and students against coronavirus. Moreover, they recommended that academic institutions of all levels remained closed until the improvement of epidemiological situation. In this regard, universities in many countries were forced to radically reconsider the approaches to delivering education to students and to offer the move towards remote learning regarded as “a short-term mitigation option to act as a replacement for face-to-face teaching” (Cowden, Mitchell, & Taylor-Guy, 2020). But, unfortunately, transformations in the sphere of higher education caused by the Covid-19 pandemic and the forced move towards remote learning raised new challenges for both students all over the world.

Investigating the attitudes of university lecturers and students in Poland and Korea, S. Juszczuk and S. Kim (2020) came to the conclusion that for many students and university lecturers synchronous, face-to-face education seemed to be more effective and appropriate. According to researchers, both students and university teachers associated face-to-face education with “the possibility of more frequent interaction with teachers and with each other, a greater chance of understanding difficult content, the possibility of more frequent questions and answers from teachers or colleagues...” (Juszczuk & Kim 2020, p. 126).

M. Rizun & A. Strzelecki claimed that after introduction of coronavirus control measures many students considered remote learning to be a good idea although they had a low to medium feeling that “distance learning enhanced their effectiveness, improving course performance and productivity” (2020, p. 15). The scholars also stated that many students hoped to go back to traditional education (Rizun & Strzelecki, 2020).

M. Adnan & K. Anwar also provided an opinion that a significant number of students had reservations about the effectiveness of remote learning and innovative technologies used by higher education institutions for delivering education and educational services (2020). According to M. Adnan & K. Anwar (2020), the sudden move towards online education resulted “in a completely different learning experience for students”.

We come to accept today that the Covid-19 pandemic has already affected the proper functioning of universities all over the world and its consequences continue to complicate the delivery of quality education. Expressing a consensus view of the present situation, many researchers claim that the sudden move towards remote teaching and learning has become a great shock for all participants of educational process (Bao, 2020; Malykhin, Usca, & Aristova, 2021; Topuzov, Malykhin, Usca, & Aristova, 2021; Usca, Dzerviniks, Lubkina, Vindece, & Poplavskis, 2021). And although remote learning is not a new concept, online courses and the digital educational environments of many universities were far from perfect and were not ready for a large-scale online teaching and learning after the introduction of quarantine measures. Besides, having faced with such a

challenge for the first time, university lecturers and students throughout the world found it difficult to handle all problems quickly and decisively.

A review of current literature on transformations in the sphere of higher education caused by the Covid-19 pandemic provides the opportunity to claim that the most studies are focused mainly on negative changes connected with the introduction of coronavirus control measures and do not include any positive experience gained by both university lecturers and students. And taking into account that a wide range of serious academic publications on this matter topic has already been written, we can state that research papers on comparative analysis on educational changes occurring in different countries are not enough which is a great cause of concern. Thus, the study's primary purpose is to compare Latvian and Ukrainian students' views on transforming conventional learning process connected with measures aimed at preventing the spread of the coronavirus and their consequences on higher education in both countries.

Methodology

Research Sample

In this study, the total number of respondents comprised 207 students from Latvia and Ukraine. Latvian research sample was presented by 109 students including 11 male students (10.09%) and 98 female students (89.91%). Latvian respondents were from Rezekne Academy of Technologies (Rezekne, Latvia). Ukrainian research sample consisted of 98 students including 16 male students (16.33%) and 82 female students (83.67%). Ukrainian respondents were from Kyiv National University of Technologies and Design (Kyiv, Ukraine), Taras Shevchenko National University of Kyiv (Kyiv, Ukraine), National Aviation University (Kyiv, Ukraine) and Kamyanets-Podilsky Ivan Ohienko National University (Kamyanets-Podilsk, Ukraine). A convenience sampling technique was used for selecting the research sample. The survey was conducted in October 2020 – March 2021.

Instruments and Procedure

Considering the fact that after the implementing coronavirus measures and the move towards remote teaching and learning, scholars and practitioners in Latvia and Ukraine ran into a problem to find in the shortest period possible technologies, methods and tools of teaching and learning that were the most optimal for distance education, the international team of researchers developed a web-based questionnaire aimed at comparing Latvian and Ukrainian students' views on transforming traditional learning process connected with the Covid-19 pandemic. For Latvian research sample the web-based questionnaire was provided in Latvian and for Ukrainian research sample it was provided in Ukrainian. The developed web-based questionnaire included two parts. The first

part was targeted at figuring out socio-demographic information about Latvian and Ukrainian students including their age, gender and educational background. The second part contained the following questions:

1. *Can you indicate if the educational process has changed for worse with the sudden closure of university due to the Covid-19 pandemic and the move towards remote learning? In case of a positive answer, list negative educational changes connected with the need to stay at home and to study remotely.*

2. *Can you indicate what has changed for better with the sudden closure of university due to the Covid-19 pandemic and the move towards remote learning? In case of a positive answer, list positive educational changes connected with the need to stay at home and to study remotely.*

3. *What is your view on higher education transformations caused by the Covid-19 pandemic?*

After conducting the web-based survey, the researchers analyzed the Latvian and Ukrainian respondents' comments question by question.

Data Analysis

To compare Latvian and Ukrainian students' views on higher education transformations connected with implementing coronavirus control measures, the responses given by Latvian students and Ukrainian students were analyzed descriptively and comparatively. All the researchers were directly involved in processing the information obtained, comparing the data received among Latvian and Ukrainian respondents, discussing the data processed, displaying the obtained data in the form of tables and figures and making general conclusions.

Results and Discussion

The first question was aimed at finding out if the educational process had changed for worse with the sudden closures of universities due to the Covid-19 pandemic and what negative changes were of the utmost concern to Latvian and Ukrainian respondents. Tables 1-2 demonstrate the main negative changes in the sphere of higher education caused by implementing coronavirus control measures in Latvian and Ukrainian respondents' points of view.

The obtained results suggested that the systems of higher education in both countries had been undergoing almost identical negative changes. Thus, as reported by Latvian (72.48%) and Ukrainian (84.69%) respondents the most significant negative change was the change in the learning load. The social-emotional distance also became one of the most considerable negative changes connected with the closures of universities for both Latvian (71.56%) and Ukrainian (74.49%) respondents. As shown in Tables 1 and 2, 63.30% of Latvian respondents and 75.59% of Ukrainian respondents were dissatisfied with the speed of their Internet. Latvian (71.56%) and Ukrainian (54.08%) respondents

found it difficult to cope with essential educational material independently. Moreover, 62.39% of Latvian respondents and 43.12% of Ukrainian had to admit the quality of online lectures, practical classes and seminars was reduced. Both Latvian (46.79%) and Ukrainian (59.18%) respondents reported about the poor digital infrastructure of higher education institutions. As indicated in Table 1, Latvian respondents were also seriously concerned about restrictions connected with their academic mobility (25.69%) and the considerable reduction of motivation (18.35%). According to Table 2, Ukrainian respondents were extremely dissatisfied with the lack of technical support from higher education institutions (26.53%) and irregular study time (17.35%). Thus, we can state that although the interruption of conventional face-to-face instruction and the move towards remote learning as part of the coronavirus prevention measures was considered to be the only right decision, the reality proved to be far more mundane.

Table 1 Latvian students' opinions on negative changes in the sphere of higher education occurred with the move to remote learning (made by Authors)

Negative changes	N	%
Change in learning load	79	72.48
Inability to cope with essential educational material independently	78	71.56
Lack of high-speed Internet	69	63.30
Quality reduction of online lectures, practical classes and seminars	68	62.39
Social-emotional distance	52	47.71
Poor digital infrastructure of higher education institutions	51	46.79
Academic mobility restrictions	28	25.69
Deterioration of health and emotional well-being	26	23.85
Reduction of motivation	20	18.35

Source: own study

N=109

Table 2 Negative changes in the sphere of higher education caused by implementing coronavirus control measures in Ukrainian respondents' points of view (made by Authors)

Negative changes	N	%
Change in learning load	83	84.69
Lack of high-speed Internet	78	79.59
Social-emotional distance	73	74.49
Poor digital infrastructure of higher education institutions	58	59.18
Inability to cope with essential educational material independently	53	54.08
Quality reduction of online lectures, practical classes and seminars	47	43.12
Deterioration of health and emotional well-being	34	34.69
Lack of technical support from higher education institutions	26	26.53
Irregular study time	17	17.35

Source: own study

N=98

Then, Latvian and Ukrainian respondents were asked to list the most serious educational problems they faced shortly after the introduction of infection control measures and the closures of universities. The obtained results concerning Latvian students' responses to the question of interest to us were given in Table 3.

Table 3 The most serious educational problems Latvian students experienced shortly after infection control measures were taken (made by Authors)

The most serious educational problems	N	%
Excessive learning load	79	72.48
A wide range of telecommunications applications and messengers to work with	69	63.30
Internet connection problems	69	63.30
Insufficient level of digital competence	68	62.39
Inability to be socialized with others	52	47.71
Lack of a single platform to work on	51	46.79
Lack of adequate technical equipment to study remotely	22	20.18
Lack of immediate feedback provided by university lecturers	21	19.27
Study-related stress	19	17.43
Health problems	7	6.42

Source: own study
N=109

Table 4 presents the most serious educational problems Ukrainian students experienced shortly after coronavirus control measures were taken.

Table 4 The most serious educational problems Ukrainian students faced shortly after the closures of universities (made by Authors)

The most serious educational problems	N	%
Excessive learning load	83	84.69
Internet connection problems	78	79.59
A wide range of telecommunications applications and messengers to work with	63	64.29
Insufficient level of digital competence	58	59.18
Inability to be socialized with others	52	53.06
Poor digital infrastructure provided by university	47	47.96
Lack of adequate technical equipment to study remotely	43	43.88
Study-related stress	34	34.69
Health problems	20	20.41
Homework procrastination and late assignment submissions	15	15.30

Source: own study
N=98

The results showed that for 72.48% of Latvian students and 84.69% of Ukrainian students one of the most serious educational problems they faced shortly after the move towards remote learning was the increase in their learning

load. Both Latvian (63.30%) and Ukrainian (75.59%) respondents were not always able to attend on-line lectures, seminars and classes regularly because they experienced Internet connection problems. These data established the fact of respondents' unequal access to educational services provided by higher education institutions. Such a situation, to our regret, takes place in many countries throughout the world which is proved by findings obtained earlier by different scholars (Ali, 2020; Cowden, Mitchell, & Taylor-Guy, 2020). For today the list of countries with the fastest average mobile Internet connections comprises South Korea, China, UAE, Qatar, Saudi Arabia, Netherlands, Norway, Canada, Australia, Bulgaria and, unfortunately, Latvia and Ukraine are not included in it (O'Dea, 2020). In our research, 63.30% of Latvian respondents and 64.29% of Ukrainian respondents experienced some problems with a wide range of telecommunications applications and messengers. Among telecommunications apps and messengers listed in the comments were Skype, Google Meet, Zoom, MS Teams, Viber, Webex Cisco etc. As it turned out they were easy to use, but switching between them was rather time-consuming and sometimes confusing. Moreover, for some students it was quite a challenge to download all these apps or/and messengers on their devices because of their low storage capacity. Latvian (62.39%) and Ukrainian (59.18%) students stated that although they had PCs, laptops and other gadgets, their level of digital competence was not sufficient to feel confident while using different digital software and resources, let alone to respond to the need to acquire professional knowledge and skills remotely. Life in the Digital Age requires that every member of the world society demonstrates a high level of digital competence which is among eight key competences for lifelong learning (European Commission, 2018). The results obtained, as it turned out, confirmed earlier research concerning the insufficient level of Latvian and Ukrainian students' digital competence (Mirke & Cakula, 2019; EGAP, 2020). Latvian (47.71%) and Ukrainian (53.06%) respondents indicated that one of the most serious problems they experienced was the inability to be socialized with others. After the introduction of quarantine, the respondents in both countries had to stay indoors and avoid any person-to-person contacts with their friends, distant relative, neighbors etc. Some of them were removed from dormitories and had to return home which, in our point of view, adversely affected the process of their adaptation to university life (Topuzov et al., 2020). Lack of a single platform to work on was one of the main serious problems for 46.79% of Latvian respondents, and poor digital infrastructure provided by university was one of the most serious problems among Ukrainian respondents (47.96%). It means that although universities all over the world devoted much attention to developing various online courses, they proved to be ill-prepared to cope with the sudden move to remote learning. 20.18% of Latvian respondents and 43.88% of Ukrainian respondents stated that they didn't have adequate technical equipment to study remotely. Commenting on their responses they explained that they had to share a

computer with a brother/sister. Some of them mentioned that they also had problems with video-cameras and sound systems on their laptops and PCs which they had no opportunity to fix without the assistance from professionals. Both Latvian (17.43%) and Ukrainian (34.69%) respondents indicated that they experienced study-related stress. Moreover, Latvian (6.42%) and Ukrainian (20.41%) respondents reported that they started experiencing health problems including headaches, vision problems, backaches, pains in the neck and shoulders etc. As we found out Latvian students (19.27%) were disappointed by the lack of immediate feedback provided by their university lecturers. In their opinion, it was the reason for some misunderstanding and lowering their academic performance. For 18.35% of Latvian students the move towards remote learning had a detrimental impact on their motivation and desire to study and for Ukrainian ones (15.30%) it became a significant reason for so-called homework procrastination and late assignment submissions.

The third question was targeted at finding out if the educational process had changed for better with the sudden closures of universities due to the Covid-19 pandemic and what positive changes occurred after implementing coronavirus control measures including the move towards remote learning. Table 5 presents the responses of Latvian and Ukrainian respondents.

Table 5 Positive changes connected with the closure of universities and the delivery of educational services remotely after introducing infection control measures (made by Authors)

Positive changes	Latvian respondents (N=109)		Ukrainian respondents (N=98)	
	N	%	N	%
Opportunity to improve digital competence	84	77.06	68	69.39
Free access to lectures recorded by university teachers from different universities	44	40.37	39	39.80
Wider use of massive open online courses	41	37.61	32	32.65
Spending more time with family	31	28.44	47	47.96
Savings in both time and travel cost	31	28.44	49	50.00
Increased online interaction	29	26.61	38	38.78
Opportunity to create individual learning pathways	35	32.11	23	23.47
Increased ability to identify various types of media	23	21.10	25	25.51
Opportunity to improve time management skills	6	5.50	19	19.39
No positive changes	0	0.00	7	7.14

Source: own study
N=207

It should be noted that despite negative problems faced by respondents in both countries, transformations in the sphere of higher education caused by the Covid-19 pandemic brought some positive changes. Thus, for both Latvian

(77.06%) and Ukrainian (69.39%) students one of the main positive changes was the opportunity to improve their digital competence. For 40.37% of Latvian students and 39.80% of Ukrainian students the positive experience was connected with the free access to lectures recorded by university teachers from different universities. Moreover, many Latvian (37.61%) and Ukrainian (32.65%) respondents discovered massive open online courses and were impressed by their content and quality. 28.44% of Latvian and 47.96% of Ukrainian students reported that conditions they were obliged to live in enabled them to re-evaluate the family values. One more positive change mentioned by the same number of respondents in both countries was the opportunity to save time and travel cost they spent to get to university. 26.61% of Latvian respondents and 38.78% of Ukrainian respondents tried to cope with their inability to communicate with their peers on campus and off-campus and started to interact with them online. The need to search for educational information on the Internet enabled to increase Latvian (21.10%) and Ukrainian (25.51%) students' ability to identify various types of media. The move to remote learning was considered by many Latvian (31.11%) and Ukrainian (23.47%) respondents as a potential opportunity to create their individual learning pathways and increase their knowledge. For 5.50% of Latvian students and 19.39% of Ukrainian students the move towards remote learning became a real opportunity to improve their time management skills. It should be also noted that 7.14% of Ukrainian students did not see any positive changes connected with the move towards remote learning.

The last question was aimed at finding out Latvian and Ukrainian respondents' views on transforming traditional learning process connected with implementing infection control measures and their consequences on higher education in both countries. It was determined that 5.50% of Latvian students' views were positive. Negative view was expressed by 46.79% of Latvian students. And 47.71% of Latvian respondents were unable to express their opinion for sure. The results of the web-based questionnaire show that Ukrainian respondents' views on this issue were approximately the same. Thus, 17.35% of Ukrainian students were generally receptive to delivering educational services remotely as a means of replacing face-to-face instruction. 39.80% of Ukrainian students held unfavorable views on delivering educational services remotely and 42.85% of Ukrainian students were not able to respond unambiguously to the question.

The obtained results clearly demonstrate that evaluating changes occurred in the sphere of higher education, respondents in both countries were almost entirely dissatisfied with the quality of educational services delivered online. Recognizing the complexity of the situation, respondents in Latvia and Ukraine stressed the importance of remote learning but they pointed out that it was probably more like a quick response to the sudden interruption of conventional face-to-face instruction. In their comments both Latvian and Ukrainian respondents expressed

the hope to continue their learning and communication with peers and university lecturers in the classrooms.

Conclusions

To sum up, the obtained results show that in real conditions of delivering theoretical knowledge and equipping Latvian and Ukrainian students with practical skills via the Internet it became apparent that students faced many educational problems which were approximately equal for the systems of higher education in both countries. Among the most serious problems connected with the move to teaching and learning remotely respondents in both countries indicated excessive learning load, a wide range of telecommunications applications and messengers, Internet connection problems, the insufficient level of digital competence, the inability to communicate with peers in-person, the lack of a single educational platform to work on, the lack of adequate technical equipment to study remotely, the lack of immediate feedback provided by university lecturers, the study-related stress and health problems. Besides, views expressed by Latvian and Ukrainian respondents on delivering educational services remotely due to the infection control measures taken to prevent the spread of coronavirus disease were rather similar. But despite a considerable number of respondents who doubted the effectiveness of remote learning, educational problems they faced became real drivers of their development and change, gaining fresh insights acquiring and improving essential knowledge and skills.

And, it should be also added that while analysing the two-year experience of teaching and learning under conditions of the Covid-19 pandemic, we came to the conclusion that the dominant forms of instruction in higher school are remote and blended. In the majority of recent scientific publications authors analysed problems and negative consequences of unexpectedly rapid transition to remote and blended learning. On the contrary, the most focus of our research was to identify not only negative changes but also positive ones connected with the closure of universities and the delivery of educational services remotely after introducing infection control measures. After identifying the set of positive changes (presented in Table 5) and understanding that remote and blended learning are objective realities of today's higher education and, with a higher probability, are the objective realities of tomorrow's higher education, we do believe that future research should emphasize more on finding the most effective ways to implement the best practices of remote and blended learning in higher education institutions.

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EXPLORING EU STUDENTS' BELIEFS AND EXPOSURE TO SEXUAL HARASSMENT AND SEXUAL ASSAULT

Andreas Ahrens

Hochschule Wismar University of Applied Sciences Technology Business and Design,
Germany

Jelena Zascerinska

Hochschule Wismar University of Applied Sciences Technology Business and Design,
Germany

Mihails Zascerinskis

Centre for Education and Innovation Research, Latvia

Anastasija Bikova

Centre for Education and Innovation Research, Latvia

Abstract. *Sexual harassment and assault are the factors that decrease youth quality employment. The research aim is to explore students' beliefs and exposure to sexual harassment and sexual assault in selected countries of the European Union underpinning the elaboration of implications for higher education. Theoretical analysis and modelling were used. The exploratory study was implemented to investigate the relationship between students' self-assessment of their beliefs and levels of exposure in relation to sexual harassment and sexual assault in the selected countries of the European Union. The theoretical analysis resulted in the establishment of the inter-connections between sexual harassment and sexual assault, on the one side, and students' employment and work/job, health as well as non-direct economic impact, on the other side. The exploratory study revealed that the level of students' belief is higher if compared to the level of exposure to sexual harassment and assault. Students most believe that people physical appearance, race and being young impact sexual harassment and sexual assault. Exposure to sexual harassment and sexual assault coincide in relation witnessed sexual harassment and sexual witnessed assault as well as their ranking. Implications for higher education refer to teaching staff in higher education. Further research directions were proposed.*

Keywords: *employment, European Union countries, mean, ranking, sexual assault, sexual harassment, students.*

Introduction

The goal of the European Union Youth Strategy in 2019-2027 is quality employment for all (European Commission, 2018). Sexual harassment and sexual assault are the factors that decrease youth quality employment.

Conventionally, higher education is regarded as the preparation for employment (Ali & Jalal, 2018). The present work is based on the assumption that, to some extent, students' higher education studies can be also considered as employment as students have to follow the university contract regulations (Ahrens, Zascerinska, & Macovei, 2022b). Consequently, the terms "youth" and "students" are used synonymously in this work.

It should be pointed that quality employment is closely inter-connected with quality job (European Foundation for the Improvement of Living and Working Conditions, 2002) as depicted in Figure 1.

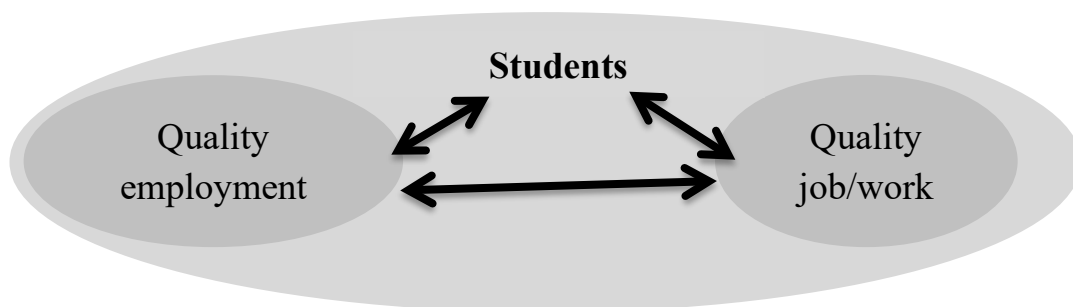


Figure 1 The inter-connectednes between youth, quality employment, and quality job (made by authors)

Sexual harassment and sexual assault put young people at risk for short-term and long-term employment problems (Exner-Cortens, Eckenrode, & Rothman, 2013). Sexual harassment and sexual assault negatively impact youth job performance, job change and insecurity, career opportunities, and retaliation for reporting (Lim, Ghani, & Remme, 2018).

Sexual harassment and sexual assault also influence youth health (Exner-Cortens, Eckenrode, & Rothman, 2013). In turn, youth health affect youth employment and employment possibilities. Thus, negative experiences relevant to the field of sexual harassment and sexual assault may be traumatizing youth ability to cope with stressors and develop their identity (Kaltiala-Heino, Fröjd, & Marttunen, 2016) including professional identity. Sexual harassment and sexual assault lead to increased anxiety and depressive symptoms among young females but not males (Ståhl & Dennhag, 2021). Moreover, undesired sexual experiences may increase later physical and sexual violence experiences, and the victim may commit in the future physical or sexual violence (Banvard-Fox et al., 2020; Norcott et al., 2021). Additionally, sexual harassment and sexual assault also have

the economic side of the impact on youth employment in terms of expenses of healthcare system, direct and indirect costs to companies, industries and governments (Lim, Ghani, & Remme, 2018).

Figure 2 gives an overview of the areas impacted by youth sexual harassment and sexual assault.

The aim of the present research is to explore youth beliefs and exposure to sexual harassment and sexual assault in employment in the selected countries of the European Union underpinning the elaboration of implications for higher education.

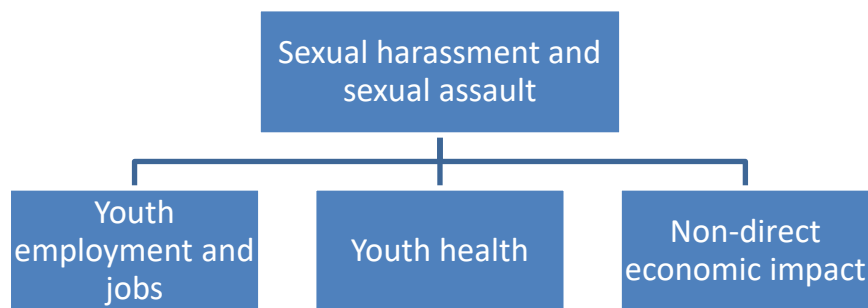


Figure 2 *The areas impacted by sexual harassment and sexual assault (made by authors)*

The method of this work is the exploratory study. The exploratory study was implemented to investigate the relationship between students' self-assessment of their beliefs and levels of exposure to sexual harassment and sexual assault in the selected countries of the European Union.

Conceptual Framework

In this part of the paper, the key concepts relevant to the study of students' sexual harassment and sexual assault in the selected countries of the European Union are outlined.

Quality of job/work and employment includes four areas (European Foundation for the Improvement of Living and Working Conditions, 2002) ensuring career and employment security; maintaining and promoting the health and well-being of workers; developing skills and competences; and reconciling working and non-working life.

Based on this description of quality employment and quality job/work, the term "workplace" refers not only to the specific location where work is being performed, such as an office or factory, but also to locations where work-related business may be conducted (Bon et al., 2015). These could include, but are not limited to (Bon et al., 2015) work related social activities, such a reception organized by the enterprise for staff or clients, etc.; conferences and training sessions; official business travel; business meals; work related telephone conversations; and work-related communications through electronic media.

Quality employment and quality job/work can be affected by sexual harassment and sexual assault.

Sexual harassment is defined as any behaviour of a sexual nature that affects the dignity of women and men, which is considered as unwanted, unacceptable, inappropriate and offensive to the recipient, and that creates an intimidating, hostile, unstable or offensive work environment (Bon et al., 2015). Occasional compliments that are socially and culturally acceptable and appropriate are not considered to be sexual harassment (Bon et al., 2015). Any interaction of a sexual nature which is consensual (except for those prohibited by the law such as sexual intercourse with children), welcome or reciprocated is not considered to be sexual harassment (Bon et al., 2015).

Sexual assault focuses on assaults that involve completed or attempted physical contacts against an adult (age 18 or older) or child sexual abuse or other sexual acts (e.g., exhibitionism, sexting, sexual harassment, touching, or forced touching or fondling in public, i.e., frotteurism) (Williams & Walfield, 2016).

In employment and job, sexual harassment and sexual assault outline two broad classes of prohibited behaviour (Raday & Oksenberg, 2014):

1. Quid pro quo – behaviours of employers that extort sexual cooperation by means of subtle or explicit threats of job-related consequences.
2. Hostile environment – sex related behaviours that are unwelcome, offensive and humiliating that damage and embitter the employee's working conditions.

Methodology

The exploratory study was implemented to investigate the relationship between students' self-assessment of their beliefs and levels of exposure to sexual harassment and sexual assault in the selected countries of the European Union in the period of March-December 2022.

In March-April 2022, the survey based on the elaborated questionnaire was carried out in five European Union countries. The five European Union countries were chosen for their participation in the survey on the basis of their participation in the Erasmus+ project #Mot Me. The sample was composed on the principles of sample appropriateness, sufficiency, and confidence (Ahrens & Zascerinska, 2015). Altogether 309 respondents from Czech Republic, Italy, Germany, Lithuania, and Romania took part in the survey. The respondents were young people, aged 18-30. The majority of the respondents were university students, some students were enrolled in colleges.

The obtained data were analysed via calculating the mean results in each question and per country. The mean of a question in the dataset from the survey questionnaire represents the average value of the question in this dataset. The mean is based on the data taken from every observation shown by the respondents

of the survey questionnaire. The mean indicates the centre value in each question in the survey questionnaire. The centre of the collected data is a numerical value from 1 to 4. The mean allows for the description of the data tendency. In the case of the present research, the mean shows whether the respondents agree or disagree with the survey questions about sexual harassment and sexual assault. The mean results were analysed at the levels of mean in sexual harassment and sexual assault in each country, and mean in sexual harassment and sexual assault in all the five partner countries, namely Czech Republic, Italy, Germany, Lithuania, and Romania. On the level of each country, the results of each question on each level of the 4 point Likert scale were calculated separately and presented in a table. In the present work, only the total mean will be shown.

Another method of data analysis was ranking (Ahrens & Zascerinska, 2020). Ranking refers to an evaluation used for the advancement of the evaluated item (Ahrens & Zascerinska, 2020). The use of the ranking method was thought as the act of summing up students' beliefs and levels of exposure into a single, holistic number or score is meant (Elbow, 1994). Ranking was intended to emphasise vertical differences between the options (Marginson & van der Wende, 2007).

The obtained mean of each question of each country was ranked. The options available were placed in order without any attempt to describe how much one differs from another or whether any of the alternatives are, for example, good or acceptable (Coe, 2010, p. 45). It should be pointed that ranking differs from rating as rating means that the used categories are often given numerical labels, such as 1, 2, 3, 4, 5 (Coe, 2010, p. 45). The higher was the mean the higher the question was ranked.

Study Results

The study results are presented in four sub-sections in this part of the paper:

1. Total mean and ranking of EU students' self-assessment of beliefs in sexual harassment,
2. Total mean and ranking EU students' self-assessment of levels of exposure to sexual harassment,
3. Total mean and ranking of EU students' self-assessment of beliefs in sexual assault,
4. Total mean and ranking EU students' self-assessment of levels of exposure to sexual assault.

It should be pointed that the original number of the question used in the survey questionnaire is shown in this work.

1. Total mean and ranking of EU students' self-assessment of beliefs in sexual harassment.

Table 1 created by Ahrens, Zascerinska, & Macovei (2022a) demonstrates the mean results of each question and each question ranking in relation to the students' beliefs in sexual harassment.

Table 1 Mean and ranking results related to the students' beliefs in sexual harassment (Ahrens, Zascerinska, & Macovei, 2022a)

Nr	Question	Total mean	Ranking
38	Do you believe that younger people are more often to experience sexual harassment?	2,83	3
39	Do you believe that people race might impact sexual harassment?	2,85	2
40	Do you believe that people physical appearance might impact sexual harassment?	3,16	1
41	Do you believe that marital status might impact sexual harassment?	2,38	4

Source: Ahrens, Zascerinska, & Macovei, 2022a.
n=309

Table 1 allows for a finding that students most believe that people physical appearance, race and being young impact sexual harassment. These results are presented in the descent order, also after Table 2-4.

2. Total mean and ranking EU students' self-assessment of levels of exposure to sexual harassment.

Table 2 demonstrates the mean results of each question and each question ranking in relation to the levels of exposure to sexual assault.

Table 2 Mean and ranking results related to the levels of exposure to sexual harassment (made by authors)

Nr	Question	Total mean	Ranking
42	Have you experienced sexual harassment in the last 6 months in your context?	1,35	4
43	Have you witnessed sexual harassment in the last 6 months in your context?	1,41	3
44	Have you reported about sexual harassment in the last 6 months in your context?	1,13	7
45	Have you experienced verbal sexual harassment in the last 6 months in your context?	1,44	2
46	Have you experienced nonverbal sexual harassment in the last 6 months in your context?	1,24	6
47	Have you experienced visual sexual harassment in the last 6 months in your context?	0,85	10
48	Have you experienced different perceptions of photo content or captions in the last 6 months in your context?	1,67	1
49	Have you experienced physical sexual harassment in the last 6 months in your context?	0,83	11
50	Have you experienced cyber/online sexual harassment in the last 6 months in your context?	1,03	8

51	Have you experienced physical health problems in the last 6 months in your context?	0,7	12
52	Have you experienced emotional disorders due to sexual harassment in the last 6 months in your context?	0,86	9
53	Have you prevented sexual harassment in the last 6 months in your context?	1,35	4
54	Have you reacted to sexual harassment in the last 6 months in your context?	1,28	5

Source: The authors.

n=309

Table 2 highlights that the exposure to sexual harassment refers to different perceptions of photo content or captions, verbal sexual harassment, and witnessed sexual harassment.

3. Total mean and ranking of EU students' self-assessment of beliefs in sexual assault

Table 3 prepared by Ahrens, Zascierinska, & Macovei (2022a) demonstrates the mean results of each question and each question ranking in relation to the beliefs in sexual assault.

Table 3 Mean and ranking results related to the students' beliefs in sexual assault

(Ahrens, Zascierinska, & Macovei, 2022a)

Nr	Question	Total mean	Ranking
55	Do you believe that younger people are more often to experience sexual assault?	2,74	3
56	Do you believe that people race might impact sexual assault?	2,78	2
57	Do you believe that people physical appearance might impact sexual assault?	2,95	1
58	Do you believe that marital status might impact sexual assault?	2,37	4

Source: Ahrens, Zascierinska, & Macovei, 2022a.

n=309

Table 3 emphasizes that students most believe that people physical appearance, race and being young impact sexual assault. These beliefs coincide with the students' belief in sexual harassment.

4. Total mean and ranking EU students' self-assessment of levels of exposure to sexual assault.

Table 4 demonstrates the mean results of each question and each question ranking in relation to the levels of exposure to sexual assault.

Table 4 Mean and ranking results related to the levels of exposure to sexual assault
(made by authors)

Nr	Question	Total mean	Ranking
59	Have you experienced sexual assault in the last 6 months in your context?	0,77	5
60	Have you experienced completed or attempted rape with unwanted penetration (vaginal, oral, or anal) by force or the threat of force in the last 6 months in your context?	1,06	4
61	Have you experienced emotional disorders due to sexual assault in the last 6 months in your context?	0,75	6
62	Have you experienced mental health problems due to sexual assault in the last 6 months in your context?	0,74	7
63	Have you prevented sexual assault in the last 6 months in your context?	1,2	2
64	Have you reacted to sexual assault in the last 6 months in your context?	1,21	1
65	Have you witnessed sexual assault in the last 6 months in your context?	1,1	3
66	Have you reported about sexual assault in the last 6 months in your context?	1,06	4

Source: The authors.
n=309

Table 2 allows for summarising that the exposure to sexual assault relates to reaction to sexual assault, prevention of sexual assault, and witnessed sexual harassment.

Table 5 reveals Top 3 beliefs and exposure to sexual harassment and sexual assault.

Table 5 Top 3 beliefs and exposure to sexual harassment and sexual assault
(made by authors)

Ranking	Sexual harassment		Sexual assault	
	Students' beliefs	Exposure	Students' beliefs	Exposure
1	Physical appearance of people might impact gender based discrimination	Different perceptions of photo content or captions	Physical appearance of people might impact sexual assault	Reaction to sexual assault
2	People race might impact gender based discrimination	Verbal sexual harassment	People race might impact sexual assault	Prevention of sexual assault
3	Being young might impact sexual harassment	Witnessed sexual harassment	Being young might impact sexual assault	Witnessed sexual harassment

Source: The authors.
n=309

Students' beliefs are of a higher level in comparison to a level of exposure to sexual harassment and sexual assault. Students' beliefs in sexual harassment and sexual assault fully coincide: from the beliefs' side and from the ranking perspective. Exposure to sexual harassment and sexual assault coincide in relation witnessed sexual harassment and sexual witnessed assault as well as their ranking.

Conclusions

The theoretical analysis allows for a finding that students' higher education studies can be defined as employment. Theoretical modelling established the inter-connections between sexual harassment and sexual assault, on the one side, and students' employment and work/job, health as well as non-direct economic impact, on the other side.

The exploratory study revealed that the level of students' beliefs is higher if compared to a level of exposure to sexual harassment and sexual assault. Students most believe that people physical appearance, race and being young impact sexual harassment and sexual assault. These students' beliefs fully coincide from the beliefs' side, and from the ranking perspective. Exposure to sexual assault is expressed by reaction to sexual assault and prevention of sexual assault. The study also assisted to find out that exposure to sexual harassment and sexual assault coincide in relation witnessed sexual harassment and sexual witnessed assault as well as their ranking.

The research was limited by taking into consideration only the relationships between sexual harassment and sexual assault on the one hand, and employment, on the other hand. The study was limited by the engagement of the respondents from only five European Union countries. The limitation was that the study's sample was composed of students in higher education only.

Implications for higher education refer to teaching staff in higher education. Today higher education can be described as a multi-cultural environment. Due to this, students might have different perception of the same phenomenon. Teaching staff should comment and explain in detail visual materials used in the lecture as different perceptions of photo content or captions was indicated as students' strongest beliefs in sexual harassment. Teaching staff should also carefully choose verbal comments when communicating with students as the study results show that verbal sexual harassment was the second strongest students' belief in sexual harassment.

Future work could focus on the involvement of wider public into the study. Statistical analysis could be used for data analysis in future.

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ASSESSMENT OF TRANSPORT LOGISTICS' GRADUATES COMPETENCES FROM THE POINT OF VIEW OF EMPLOYERS

Jurgita Ginavičienė

Vilnius College of Technologies and Design, Lithuania

Inga Piščikienė

Vilnius College of Technologies and Design, Lithuania

Indrė Sprogytė-Bredelienė

Vilnius College of Technologies and Design, Lithuania

Abstract. *The modern logistics business world is changing and presents new challenges to companies, so it is currently necessary to pay attention to the competence of employees, but also to predict which of these competences will be necessary in the future. The aim of this work was to research the competences of Vilnius College of Technologies and Design Transport Logistics graduates from the point of view of employers. Based on scientific literature and in dept interview of Lithuanian transport and logistics companies' managers, the article reveals the significance of qualified transport logistics specialists. It presents the analysis of the competences of Vilnius College of Technology and Design Transport Logistics graduates. According to experts, 88.5 percent of Transport Logistics graduates of the Vilnius College of Technology and Design have very good knowledge and skills. They are zealous, possessing not only theoretical but also practical knowledge. They are able to analyse practical situations, not afraid of challenges.*

Keywords: *competences, the point of view of employer, transport logistics manager.*

Introduction

In Lithuanian transport companies, the main workload and the main part of the tasks related to generating profit, as a rule, falls on transport logistics managers (Puodžiukienė & Aksomitienė, 2019). Therefore, the level of employees' competences, the ability to promptly respond to changes in the market is becoming more and more important.

Job satisfaction, performance evaluation, feeling of appreciation, recognition, etc. - these expectations an employee brings to a company. Any job dissatisfaction and failure to meet these expectations may lead to employees not putting their best effort into their work, not doing their work quickly, and not fully committing to the

company; and failure to do the work timely and efficiently is associated with losses for the company (Bagdonas, 2008).

Likewise, employers also expect their staff to meet certain criteria. Čižiūnienė, Vaičiūtė & Batarlienė, 2015 said that “there are cases when a lack of competences encourages the employers to seek for certain alternatives”. That is why the acquired qualifications and competences of the employees are extremely important.

The object of this article's research is the professional competence of transport logistics graduates of the Vilnius College of Technology and Design at the beginning of their careers.

The aim of the paper is to address the competences of Vilnius College of Technologies and Design Transport Logistics graduates the point of view of employers.

Goals of the article are as follows:

- To present the concept of the competences of Transport Logistics specialists.
- To carry out in-depth interviews on competences of Vilnius College of Technologies and Design Transport Logistics graduates

The research methods used by the authors: analysis of scientific literature, systematization, generalization and comparison, Lithuanian transport and logistics companies' managers in-depth interviews.

Concept of the competence of Transport logistics specialists

The concept of competence has been addressed by various researchers from different angles. For example, in the opinion of (Armesh, Wei, Ghalandarzehie, Sargolzaie, & Kahraze et al., 2014, Dobroszek, Mourao, & Grzesiak, 2019), the competences of specialists have an impact on the management of a technological environment, and the competitiveness of an organization. For some, the competences of logistics specialists, together with the investment in technologies, enable a company to gain a major competitive advantage in the market, and, respectively, comprise the present and future service possibilities of a transport organization (Katinienė, Jezerskė, & Vaičiūtė, 2021). Another scholar, Liikamaa (2015), defines a competence as an individual's underlying characteristic that is causally related to effective performance in a job or situation. They state that the principle of competency evaluation is that competences have to fit the required characteristics and the job (Spencer & Spencer, 1993). For Katinienė et al. (2021) “a competence is a set of personal applied abilities, skills and professional knowledge, required to choose the necessary operational methods and to perform the activities/functions/work of a particular type”. A competence is also defined as the

ability to perform a certain activity based on all acquired knowledge, abilities, skills and values (Čižiūnienė et al., 2016, Prusak, 2016). According to Vaičiūtė, Skirmantienė, & Domanska (2017), competence is a demonstration of efficient performance, ability to conduct assigned tasks in real and simulated work situation.

To summarize, it can be claimed that a competence is a set of person's abilities, such as personal skills, special skills, which help to complete assigned tasks. It signifies employee's ability to perform certain tasks. This definition will be a starting point for our research.

The scientific literature presents a variety of different competence groups. Researchers often classify competencies based on their logic, theory and purpose of the study, for example, Threshold and Performance competencies, Soft and Hard competencies, Prior and Empirical Classification (Mühlbacher, Nettekoven, & Putnova., 2009).

Competence Baseline classifies competences into three categories: technical, behavioral and contextual. Thus, competences are a behavioral approach to emotional, social and cognitive intelligence (Boyatzis, 2008).

Goleman divides competences into two main groups and five subgroups. Personal competences are self-awareness (competences 1–3), self-regulation (competences 4–12), cognitive skills (competences 13–15), motivation (competences 16–19) and social competences are empathy (competences 20–23) and social skills (competences 24–30) (Liikamaa, 2015).

Researchers Martinkus, Neverauskas, & Sakalas (2002) distinguished the following types of general competences:

1. Personal – personal development, communication with companies and team members. Comprises such skills as communication and cooperation, ability to delegate, creativity, stability and self-confidence, ability to work intensively in a team.

2. Social – ability to work with co-workers, executives, clients and create certain climate in a company. Ability to present oneself, to contact, to negotiate in a flexible manner, to cooperate, to express opinions and question;

3. Methodical – ability to obtain information, to process, to evaluate and to provide suggestions, to improve future operations, participation in social processes;

4. Professional – encompass all knowledge, preparation, necessary to conduct specific professional assignments. Necessary professional knowledge, experience, skills and knowledge on the product;

5. Management – management of specific professional area or organization. Assurance of company's results, production supply, innovations, strategic reasoning and planning, encouraging employees.

For the present work, the following three main competence groups are identified: special competences, social competences, personal competences (Vaičiūtė et al., 2017; Puodžiukienė & Aksomitienė, 2019). In Transport Logistics, special competences mean understanding the principles of logistics and transport operations, i.e., the competences required to fulfill the assignment. Analytical (social) competences are the competences needed to plan an optimal route, select cargo criteria, identify the needs of the clients, i.e., the competences related to the analysis, synthesis, modeling methods. Personal competences are communication, cooperation with clients, i.e., self-management competences.

Lin & Chang, 2018 proposed a framework with 83 required skills in logistics industry (33 business skills, 18 logistics skills, and 32 management skills).

Stankevičienė & Lobanova, (2006) identify four competences that are important in the context of person's work. The first, personal competence, is determined not by knowledge, but rather by employee's personal characteristics. The second, professional competence, is a range of qualities, abilities and experience applicable to employee's specific area of work. The third, social competence, comprises ability to communicate with other people. The last competence, identified by the scholars, is management ability, i.e., assurance of one's area of work and organization's results.

Table 1 Personal Competencies (prepared by the authors)

Puodžiukienė, Aksomitienė, 2019	Liikamaa, 2015	Vaičiūtė et al., 2017
Responsibility	Self-confidence	Responsibility
Good reaction	Self-assessment	Diligence
Commitment	Trustworthiness	Initiative
Diligence	Flexibility	Creativity
Conscientiousness	Innovation	Persuasiveness
Punctuality	Responsibility	Self-confidence
Initiative	Stress management	Goal and result-orientation
Self-control	Analytical thinking	Communicability
Persistence	Language proficiency	Persistence
Creativity	Achievement drive	Good memory
Aesthetic appearance	Commitment	Logical reasoning
	Initiative	Independence

The analysis of the classification of competences identified by different scientists, demonstrates the never-ending criteria and approaches applied for meaningful competence grouping. However, despite the different concepts, all researchers consistently distinguish personal competences, social competences and

professional competences as part of their approach. Thus, based on the analysis of scientific research, tables of different competencies were compiled.

Table 1 presents personal competencies based on the results obtained by three different studies.

Drawing on the results of the general competences table, it can be stated, that responsibility, creativity, initiative and self-confidence are personal competences identified by all researchers.

Meanwhile, such competences as aesthetic appearance, language proficiency, independence raise the question of whether they can still be classified as personal competences. This is especially true for language proficiency, as most researchers have identified it as social competence.

The results of yet another research, conducted in Finland, revealed that the most important competencies were "Achievement drive and Leadership, as well as Conflict management and Initiative" (Liikamaa, 2015).

A group of Lithuanian researchers also claimed that "it is possible to distinguish character traits that are regarded as very important by executives of Lithuanian and Polish transport companies: responsibility, goal and result-orientation, communicability, logical reasoning" (Vaičiūtė et al., 2017).

Researchers (Puodžiukienė, Aksomitienė, 2019) claim that the majority of respondents, when assessing the personal abilities of the managers in their companies, rated responsibility, quick orientation and conscientiousness as the most important. Hard work and honesty were named as equally important."

Drawing on numerous scientific research (Puodžiukienė, Aksomitienė, 2019; Liikamaa, 2015; Chang & Lin, 2018; Vaičiūtė et al., 2017), a list of social competences was developed and presented in Table 2.

Such social competences as negotiation skills, knowledge of foreign languages, ability to work in a team, delegation, appear to be among the most important ones, as they have been presented by the majority of the researchers.

It should also be noted that Chang & Lin, in their 2018 study, put more emphasis on study subjects, which they classified as business skills.

Vaičiūtė, Skirmantienė, & Domanska, in their research paper in 2017 claimed that „the research results have shown that leadership skills, driving license, the ability to work in a team, organizational skills, delegation, the ability to influence are important”.

Table 2 Social Competencies (prepared by the authors)

Puodžiukienė, Aksomitienė, 2019	Liikamaa, 2015	Chang & Lin, 2018	Vaičiūtė et al., 2017
Ability to expeditiously solve problems	Understanding others	Foreign Language	Leadership skills
Ability to work in a team	Developing other people/ Leadership	Operation system/software savvy	Ability to solve problems quickly
Negotiation skills	Leveraging diversity	International finance/exchange/trade	Driving license, Category B
Knowledge of Russian/ English/ German/foreign language	Organizational savvy	Business negotiation /communication	Ability to work in a team/ Delegation/Ability to influence
Leadership skills	Communications	Management (Strategy/ Financial/ Marketing/ Human resource/ Customer relationship)	Organizational/ negotiation / good computer skills
Delegation	Management	General business administration/ Business regulation/ Business statistics	Decision making
	Collaboration /Team Capabilities Relationship building	Accounting and cost control/Insurance	Knowledge of Russian/ English/ German/foreign language
		Micro/macroeconomics	

Research also reveals that communication skill is perceived as the most important business skill, followed by customer and strategy management skill, computer skill, finance skill, international trade and regulation skill, and regression analysis skill (Chang & Lin, 2018).

Research conducted by Lithuanian scholars (Puodžiukienė & Aksomitienė, 2019) indicate that the general abilities of managers working in transport and logistics companies are most valued: the ability to promptly solve problems, work in a team, negotiation skills and knowledge of English and Russian.

Special competences are of core importance when evaluating Transport logistics specialists. The list of competences is provided in Table 3, which presents the data of the research conducted by three groups of scientists (Puodžiukienė, Aksomitienė, 2019; Chang & Lin, 2018; Vaičiūtė et al., 2017).

Table 3 Special Competencies (prepared by the authors)

Puodžiukienė, Aksomitienė, 2019	Chang & Lin, 2018	Vaičiūtė et al., 2017
Employee work organization	International logistics/ Global logistics management	Planning
Planning	Transportation management/ Distribution management	Organization
Transportation processes management	Intermodal logistics	Management of the Warehouse functions
Preparation of Reports	Logistics law and regulation	Management of Transportation Process of Logistics Product. Quality assurance
Maintaining client relations	Logistics information system	Preparation and Implementation of Projects and Plans
Initiation and implementation of innovations	Delivery management	Issuance, acceptance and maintenance of documents to improve transport business
Searching for new clients and intermediaries	Quality assurance management	Initiation and implementation of Innovations
Customs clearance	Transportation economics	Inventory management
Management of transport documents	Supply chain management	Calculating service costs
Preparation of projects and plans	Electronic commerce	Preparation of Reports
Stock management	Enterprise resource planning	Preparation of contracts
	Inventory management/ Warehousing management/ Order management	Employee work organization
	Logistics system simulation	Warehousing and control of logistics product
	Purchasing/ Retailer management	Maintaining lasting client relations
	Production plan	Searching new clients and carriers

The analysis of the table demonstrates that different research revealed various special competences that were appreciated, and that the way these competences were prioritized was different. For example, the research conducted by Lin et al., 2018 revealed that transportation skill is perceived as the most important logistics skill, followed by global logistics and supply chain management skill, logistics information management skill and logistics operation skill. (Chang & Lin, 2018); a similar research by Vaičiūtė et al. (2017) revealed that such competencies as

planning, coordination and control of order fulfillment process, maintaining lasting client relations, calculating service costs as well as searching for new clients and carriers hold particularly importance". In their research findings indicate that "organizing the work of employees, planning and managing transportation processes, preparing reports and maintaining relations with customers" are of vital importance (Puodžiukienė & Aksomitienė, 2019).

Thus, to conduct the survey of the competences of Transport Logistics graduates of Vilnius College of Technologies and Design, representatives of transport logistics companies were introduced to the concepts of competences and their division into main groups. The respondents were requested to evaluate special competences (competences required for work), as well as social competences and personal competences, based on compiled lists of competences (Table 1, Table 2, Table 3).

Research of the competence of Vilnius College of Technologies and Design Transport logistics graduates

To obtain representative results of the in dept interview, the target survey segment was established, i.e., 10 experts that matched the following criteria were interviewed: respondents had to have education in the sphere of logistics or transport, at least a 5-year working experience in a transport organization, and at least a 3-year management experience. They also were employees at the companies that had hired the highest number of Transport Logistics study programme graduates of Vilnius College of Technologies and Design.

The experts were asked to assess the competencies necessary for transport logistics specialists and to rank them according to their importance. The interviewees also had to assess which competencies were the most important for a transport logistics manager working in a transport organization.

Graduates of Transport Logistics study programme at Vilnius College of Technologies and Design perform a variety of functions: search for the cargo/transport, plan routes as well as working hours of the drivers, control and manage the movement of vehicles, accept orders from the company's customers, control the cargo transportation process, communicate with clients, administers documents related to cargo transportation.

The first task of this study was to find out whether the managers were satisfied with the level of competences of the existing employees, and whether their competence was sufficient for the position. Majority of the managers said that not all employees have the necessary competencies; however, some competencies are acquired only in work activities, and employees often lack work experience. The

employer has the opportunity to choose from a larger number of people who want to work, which creates career opportunities in companies.

While assessing the competences of Transport Logistics graduates, the experts indicated a good command of foreign languages (English, Russian), good teamwork skills, critical analytical working skills, digitization skills and specialist knowledge, e.g. knowledge of international transport markets. Although knowledge of English and Russian languages is good, skills of German or other EU languages are lacking.

Interviewees also indicated that experience is not always a necessity, but motivation, honesty and responsibility are of real importance. By observing graduates in their work activities, companies have the opportunity to observe their work and demonstrated competences and abilities during the trial period.

Experts stated that knowledge of law, of project management as well as ability to work with special IT programs is very important; however, graduates lack this knowledge.

According to the experts, as many as 88.5 percent of Transport Logistics graduates of the Vilnius College of Technology and Design demonstrate very good knowledge and skills.

The experts stated that practical knowledge of the graduates is of particular importance. They confirmed that the Transport Logistics graduates of Vilnius College of Technology and Design have excellent practical knowledge, which largely depends on the individuality and personal characteristics of the person.

When evaluating professional competences, the experts emphasized that graduates are able to apply theoretical knowledge in practice, know and comply with the requirements for work safety, know foreign languages, and are able to formulate a task and perform it. Graduates lack decision-making autonomy.

Experts assessed graduates of Transport Logistics at Vilnius College of Technologies and Design as hard working, eager to learn new things at the workplace, and hungry for new knowledge. When presented a task, they quickly figure it out and present several ways to solve it.

So, it can be stated that the graduates are curious, having not only theoretical but also practical knowledge. They are able to analyze practical situations, and not afraid of challenges.

Experts were asked to evaluate the personal qualities of the graduates. Interest in work and profession, conscientiousness, diligence, creativity, communication, ability to work in a team were considered the most important qualities. Such personal qualities as diligence and honesty, initiative, was the least manifested.

Thus, the graduates are really motivated and responsible, diligent and open to new tasks and responsibilities.

In conclusion, it can be stated that the result of this research expresses wishes and views of a large group of Transport logistics' professionals regarding the competencies that are important for those who work in the field. The results can be utilized in decision making, recruitment, selection, education, training.

Conclusions

Scientific research emphasized the importance of the competencies of logistics specialists. The competence is a set of person's abilities, such as personal skills, special skills, which help to complete assigned tasks. The concepts of competences are division into main groups special competences (competences required for work), as well as social and personal competences.

While assessing the social competences of Transport Logistics graduates, the experts indicated a good command of foreign languages, good teamwork skills. Interviewees also indicated that the personal competences are motivation, honesty and responsibility and critical analytical working skills are of real importance. As special competences, respondents mention digitization skills and specialist knowledge of law, of project management as well as ability to work with special IT programs are very important.

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ANALYSIS OF INFORMATION AND ANALYTICAL COMPETENCE IN IMPROVING LIBRARY EDUCATION

Sergey Arakelov

Tashkent University of Information Technologies
named after Muhammad Al Khwarizmi, Uzbekistan

***Abstract.** The article analyzes world concepts and foreign experience in creating a new paradigm in the development of information and library education in the digital age. It is proposed to use educational technologies in teaching information and library disciplines, taking into account the analysis of information and analytical competencies, which can change the quality of the process of training highly qualified specialists for information and library institutions of the republic.*

***Keywords:** competency-based approach, innovative educational technologies.*

Introduction

In the Concept for the Development of the Higher Education System of the Republic of Uzbekistan until 2030 (Ukaz Prezidenta Respubliki Uzbekistan, [UPRU], 2019), in the paragraph “Introduction of digital technologies and modern methods into the educational process”, in order to introduce digital technologies and modern methods into the educational process, the following activities are proposed: the use of “cloud technologies” in educational processes; the widespread introduction of a system of electronic libraries with the possibility of remote use of them, the expansion of opportunities for continuous improvement of the professional qualifications of students by organizing the use of the library fund and databases after completing their studies at higher educational institutions; acceleration of the creation of national electronic educational resources, organization of work on the translation of foreign electronic educational resources, a gradual increase in the share of electronic resources in the educational process, (UPRU, 2020) the creation of electronic educational literature, as well as a system for placing information on electronic resources in libraries using a QR code in order to download electronic educational literature on mobile devices; creation of an electronic database of scientific and technical information, consisting of materials of conferences, graduation theses, master's and doctoral dissertations of a higher educational institution, the widespread introduction of the use of an anti-plagiarism system

in order to preserve the novelty of scientific and technical information in the future, etc.

Literature review

Korshunov (2021) and Shirkova (2021) presented the results of the analysis of Russian and foreign recruiting companies. They compared the requirements that are contained in the vacancies for library specialists from analytical databases. In the US, a librarian is an IT specialist. In the group of digital skills of the competence profile of an American librarian, knowledge of 3D printing, statistics, application testing, BigData, layout, digital curating, SMM, digital and information literacy. American employers focus on knowledge-intensive and high-tech skills that affect the main areas of activity of a modern specialist: creating libraries and library systems at the national level, participating in consortiums, and developing global perspectives. There is an increased demand for competencies related to working with clients, holding events.

The experience of the scientific and technical library of the Dnepropetrovsk University of Railway Transport (SNL DNURT), reflected in the work of the library director Kolesnikova (2020) "The concept of intellectualization of the library profession and its implementation at the university." The strategic goal of the library is to be the center of integrated information support for educational and scientific processes, as well as cultural activities of the university. The mission of the library is the most effective, comfortable and high-quality satisfaction of the information needs of university communities in study, scientific research, pedagogical and administrative practice.

The main characteristic feature of the library activity is the definition of intellectual information technologies as a strategic vector of its functioning, an ideologeme of its development and an indispensable condition for existence. These principles of development and activity contributed to the creation of an innovative model of the university library - "Library - information intelligence center" (Kolesnikova, 2020), which provides the creation of opportunities for equal access of users to documents, information and knowledge in order to increase the efficiency of the university on training highly intelligent specialists and conducting high-quality scientific research.

Arakelov & Rahmatullaev (2022) consider information, information and analytical competence as a component of the professional competence of a specialist. The interdependence of computer literacy and professional competence, defining this interaction as a special information literacy, which is updated at the professional level. Information competence reflects different levels of professionalism of the individual, his professional development as a relatively new socio-cultural phenomenon, which is fixed in the regulatory requirements for a modern specialist.

Palkevich (2021) presented for discussion several incarnations of the librarian of the future: Librarian 4.0, bibliographer 5.0, information curator and event architect. The position of a new type of bibliographer includes five key competencies: knowledge engineer, local knowledge environment designer, bibliolinguist, info-set assembler, knowledge archaeologist plus information curator and event architect.

Korshunov (2021), in turn, noted that an information and library specialist is: an analyst-synthesizer, a creative information navigator, a specialist in the field of digital technologies, an instructor in the development of information culture, a manager and marketer in the information and library field, etc.

Methodology

Methodological basis of the research was the theory of knowledge, which is significant for the development of analytical activity as a process of mastering the accumulated knowledge about an object. *The object* of the research is information and analytical activity. *The subject* of the study is the means, methods for developing the information and analytical competence of library specialists.

Purpose of the research. Improving teaching methods in information and library education, taking into account the analysis of information and analytical competences of future specialists.

Studies by foreign experts and scientific schools show that as the level of development of the industry increases, the range of skills required by a librarian expands significantly.

Methods. The works of Raven & Stephenson (2001) are widely known in the field of the diagnostic's method and research of competence, its assessment and implementation. Of no less interest are the studies of Spencer & Spencer (2005), who developed methods for assessing competence and predicting the results of the work of specialists based on competencies. Also widely known are the works of Short (1984), who considered competence as a macro concept and identified four approaches to its decoding. Ganieva & Arakelov (2019) considered the method of developing competencies and competitiveness as one of the most promising in improving the training of information and library specialists.

The essence of the intellectualization of the library profession is considered by us as the constant acquisition by specialists of relevant library and information knowledge in the process of study or self-education, as well as in increasing the possibilities for their creative implementation in the professional field. Characterized by effective informational thinking and skills that allow to increase the amount of consumed, processed and qualitatively reproduced information, a modern specialist is focused on improving the quality and

comfort of user service, that can be achieved, in turn, by a competency-based approach to information and library learning (Arakelov & Rahmatullaev, 2022).

In the course of the work, a set of research methods was used: the general scientific method of theoretical analysis of selected publications on the research topic; a method of comparative analysis for studying foreign and domestic experience in studying the competencies of a specialist in the library and information sphere; terminological analysis method for introducing the concepts of competences into work. The conducted terminological analysis allowed us to reveal the essence of the information and analytical competence of a library specialist - this is a professionally significant personality trait, manifested in the ability to effectively solve social and professional problems using information and communication technologies, improve one's skills in the field of information technology, and adapt professional knowledge to the changing conditions of the information society.

As a system, information and analytical competences includes tasks, functions, properties, has its own characteristics and structure (Mamontova, 2011), which were investigated in the course of the study.

The tasks are: enrichment with knowledge and skills from the field of informatics and information and communication technologies; development of communicative, intellectual abilities; implementation of an interactive dialogue in a single information space.

The functions include: normative-legal (indicators of achievements and development; it manifests itself as a system of moral norms, norms of a legal nature, which must be followed in the information society); epistemological (aimed at the systematization of knowledge, knowledge of the surrounding reality and self-knowledge by a person of himself); communicative (ensuring communication in the information society); adaptive (adaptation to the conditions of the information society); evaluative (assessment of the significance, usefulness of information, etc.); developing (formation of an active life position, independence, self-realization on the basis of a certain system of knowledge and norms adopted in the information society).

Properties have the following properties: dualism - the presence of an objective (external assessment of information competence by society) and subjective (internal - self-assessment of one's information competence by an individual) parties; relativity - knowledge and knowledge bases quickly become obsolete, so they can be considered as new only in a conditionally defined space-time interval; structuredness - each person has his own specially organized knowledge bases, hierarchically ordered into a certain system of knowledge about information, its types, properties, functions and methods of working with it, using information technologies in professional activities; accumulateness - knowledge and knowledge bases tend to "accumulate" over time; newly incoming knowledge is built into existing arrays;

selectivity - there is a selection of knowledge according to the principle of usefulness, the possibility of practical use in professional activities; dynamism - implies that a specialist does not have a significant amount of knowledge, but the ability to constantly update, update at the right time and use them in the process of professional activity; integrativity - manifested in the relationship with the socio-cultural environment of a librarian and the development of society as a whole; polyfunctionality - the presence of a variety of subject-specific knowledge bases (the semantic component of knowledge bases is multifunctional) allows you to perform many functions that are a factor in the success of the professional development of a librarian.

The peculiarity is that information competence is manifested in: self-renewal, application of new forms and ways of meeting the information needs of subjects, adapting information competence to changing conditions; self-development, complication of structural, functional and organizational parameters of the entire system of information competence; deepening the specialization of individual elements and the level of their interconnectedness and interaction with each other.

Research results

In dissertation work (Mamontova, 2011) proposed an alternative vision of the structure of information competence of a library specialist, which includes three components: cognitive, activity-creative and personal-motivational. The percentage distribution by the number of competencies (20% - cognitive component, 65% - activity-creative, 15% - value-motivational) corresponds to the general principle of practice orientation in the credit-modular system of higher professional education.

Monitoring (questioning, observation, interview, analysis and synthesis of data on student performance) of academic groups in the undergraduate direction "Library and Information Activities" of TUIT named after Muhammad al-Khwarizmi among students in the undergraduate direction "Library and Information Activities" (60-3rd year students and 50-4th year students) showed effectiveness (about 36% of average scores, about 28% of high scores) of the competency-based approach in the credit-module system of education and training of future library specialists compared to the traditional (academic) form of education (about 34% of average scores and about 18% of high scores) added optimism to continue active introduction into the learning path of information - analytical competencies, taking into account the processes of intellectualization of ICT.

Table 1 Summary of the results of the survey of undergraduates and students of bachelor (made by author)

No	Questionnaire Questions	Questionnaire answers	Quantity	%	Ranked
1	Status	Masters, bachelors	110	100	1 2 3 4 5
2	What professional competencies would you like to have:	1.Working with public organizations, attracting extra-budgetary funds and resources (PR management, advertising, fundraising, crowdfunding, outsourcing, etc.)	20	18	5
		2.The use of Machine Learning methods (ML) in the analytical work of the library	19	18	4
		3.Preparation and implementation of projects	18	17	3
		4. Working with Big Data in the library (large amounts of various data that require advanced methods and technologies for their collection, storage, distribution, management and analysis)	14	13	2
		5. Organization of cultural events	14	13	2
3	On what knowledge and skills, to the greatest extent, the effectiveness of library work depends:	1. Organizational skills	35	33	5
		2. Leveraging Library Innovation	33	31	4
		3.Communication skills, ability to work in a team	19	18	3
		4.Using Social Media to Advertise Library Activities	17	16	2
		5.Working with world information resources	16	15	1
4	What professional competencies are most important for a modern librarian:	1.Computer Literacy and Information Literacy	49	46	5
		2.Ability to navigate in the information space (navigation through information resources)	35	33	4
		3.Willingness to master and implement innovative technologies	28	26	3
		4.Ability to apply professional knowledge in practice	25	24	2
		5.Out of the box thinking, creativity	25	24	2
5	In what areas of the library activity do you need additional knowledge:	1.Application of information technology in the library	24	23	5
		2.Organization of funds and catalogs	23	22	4
		3.Information and analytical work	21	20	3
		4. Library statistics	15	14	2
		5.Reference and bibliographic work	13	12	1

On the other hand, diagnostics of the level of information and analytical competence of library specialists of the city information and library system made it possible to identify problem areas in the constituent components of information competence:

- the results of the analysis of data characterizing the cognitive component suggest that 56% of library specialists have theoretical knowledge at a low level; 28% - at an average level and 12% have knowledge at a high level. A weak theoretical basis for librarians was revealed. It is due to the low number of specialists with vocational education (10% higher and 34% secondary specialized education). A special problem is caused by the normative criterion: 45% of the respondents have a low level of right-wing culture. The survey was conducted voluntarily, anonymously, remotely, however, some employees of the city information and library system refused to take part in the survey, which, in our opinion, indicates some psychological barriers in understanding, studying and working with ICT for acquiring and improving information and analytical competence;

- the data characterizing the activity-creative component indicate that the leading place is occupied by such competence as “ownership of applied software”, the interdependence of the development of information competence and the creative component is confirmed (51% of respondents confirmed that the growth of information-analytical competence is accompanied by creativity, creativity in the profession);

- data characterizing the value-motivational component indicate the presence of two basic motives that stimulate the development of information and analytical competence of a library specialist, taking into account the ICT intellectualization process: “improving my professional level”, “increasing my own self-esteem”.

Factors contributing to the development of information and analytical competence were also identified (availability of good computer equipment; high level of computer proficiency among colleagues; monetary incentives, i.e., external factors for stimulating activities); hindering the development of information and analytical competence (lack of theoretical knowledge; imperfection of computer technology, the inability to update it in the near future; imperfection of methodological work and lack of advanced training courses and retraining of personnel).

Table 2. Summary of the results of the survey of managers and employees of the city information and library system (made by author)

No	Questionnaire Questions	Questionnaire answers	Quantity	%	Ranked
1	Status	Managers and employees	60	100	1 2 3 4 5
2	What professional competencies would	1. Consulting users and issuing informational certificates	22	52	5

	you like to have:	"questions - answers" (in traditional and electronic forms) 2. Preparation of book exhibitions, days of information, days of a specialist, benefit of the author, book premiere 3. Working with public organizations, attracting extra-budgetary funds and resources (PR management, advertising, fundraising, crowdfunding, outsourcing, etc.) 4. Creation of multimedia products (training videos, presentations) 5. Use of Machine Learning methods (machine learning) in the analytical work of the library	18 17 16 15	43 40 38 36	4 3 2 1
3	On what knowledge and skills, to the greatest extent, the effectiveness of library work depends:	1. Leverage library innovation 2. Use of Internet resources 3. Leadership qualities 4. Communication skills, ability to work in a team 5. Using social media to advertise library activities	40 32 32 20 20	95 76 76 48 48	5 4 4 3 3
4	What professional competencies are most important for a modern librarian:	1. Computer literacy and information literacy 2. Willingness to master and implement innovative technologies 3. Ability to apply professional knowledge in practice 4. Ability to navigate in the information space (navigation through information resources) 5. Out of the box thinking, creativity	40 37 27 22 21	95 88 57 52 50	5 4 3 2 1
5	In what areas of the library activity do you need additional knowledge:	1. Reference and bibliographic work 2. Application of information technology in the library 3. Forms of cultural and leisure work 4. Methodical work 5. Organization of funds and catalogs	31 28 20 18 18	74 67 48 43 43	5 4 3 2 2

Libraries with a new philosophy that comprehends (taking into account the increasing virtualization of communication with readers) the concept of free access to information as a system of distributed information resources based on network technologies.

Thus, it can be argued that library and information specialists of a new qualification level are gradually acquiring new competencies. They become experts, consultants on the principles of creation, preservation, distribution, management of electronic information resources (EIR) and technological means.

It is the librarians of the new formation, who implement the concept of deep intellectualization of their profession, who will secure the user's priority and the efficiency, comfort, speed of his information service in the relationship "library success - university success" (Kwanya, Stilwell, & Underwood, 2013).

Conclusions and discussion

In foreign libraries, there is currently a tendency to single out information learning as an independent direction. You can even see it in the job titles. So, employees who are directly involved in the reference service in the "request-response" mode are called "reference librarians", and employees who train users are "educators". And if earlier informational training of users to search for information was mainly characteristic of academic libraries (university libraries), where it was integrated into training programs as independent courses, now the range of libraries offering training services is expanding, for example, due to public libraries.

At present, the need for user training is determined not only by well-known factors (the educational mission of libraries, the need for users to adapt to the information environment, the obligatory library orientation and bibliographic training), but also by general trends in the development of the information society.

Thus, from the analysis of discussions in the literature, we can conclude that the library in the future should become an innovative intellectual library "Library - information intelligence center", in which the system will analyze the information itself and provide conclusions to users. The role of information and library specialists will be very important for the implementation of the above; Librarian 4.0 and bibliographer 5.0 training should be a top priority in the near foreseeable future, taking into account the intellectualization of ICT (Pedersen, 2016; Varnum, 2017; Palkevich, 2021).

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MODELS AND ALGORITHMS FOR OPTIMIZING LEGAL INFORMATION RETRIEVAL IN THE CORPORATE NETWORK OF ACADEMIC LIBRARIES

Odil Urinkulov

Tashkent University of Information Technologies named after Muhammad al-Khwarizmi, Uzbekistan

Murod Abdullayev

Tashkent University of Information Technologies named after Muhammad al-Khwarizmi, Uzbekistan

Abstract. *With the rapid growth of information in the global network, the challenges of finding information quickly and easily in a narrow range of fields of study and specialization are increasing. People are constantly looking for information in some form throughout their lives. This is the result of the constant striving of human beings for innovation, efforts to improve personal and professional competencies. One of the main objectives of libraries is to meet people's needs for information. In short, this process can be called the type of informational support. The main purpose of this research is to develop models and algorithms to optimize the effective search of information about health information in corporate networks. Electronic libraries in the field of jurisprudence serve not only to train personnel in the field of jurisprudence, but also to increase legal literacy in society, to make citizens aware of their rights and obligations, and to prevent them from becoming victims of various frauds. For organizations, it serves as the most important repository of knowledge for their employees to constantly update their legal knowledge, to draw up normative-legal documents, contracts and agreements within the framework of legal requirements. Despite the fact that the field of jurisprudence is one of the most important areas of activity, the provision of scientific information to this field is not sufficiently systematized. Different organizations and institutions store their existing legal literature in the way they choose, and there is no single mechanism for making it available to users, digitizing, classifying, and searching for it. Most library users rate the efficiency of the library by the availability of the necessary literature. A survey of law students and professors was conducted to examine the interest of library users in legal electronic literature and their use. More than 50% of respondents use the electronic library daily, 93% are looking for legal literature, and 50% of participants said it is difficult to find legal literature. Also, all respondents (100%) approved the need to create a single corporate network by pooling electronic resources of higher education institutions providing legal training.*

Keywords: *algorithmizing, functional modeling, fuzzy set theory, hierarchical analysis, mathematical modeling, mathematical statistics, semantic search.*

Introduction

In this article, we will consider the problems of increasing the efficiency of searching legal literature in the academic electronic libraries of the higher education institution and the methods of their elimination. The main goal of this research is to develop models and algorithms to optimize the effective search for information on corporate networks. In the article the theoretical research methods (method of comparison and critical thinking) and empirical research methods (data collection and document analysis) have been applied (Karimov & Rakhmatullaev, 2008). The provision of informational support is related to the satisfaction of information requests of various categories of consumers: organizations, institutions and individuals. This includes not only statistics, surveys, archival data, but also official institutions, as well as books and journals, scientific lectures, dissertations and other sources of information related to science and education. Libraries are the most common form of this type of information provision, and information analysis services and centres are becoming increasingly important in today's environment.

With the extensive development of information and communication technologies in recent years, modern libraries have been transformed from passive warehouses storing printed documents into active automated information and information resource centres (IRC), electronic libraries, Centres that transmit and receive documents by e-mail, global telecommunications, Internet. Electronic libraries are not created as an alternative to traditional libraries and automated libraries. The EL is more comprehensive than the traditional library concept, it is a collection of annotated and full-text information related to a common system of electronic library catalogues and classification and coding of information (Karimov & Rakhmatullaev, 2008).

Whether libraries are traditional or electronic, finding literature or information that meets user needs has always been a relevant issue. The large amount of data, their relevance to different fields of science, and search requests that are made by different type of users are causing difficulties in the searching process. It can be seen that one of the main problems of searching information in modern libraries is the lack of qualitative and correct classification of the literature stored in them, and it is known that they belong to different disciplines.

From this point of view, in recent years, higher education institutions with the greatest demand for electronic library services need to create electronic libraries in the fields of personnel specialties trained in this educational institution, and integrate them with electronic libraries of other similar institutions, by this way serious attention is being paid to the creation of a specialized corporate information-library network and its joint use.

One of such fields of science is the field of jurisprudence. The field of jurisprudence is particularly important due to its strict rules, management and regulatory nature, normative determination of human, society and state relations. Also, another important aspect of jurisprudential literature is that they are constantly changing and improving according to the demands of the times. This, in turn, creates the need to organize electronic libraries in the field of jurisprudence and to constantly improve them.

The findings of the above research suggest that legal science in corporate networks should pay special attention to searching information based on semantic and unclear rules, improving processing technologies, database and logical knowledge design.

Analysis of foreign experience in the creation of corporate networks and databases

In the world, many scientific research works and practical projects aimed at creating and improving the system of information search in corporate networks, designing of data and semantic knowledge base, intellectual analysis of data, search, storage algorithms and software modules have been implemented. Problems of intelligent data retrieval and processing in computers include mathematical statistics, fuzzy set theory, natural language processing (NLP), machine learning, big data, deep learning, knowledge repository, methods based on expert systems and commercial companies such as IBM, Meta, Yandex, Rambler, Mail.ru and a number of scientists, including keyword and keyphrase extraction techniques (Siddiqi & Sharan, 2015), Keyword Extraction from Documents Using a Neural Network Model (Jo, Lee, & Gatton, 2006), klink search (Soumya, 2021), legal terminology of the Uzbek language (Kuchimov, 2020), analyzing and tuning user queries to search engines (Bufnea, 2012) have conducted research work.

Among the scientists who have carried out Understanding Electronic Resources Collection Development Practices Through Selected Theories (Okogwu, 2021), machine-readable cataloging (Avram, 1975), work about creation of corporate information-library systems, as well as creation, the introduction and implementation of models and algorithms of centralized cataloging and information search systems were studied (Karimov & Rakhmatullaev, 2008).

The Library of Congress of the United States of America (Cassell & Hiremath, 2014) has also begun to work on the creation of a bibliographic database and the creation of an electronic library facility from anywhere in the world via the Internet. The Jackson Digital Library (Cassell & Hiremath, 2014), a project of the Library of Congress (Cassell & Hiremath, 2014), provides its own digital resources in multiple languages via the Internet. The main purpose

of this library is to promote inter-ethnic and intercultural understanding, to enrich the Internet with various cultural resources, to provide resources for teachers, scientists and all interested persons, etc. The global electronic library has more than 11 million electronic resources. Another electronic library is the National Electronic Library of the Russian Federation (The National Electronic Library of the Russian Federation, 2023). This electronic library provides services via the Internet and more than 5 million electronic copies are stored there. In addition, there are large electronic libraries such as Universal Digital Library, Project Gutenberg, Bartleby, Google Books, Internet Archive, Open Library, which have a database of electronic literature around the world and provide online services through the Internet. These electronic libraries mainly provide a wide variety of resources aimed at stimulating various human interests, education, research activities, and are considered public libraries. At the same time, specialized libraries focused on a specific subject in a separate field of science also operate around the world. Specialized libraries can be corporate, legal, medical, military, federal, music, art. Specialized libraries began to appear in the United Kingdom and the United States in the 19th century. The development of various specialized library associations led to the formation of the American Library Association in 1876. In 1898, the Association of Medical Specialized Libraries, and in 1906, the American Law Library Association was founded (Cassell & Hiremath, 2014).

Legal libraries are one of the most common types of specialized libraries. Law libraries are established to provide legal literature to law students, lawyers, judges, other legal researchers and citizens. Today, the largest legal library in the world is the United States Congress Library. It was opened in 1832 and considered as a branch of the main Library of Congress. Initially, the library served only the US Congress and Supreme Court staff. Currently, the library has 2.65 million unit related to legal resources (Cassell & Hiremath, 2014).

Legal information search problems

Searching for information in libraries consisting of electronic copies of legal literature that requires sufficient knowledge in the field of jurisprudence. Depending on the types of law libraries, the requirements for the knowledge of law librarians are determined differently. For example, an academic librarian-lawyer who provides legal advice at the Law Library of the US Congress must have at least a master's degree in library science and a doctorate in law.

The imposition of this requirement confirms that finding information related to the field of jurisprudence and evaluating its relevance to the existing problem is a difficult process. Jurisprudence literature differs from other literature in that it is full, does not store redundant information, often uses complex terms that are rarely used in common speech, and at the same time

complicates the task of searching for them. In the legal literature, the information mainly reflects the nature of ordering and regulation. They contain the expression of thoughts based on the rules of jurisprudence, with a certain sequence. In addition, common terms are rarely used in legal literature thus most users do not know whether they exist or enter the terms into the search engine with grammatical errors. As a result, the search engine will not find anything for this keyword. In some cases, users cannot formulate a sufficient query to find exactly the literature they need. This is one of the most common problems faced by search engine. In such situation, the search engine does not know in which section to find the required literature and has to search for the literature in the entire database. The time and resource consumption of the search engine will increase. Another problem of search engine is that presenting the results to the user by sorting them as needed. In this case, the problem of evaluating the degree of relevance of the found results to the given search query can be appeared. In general, it is necessary to process all the processes carried out in it and correctly form the queries in order to make the search engine work well.

Proposed model and algorithms

The goal of information search optimization is to satisfy the needs of users with the necessary information. To achieve this goal, it is necessary to carry out a number of preparatory works, such as analyzing the array of data and making it convenient for storage and processing. One of the main components of information retrieval is the information retrieval model. It describes the criteria and methods of comparison of requests and documents, as well as the form of presentation of comparison results.

There are two main approaches of information retrieval. Based on the first approach, a special thematic catalog is used and a classified information search system is organized. To search for a document, its name, author, subject, and other information are used. According to the second approach, a dictionary information search system is used. In these types of systems, a vocabulary of terms is used to describe the content of the indexed documents. Indexing of documents by terms is performed by a software tool called a search engine. If you use both approaches to optimize search processes, using them in a hybrid form will have a positive effect.

If the lists containing the information available to us are in order, the efficiency of applying search algorithms on them will be several times higher. That's why it's a necessary process to bring the data into a certain order with the help of sorting algorithms and then perform actions on them.

A new hybrid model and algorithm was developed by improving existing models and algorithms in order to improve legal information retrieval.

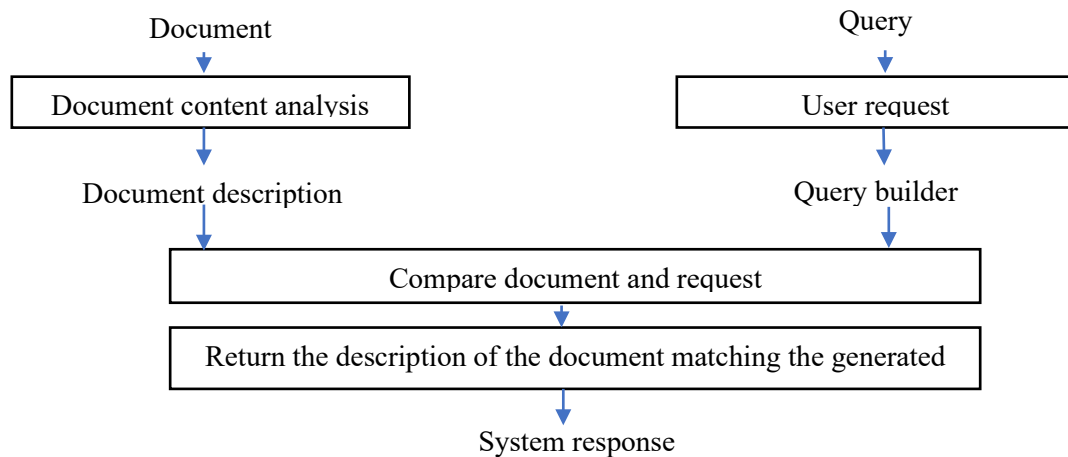


Figure 1 **Document search process** (Gunjal, 2016)

The main idea of this new hybrid algorithm is to create a thesaurus consisting of semantic links of the main terms involved in the search and use this thesaurus as an auxiliary knowledge repository for the search engine. Initially, the terms frequently used in the practice of jurisprudence were distinguished in a hierarchical order depending on the branches of jurisprudence.

Table 1 **List of speciality** (made by Authors)

Name of speciality	Identification code
Theory and history of state and law. History of law doctrines	12.00.01
Constitutional law. Administrative law. Finance and customs law	12.00.02
Civil law. Business law. Family law. International private law	12.00.03
Civil procedures law. Economic procedures law. Arbitration process and mediation	12.00.04
...	...
Crime prevention. Ensuring public safety. Probation activities	12.00.14

1-the table lists the names of the fields of science at the first level of the hierarchy. All legal terms are distributed in the form of a tree within these disciplines. As an example, if we take the field of science "Environmental Law", it covers internal science fields that are divided into several levels.

As a result of the hierarchical arrangement of terms, relations between them such as interlevel, generation, ancestor and neighbor appear. (Figure 2)

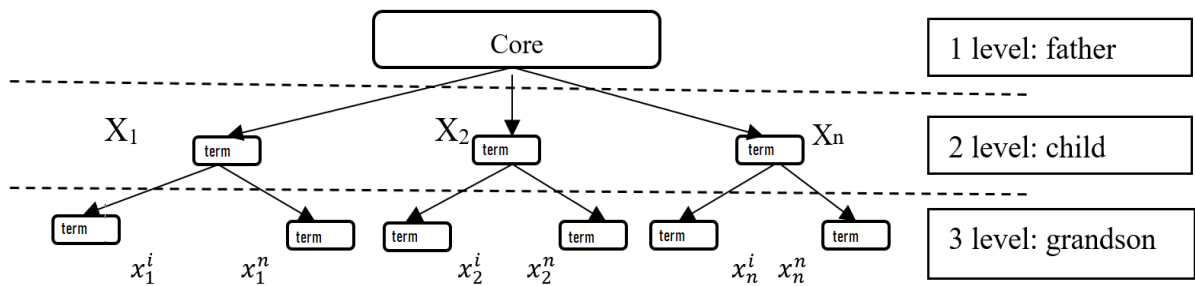


Figure 2 Hierarchical arrangement of terms (made by Authors)

An interconnected thesaurus of legal terms, a knowledge repository, was created in a very simple way, that is, by running an algorithm that works with the recursive function of the data management system. To create this small but very useful repository of knowledge, a table of the following order is created

For the purpose of the experiment, some legal terms and the identification numbers of their subordinate branches of science were included in the table.

A recursive function consists of three elements:

- Non-recursive term: as a result of the query, the base returns the result.
- Recursive term: combines the result of one or more queries using concatenation operators and refers to its name.
- Termination check: Recursion stops when the iteration does not return a string.

The recursive function that we are creating can work in the following way

1. A non-recursive term is executed to return the base result (x_0).
2. A recursive term is executed as the input value x_i to return the output result x_{i+1} .
3. The second step is repeated until an empty value is encountered.
(Completion check)
4. The final form of the result set x_0, x_1, \dots, x_n is returned.

In the final result, a result is returned showing the given terms, the level at which the term is located, and the path from the topmost term to the final term.

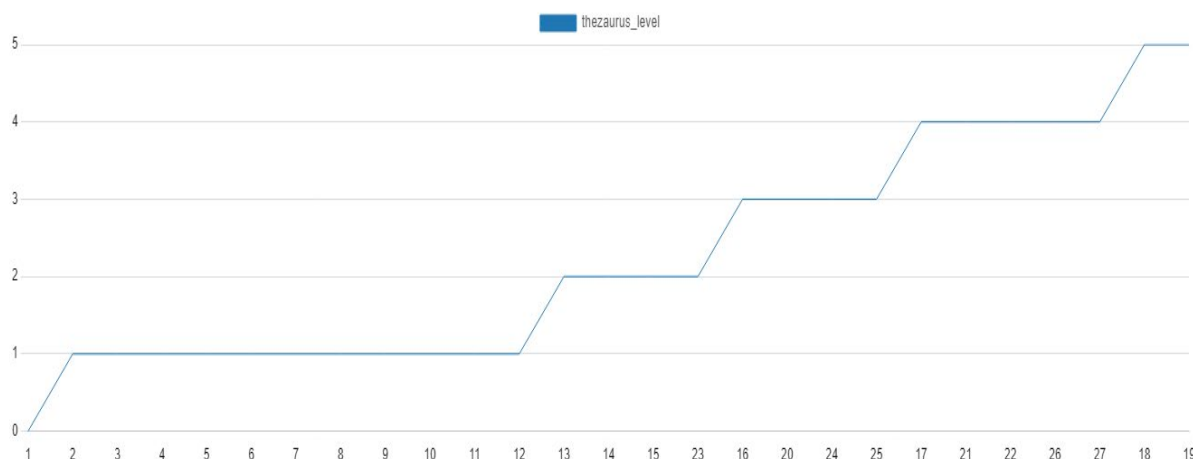


Figure 3 A graph of the placement of terms by levels (made by Authors)

The thesaurus of scientific terms created in the above processes helps the system by processing the queries entered by the users, to determine which level of the field of science the queries belong to.

Suppose that the set of educational options is expressed in the following form

$$x_{p1}, x_{p2}, \dots, x_{pm_p} \in X_p, p = \overline{1, r}$$

Here

$$x_{pi} = (x_{pi}^1, x_{pi}^2, \dots, x_{pi}^N), i = \overline{1, m_p}$$

An N -dimensional ordered character space $X_p, p = \overline{1, r}$ forms a complex of classes.

A proximity function is introduced to determine the degree of similarity between objects. Let two objects x_{p1}, x_{p2} belonging to the class X_p be given in the ordered character space. Here the proximity function between objects $\rho_j(x_{p1}, x_{p2})$ is introduced as follows:

$$\rho_j(x_{p1}, x_{p2}) = \begin{cases} 1 & \text{if } (x_{p1}^j - x_{p2}^j) = 0, j = \overline{1, N}. \\ 0 & \text{else,} \end{cases}$$

In the ordered character space, the size estimation of k-object of arbitrary p-class through other t-object, indicating their degree of similarity, is calculated based on the following formula.

$$\Gamma_t(x_{pk}, x_{pt}) = \sum_{j=1}^N \rho_j(x_{pk}, x_{pt}), k = \overline{1, m_p}; t = \overline{1, m_p}; k \neq t$$

The proposed method is very compact compared to other methods, easy to use, thus requires less resources. It returns more accurate results when using a smaller knowledge base.

Conclusion

Since the current advanced search engines are mainly specialized for searching information from large datasets in an unordered global network, and use large amounts of BigData to return accurate results in search processes, the application of these models and algorithms in specialized electronic library corporate networks does not provide the desired results. In order to optimize the poultry information search system in corporate networks, it was found out that it is effective to first create a semantically linked thesaurus of terms related to this field of science and use it as a database for the search algorithm.

In order to optimize the bird information retrieval system in corporate networks, it was found that it was effective to pre-create semantically related thesaurus terms related to this field of science and use it as a database search algorithm.

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ADVANTAGES AND DISADVANTAGES OF DISTANCE EDUCATION. LESSONS FROM THE COVID19 PANDEMIC

Marat Rakhmatullaev

Tashkent University of Information Technologies named after Muhammad Al Khwarizmi,
Uzbekistan

Abstract. *The COVID19 pandemic has made changes not only in the health care, in our personal lives, but also in the education system especially. The purpose of the research is based on the analysis of the experience of universities of different countries, as well as a survey of teachers of Uzbekistan universities, that held classes during the quarantine, to identify the advantages and disadvantages of Distance Education(DE), as well as give recommendations for making decisions on development DE during the pandemic. To identify the advantages and disadvantages of distance learning during the COVID19 pandemic, an online survey was conducted among 126 university teachers. Respondents were asked to indicate the most important aspects of the advantages and problems of DE that they encountered during this period. Respondents indicated priorities - factors that had the greatest positive and negative impact on the learning process during the COVID19 pandemic. Analysis of this "short-term" period shows that DE has its pros and cons: Advantages: Saving time and money; Reducing the risk of getting sick; Development of DE technologies; Activating teachers to prepare e-courses; Equality of students to get knowledge. Disadvantages: Lack of direct contact with students; Complexity of individual work and in groups; "Presence Effect" of students; Activity of unscrupulous teachers; Complexity of knowledge assessment; Technological inequality among students; Decrease in the activity of scientific research.*

Keywords: *COVID19 pandemic, distance education, database, e-courses, information technologies.*

Introduction

The emergence of distance learning, which is closely linked to the achievements of information technology, hasn't only provided great opportunities for obtaining knowledge at a distance, but also raised a number of questions and problems, if unanswered, we cannot talk about a civilized transition to advanced forms of education. If distance education (DE) was still questionable in comparison with traditional forms of "face to face" education, then during the COVID19 pandemic, it turned out to be the only means of continuing education in higher

education institutions. Another question raised is how effective a full transition to the DE is and whether it does not reduce the quality of teaching and perception of knowledge.

COVID and DE are the subjects of segregated scientific research. Obviously, in most countries, research teams and schools will study this phenomenon for a long time in different areas of science: pedagogy, technology, psychology, medicine, etc. In recent years, many publications have appeared in which scientists, researchers, teachers and even students share their opinions about education during the pandemic. But at the same time, there are important questions to which there is no definite answer yet:

- How effective is the full transition to DE, does it not reduce the quality of teaching in conditions of real contact with students?
- How fully do students perceive the educational material?
- How well does the teacher assess the students' knowledge?
- How to organize individual work with students correctly?
- How to organize effective scientific work with students, undergraduates, doctoral students?

The purpose of the article is to analyze the experience of universities in different countries and leading universities of Uzbekistan, where classes were held during COVID-19 quarantine, to identify the advantages and disadvantages of DE, as well as to provide recommendations for decision-making on the development of DE during the pandemic.

Research method: development of the questionnaire on topical issues related to the organization and conduct of classes during the pandemic, a survey of teachers, and statistical data processing.

Literature review

Distance learning and DE in higher education institutions have been developed and are being developed in the world without these sad events of 2020. The study of open and DE in Australia, Europe and the Americas, as well as in Asia, Africa and the Middle East in a digital age (Qayyum & Zawacki-Richter, 2018) concludes that the scale of DE has grown and is growing in many parts of the world as more people are being trained in DE offers. For example, in Brazil, the number of students has increased by up to 900% over the past 10-15 years. In Russia and Turkey, almost 50% of all higher education students are enrolled in open or distance education programs (de Oliveira Neto & dos Santos, 2010). The scope of DE is growing both on the supply side and on the demand side. As for the offer, most of the pre-quarantine services are offered by institutions that

traditionally provided them before the quarantine. In some European countries, for example, at Mid Sweden University, where the majority of students (around 80%) study remotely, there were no special problems during the pandemic. (Jandrić, 2020). The teachers already had many years of experience, and they actively used learning management systems and web-based video-conferencing. This made it possible to quickly adapt to new conditions during the quarantine period.

The university management decided to change the policy of conducting classes and student's assessment. If earlier students' knowledge was assessed only on campuses, then it was allowed to do it online. All lectures, seminars, and workshops were allowed to be replaced with online teaching. In such countries as Brazil, Malaysia, and the United States, the growing demand for DE has led to an increase in the number of DE service providers, appropriated software training, and training databases in the private sector. The number and type of institutions are keeping on growing (Qayyum & Zawacki-Richter, 2019). With the advent of the Internet and mobile technologies, the development of various formats has been accelerating. As the world increasingly connects to the Internet via various devices, online education in various formats has captured the interest of students and educational institutions. The wider use of "blended-mixed", "flipped - flipped", "massive-mass", "distributed-distributed", "mobile - mobile", "flexible-flexible" and "nonformal-informal" training or education is often a manifestation for applying different formats of DE.

The great interest was exposed to study the experience of the Qatar University, as the main national university of the country. It promptly responded to the situation and uses, according their writings (Ahmed, Hegazy & Malak, 2020), technology-enhanced learning (TEL), having had a positive impact on continuing education and mitigated the adverse consequences. They used advanced software and hardware tools such as Blackboard Collaborate Ultra (BCU) (interactive online lecture support system), integral of the University VLE system (Blackboard 9.1), and conference communication tools such as WebEx, Zoom and Microsoft Teams. These tools allow teachers, staff, and students to host or join online conferences, access virtual classrooms with high-definition (HD) audio and video, and allow app sharing and session recording via any computer, smartphone, or tablet device.

One of the most difficult aspects of the DE is the assessment of student's knowledge. The evaluation strategy has been revised in light of the changes required for distance learning. The knowledge assessment was conducted throughout the spring semester using various online tools such as Blackboard 9.1 (VLE) and Turnitin (plagiarism detection system) to check the completion of assignments.

It is obvious that the quality control of higher education has slowed down during the COVID 19 pandemic. But recently there have been positive trends in addressing this issue both in individual countries and at the international level and cross-border cooperation (Sanchez-Chaparro et al., 2021). According to the management of the university (Hussain, Al-Mannai, & Agouni, 2020), the availability of DE technologies for many years and their widespread use in the Qatar University as a whole facilitated the rapid transition to high-quality distance learning. This experience clearly demonstrates the significance of the readiness of higher education institutions to ensure the continuity of educational activities by introducing educational technologies and introducing them into the curriculum along with traditional teaching methods.

The topic of DE during the COVID-19 pandemic has become the topic of deep scientific research. The experience of the research (Ahmed, Hegazy & Metkal, 2020), which aims to prioritize planning post-COVID for a better balance between distance learning and face-to-face learning, is interesting and instructive. This work implied developing a model for using distance learning using the so-called "Polar Approach for Continuity and Transformation (PACT)", i.e. "Polar approach for continuity and transformation". A virtual mapping session was held involving 79 teachers from 19 countries. They worked in small groups to determine the pros and cons of face-to-face education and DE. An initial polarity map was drawn, identifying five areas of tension: teachers, students, curriculum, social aspects, and logistics. Based on this map, a 63-criteria assessment tool was created, which was tested and then distributed as a self-assessment. The results of this assessment were used for another mapping session to discuss the warning signs and steps to maintain the positives and prevent the negatives of each pole. Results: Participants agreed that face-to-face training allows them to inspire students and make meaningful connections with them. They also agreed that the DE provides a good environment for most students. However, students with financial problems and special needs may not have equal opportunities to access technology. Regarding social issues, the participants agreed that full-time training gives more chances for professionalism, thanks to more effective teamwork. Cognitive, communication, and clinical skills are best achieved through direct contact, i.e., traditional learning.

As the authors point out (Xu & Xu, 2020), although distance education has been gaining momentum in the United States over the past two decades, a number of questions remains about the potential impact of DE on expanding access, reducing costs, and improving student learning outcomes. Are online courses more cost-effective for students? Will technological innovations improve the quality of online education? The authors note that high-quality online courses with a high

degree of teacher interaction and student support are more expensive to develop and administer than full-time courses.

Another source (Jandrić, 2020) is distinguished by its originality and its surprise. This is not even an article, but the collection of short testimonies and photos of the working space received in the period from March 18 to May 5, 2020 in response to the author's questions to university teachers from different countries who are experiencing a pandemic. The collection consists of 81 text testimonials and 80 photographs of the workspace submitted by 84 authors from 19 countries. The collection is unique in that it contains the opinions of professors from different universities and countries on what problems they faced, how they solve them in the midst of a pandemic. For all its simplicity, rawness, honesty, and randomness, this collection is a true snapshot of the challenges facing teachers and students in all countries at the beginning of the first wave of the Covid-19 pandemic. The authors hope that this collection will contribute to understanding our present and developing more informed responses to similar challenges in the future.

Research Findings and Discussion

To identify the advantages and disadvantages of distance learning during the COVID19 pandemic, an online survey was conducted among 126 university teachers in Tashkent (Uzbekistan). All educational institutions have switched to online learning since March 2020. Although in Uzbekistan distance education hasn't yet been accepted as the primary and even alternative mean of obtaining knowledge and diplomas, but technically and organizationally all universities have already been prepared to conduct classes in this mode. Respondents were asked to identify the most important aspects of the benefits and challenges they faced during this period.

Respondents identified priorities, the factors that had the greatest positive and negative impact on the learning process during the COVID19 pandemic.

Priority on positive impact of DE (Fig.1): 1) Save time and money (9% of respondents). 2) Reduce of the risk of infection (52%). 3) Development of DE tools and technologies (8%). 4) Encourage teachers to develop e-courses (27%). 5) Equal conditions for all students of distance learning (4%).

Discussion and conclusions on the Fig.1:

- Teachers and students don't spend money on travel expenses from home to university, which is often a significant cost item;
- The fewer contacts, the less possibility to become infected. The fact that the majority pointed to this indicator is obvious during the pandemic;

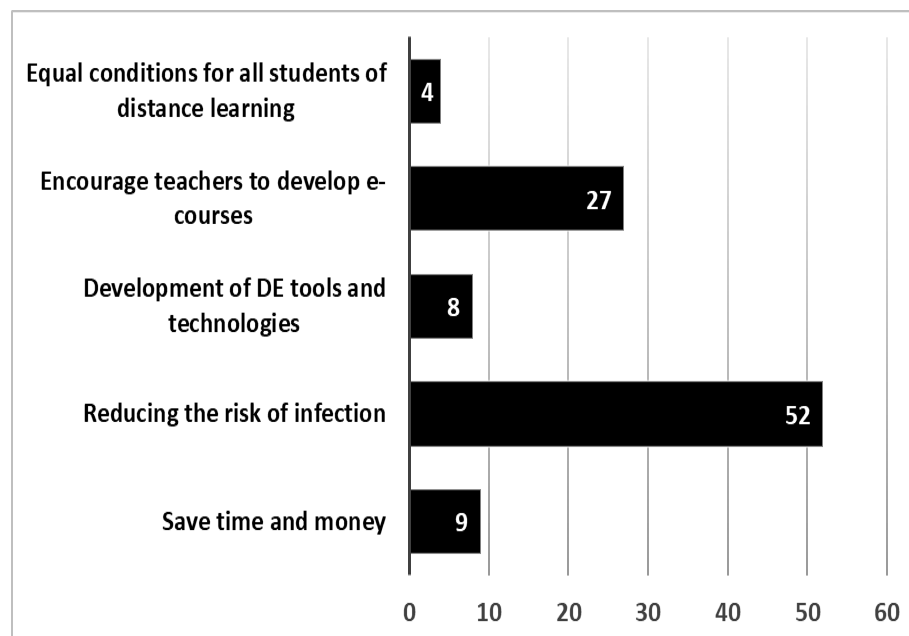


Figure 1 *Evaluation of priorities on positive impact of DE (made by author)*

- The pandemic "forced" universities to step up the use of information technologies, telecommunications for the organization of distance courses. If earlier, they used finished systems, such as MOODLE, MOOC, e-dekanat, DMS and others fully and quite reluctantly, now the managers of many universities actively support the development of software systems for providing DE;

- This is the second most primary result. Before the spread of pandemic, nearly all universities designed databases of electronic educational materials (presentations, video courses, textbooks, manuals, multimedia, etc.). But the transition to a full DE forced teachers to prepare all teaching materials, presentations, to insert them into the databases of their DE systems, and to intensify communication with students online;

- The DE system knows no boundaries or distances. The main state is the availability of the necessary gadgets and the Internet, which can provide the necessary access to resources and online communication. In addition, with the right strategy and organization of the educational process by the university, the DE teaches students independence, creative thinking, which will affect their professional readiness and career.

Priority on negative impact of DE (Fig.2): 1) Lack of immediate contact with students (31%). 2) The complexity of individual work and in groups (15%). 3) The opportunity for students to be present "virtually", to pretend ("effect") to be present (7%). 4) Less knowledge (12%). 5) The complexity of knowledge assessment

(25%). 6) Not all students have technical capabilities (4%). 7) Decrease in the level of scientific research performance (6%).

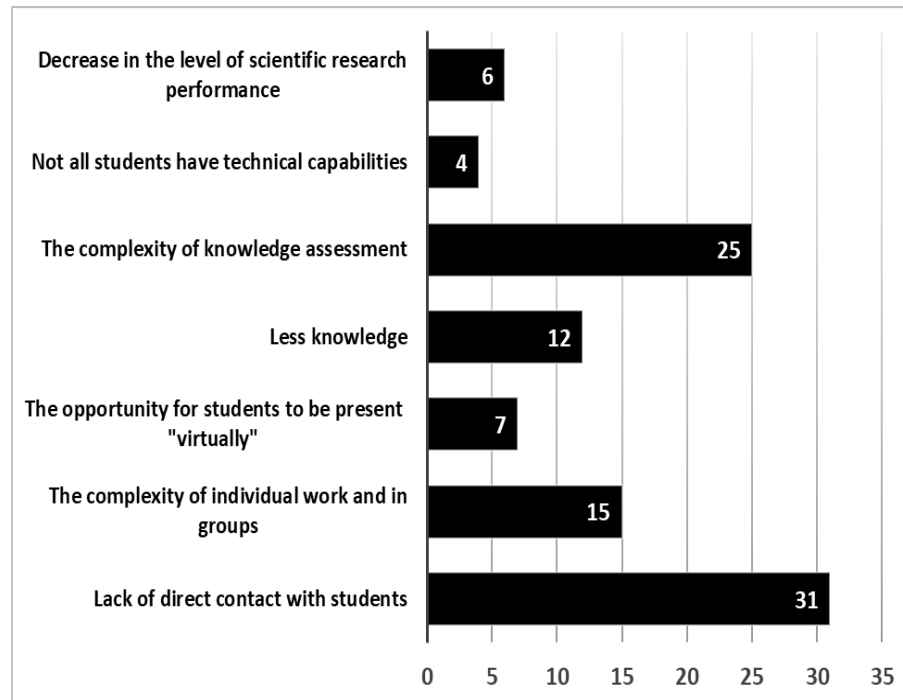


Figure 2 Evaluation of priorities on negative impact of DE (made by author)

Discussion and conclusions on the Fig.2:

- Some teachers (including me), having a lot of teaching experience, can evaluate the student, his aspiration to learn, to get knowledge, or, conversely, passivity, unwillingness to study the subject. Therefore, direct, live contact between the teacher and the student is of great importance for changing the tactics of teaching. Often, an experienced teacher can unexpectedly change the style of presentation of the material, depending on the mood and behavior of a group of students. This is a kind of teacher's finesse;

- Many disciplines require classes with the division of a group into subgroups, apply of business games and other methods that increase the independent work of students. In DE, the decomposition, organization of students' work in subgroups, and evaluation of their activities are quite complex;

- There are students who have got the hang of doing their work simultaneously with doing business, studying at the university, listening to lectures, driving a car, etc. They only need a "crust" (diploma) and knowledge doesn't play a big role in his career and material well-being. No matter what conditions we create for learning, there will be a category of students who will look for a "loophole" to

imitate the presence in the classroom, write off control, laboratory and diploma works. Successful online learning requires a high level of independent learning skills, which often creates additional challenges for students who are academically less prepared;

- Often, in the special conditions (technical, software, methodological not readiness) of higher education institutions, students on average receive less knowledge in online courses compared to similar students in full-time classes. Research shows that online learning can even exacerbate the educational disparity between different demographic groups that already exist in traditional face-to-face classes. However, administrative data suggests that high-quality online courses with a high degree of interaction with teachers and student support are more expensive to develop and administer than full-time courses (Rakhmatullaev, 2020);

- Objective assessment of students' knowledge becomes a rather difficult task, because we don't know what conditions the student is in: whether he performs the task independently or a "helper" sits next to him, whether he writes off from different sources or everything that he presented is the results of his independent work, etc;

- Unfortunately, not all students have computers connected to the Internet. Most often, students use cell phones to participate in distance courses, which significantly reduces the effectiveness of knowledge perception;

- This is especially true for those universities and departments where scientific research depends entirely on specialized technical equipment, chemicals, etc., which requires performing experiments directly in laboratories.

Conclusions

The pandemic has created new circumstances and challenges for both teaching and learning. But advanced information technologies allow us tackle these problems, taking into account the existing experience of software development and creating effective organizational measures. As the analysis of the survey shows, the criterion "Lack of direct contact with students" is the "bottleneck" of the DE. Since the bottom line of the DE involves working with students remotely, new pedagogical methods and tools are needed to improve the effectiveness of communication with students online. We also need effective mechanisms, techniques, and ways to objectively evaluate students' knowledge. As noted by the respondents, this criterion is the second significant one in the terms of DE. Although only 12% of respondents claimed that students receive less knowledge in the DE mode than in the campus mode, this factor is no less alarming than the above. Therefore, a thorough analysis of the reasons for the insufficient acquisition

of the necessary knowledge by students and improving the effectiveness of teaching is in demand.

DE may also be considered as a tool for continuing education during the COVID19 pandemic, as well as a form of education that may soon be adopted by all world universities, excluding the traditional format. In any case, we must be prepared and know the advantages and disadvantages of DE in order to respond in time and develop our education in accordance with the requirements of the time. DE lessons are particularly helpful for universities that didn't use distance learning tools at all before the COVID19 pandemic. The study of excellence, state and methods of DE displays that successful implementation of distance education in universities is more complicated process than just the introduction of distance learning.

The COVID19 pandemic is still far from over and there is no doubt that the educational sciences will analyze this sudden global shift in teaching and learning online for many years to come. Regardless of the conditions, DE is a growing industry, and students are choosing it in increasing numbers in all over the world. But is DE just a substitute for traditional education (TE), or is it an important tool for helping TE or a combination of "TE+DE"? A review of existing research on this topic provides strong evidence that DE has certainly the potential to increase access to knowledge. The convenience of DE is especially valuable for the category of people who need additional knowledge that they didn't get earlier. In all countries of the world, to a large extent, the effectiveness of the DE depends on the attitude of the student to study and the teacher to teaching. The responsibility of the management and teachers of higher education institutions is increasing. They must find the most effective methods of online teaching and knowledge control to get as close as possible to traditional education, and in some cases even surpass it. The teacher, especially in the context of the COVID 19 pandemic, should look for new effective methods and approaches to encourage students to gain knowledge, teach them to work independently, and think creatively. Therefore, the whole process of education is a systemic phenomenon that requires a serious approach in all aspects.

Summary

The COVID-19 pandemic has made changes not only in health care, and in our personal lives but also in the education system especially. On the one hand, the desire to preserve the health of students and teaching staff, on the other hand, to maintain the quality level of teaching and learning. To solve the problem, more than ever, we need the means and methods of distance learning and education. Although COVID-19 and DE become an important subject of scientific research,

there are still many unresolved problems. It is necessary to develop scientifically based methods to determine the advantages and disadvantages of mass transition to distance education, especially during the pandemic period. The purpose of the article is to analyze the experience of universities in different countries and leading universities of Uzbekistan, where classes were held during COVID-19 quarantine, to identify the advantages and disadvantages of DE, as well as to provide recommendations for decision-making on the development of DE during the pandemic. Research method: development of the questionnaire on topical issues related to the organization and conduct of classes during the pandemic, a survey of teachers, and statistical data processing. To identify the advantages and disadvantages of distance learning during the COVID-19 pandemic, an online survey was conducted among 126 university teachers. Respondents were asked to indicate the most important aspects of the advantages and problems of DE that they encountered during this period. Respondents indicated priorities - factors that had the greatest positive and negative impact on the learning process during the COVID-19 pandemic. Analysis of this "short-term" period shows that DE has its pros and cons: Advantages: Saving time and money; Reducing the risk of getting sick; Development of DE technologies; Activating teachers to prepare e-courses; Equality of students to get knowledge. Disadvantages: Lack of direct contact with students; Complexity of individual work and in groups; "Presence Effect" of students; Activity of unscrupulous teachers; Complexity of knowledge assessment; Technological inequality among students; Decrease in the activity of scientific research. Statistical processing of these data showed which indicators more or less affect the quality of education during the pandemic. The study of experience shows that many teachers call this period a special one, which will make them reconsider their attitude to distance learning and to the distance education system as a whole. The lessons are particularly useful for universities that did not use distance learning tools at all before the COVID19 pandemic. The study of best practices, state and methods of DE shows that the successful implementation of DE is a more complex process than just the introduction of distance learning. This article will be useful for University managers and teachers who organize and conduct DE lessons during the pandemic and make plans for the development of DE for the future.

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CONTENT MODELING THE ENVIRONMENTAL TRAINING OF FUTURE LABOR TRAINING TEACHERS IN UNIVERSITIES

Vitalii Hlukhaniuk

Vinnytsia Mykhailo Kotsiubynskyi State Pedagogical University, Ukraine

Iryna Shymkova

Vinnytsia Mykhailo Kotsiubynskyi State Pedagogical University, Ukraine

Svitlana Tsvilyk

Vinnytsia Mykhailo Kotsiubynskyi State Pedagogical University, Ukraine

Oksana Marushchak

Vinnytsia Mykhailo Kotsiubynskyi State Pedagogical University, Ukraine

Oksana Buha

Communal institution of higher education «Vinnytsia Humanitarian and Pedagogical
College», Ukraine

Abstract. *The purpose of the article is the theoretical substantiation, development of the effectiveness of the organizational and methodological conditions of the environmental training of the future labor training teachers and the formation of their environmental competence.*

The directions of ecological training of future teachers are defined as: formation of ecological consciousness in students, environmentalization of the content of professional disciplines, students' study of ecological education technologies, organization of ecological labor activities of students during lectures, practical classes, ecological projects, exhibitions of artistic products on ecological topics, etc.

The readiness of the future teacher of labor training for the ecological education of students at school is formed under the following conditions: the development of awareness of the role of the teacher in solving environmental problems; familiarization with the purpose, tasks and content of environmental education; forming a valuable attitude towards nature; environmentalization of professional training; organization of artistic nature conservation work. Organizational forms of ecological training of the future teacher of labor training have been developed on the basis of environmentalization of the content and modeling of innovative variable activities of the future teacher of labor training.

Keywords: *environmental competence, forms, model of ecological training, organizational and methodical conditions, teacher of labor training, technologies and methodical methods.*

Introduction

Today, humanity is facing a new path of civilization, when the problem of interaction between man and nature and the impact of the human community on the environment has become global. Ecological behavior of a man in the environment can be seen in the saving of natural resources, protection of animals and plants, in the careful treatment of objects of the man-made world. The decisive condition for such behavior in the environment is ecological consciousness (Kutsenko & Trillenberh, 2014). Education of individuals with ecological thinking and consciousness, formed ecological behavior, focused on the preservation and enrichment of the environment is crucial in solving today's environmental problems (Varkholyk, 2014).

The research is focused on studying the peculiarities of the organization of ecological training and determining the effectiveness of the formation of ecological competencies of the future teacher of labor training in higher education institutions.

The purpose of the work is the theoretical substantiation, development of organizational and methodological conditions of preparation of future teachers of labor training for environmental education of students of general secondary educations and the formation of its environmental competence.

We used a complex of forms and methods of nature protection and artistic and creative research work of students, which included: groups; student scientific community, research ecological expedition; environmental group to clean the territory of the banks of the Pivdennyi Buh River from garbage. In the methodical training of teachers for the ecological education of students, we pay attention to the environmentalization of labor training in secondary schools – conducting classes in ecological centers; organization of ecological trails; the use of natural material for the production of art products; depiction of nature in artistic and creative works; use of mathematical calculations to save materials, determine damage to the environment, etc. The possible and appropriate methods and technologies of environmental education in the labor training classes in secondary schools are the following: the use of problem situations and problem tasks, the introduction of household environmental didactic games, the implementation of environmental projects by students, the conduct of integrated lessons, labor environmental issues labor environmental affairs.

Literature review

The analysis of psychological and pedagogical bases of pupils' formation of responsible, careful attitude to nature testifies that methods and receptions of training and education should be directed on transfer to internal worldview of the person of social ecological landmarks: knowledge, skills, values, principles, rules

of attitude of civilized society to the environment (Chystiakova, 2020). The situation is being corrected by organizing environmental education in the teaching of natural sciences in secondary schools (Honcharuk, 2019) and in extracurricular activities (Pustovit, 2004). Meanwhile, the lessons of labor training in secondary schools mainly study the technology of using natural resources to meet the material needs of man, which is not an effective approach to environmental education of students.

Sociologists claim that environmental values do not yet take their rightful place in the spiritual world of Ukrainians (Kasianova & Demidova, 2012), the current level of awareness of the importance of environmental knowledge remains low, and information about the ecological situation is often perceived inadequately. Society has high hopes for environmental education. This is especially true when it comes to environmental education of future teachers, whose level of preparation for the implementation of environmental education is a key condition for the formation of environmental awareness and culture of secondary school students.

Scientists have established that the level of environmental education of future teachers capable of shaping the ecological culture of Ukrainian citizens (Varkholyk, 2014) is insufficient, and that is why researchers acutely update the problems of environmentalization of the education system (Demidova & Shakhova, 2019).

Problems that complicate the achievement of the goals of environmental education include the insufficient level of professional training of secondary education teachers to educate values and respect for nature and natural resources (Harmata, 2017). Scholars are unanimous that the school faces a major challenge: to help students become active members of society who will understand environmental issues and have the knowledge needed to solve them (Zyl, 2006; Huz, 2011). According to some scholars, it is necessary to increase the ecological and economic knowledge in the content of education, which will help solve environmental and economic problems of implementing the economic mechanism of rationalization of nature (Dushechkina, 2018).

In the practice of modern environmental education there is a focus on the knowledge component. In particular, O. Lazebna emphasizes the need to develop personal characteristics that provide a value attitude to nature (Lazebna, 2004). That is why the formation of environmental awareness among young people should be a complex and systematic process. According to Demydova, Shakhova, environmental education should be interpreted as a continuous process of learning, education, and personal development, aimed at forming scientific and practical knowledge, values, behavior and activities that ensure a responsible attitude to the environment socio-natural environment (Demidova & Shakhova, 2019).

Environmental education, which is carried out by means of traditional and innovative pedagogical technologies: group discussions (Zaporozhan, 2003), cloud trainings (Shymkova et al., 2021), creative integration projects (Hlukhaniuk et al., 2020), etc. is included into the foundations of the formation of an ecologically competent personality. We agree with the opinion of L.Lukianova that «the ecological culture of the future teacher, as the basis of his readiness for ecological education of students, is based on ecological competence and ecological thinking» (Lukianova, 2008).

Based on the results of the analysis of literature sources, we can say that the problem of readiness of labor training teachers for environmental education of students has not yet found its solution in pedagogical research. Thus, the study of the current state of ecological training of future teachers shows its focus on abstract understanding of ecological knowledge of a global nature and limited study of the ecological state of the environment of a region, which does not contribute to conscious learning of environmental knowledge, skills of environmentally friendly activities (Kubitskyi & Vodotyka, 2010). Therefore, we have identified *the following principles of the environmental training of future teachers of labor training*: to navigate the continuous flow of scientific information, design the content and methods of teaching according to the level of psychological development of secondary school students; formation of a humanistic ecological worldview, values of the individual, formed on the basis of knowledge subordinated to universal values; ensuring the scientific design of the content of environmental education related to the modern development of various branches of science, which is manifested in the selection of valuable environmentally-oriented knowledge.

Methodology

In philosophical, socio-ecological, psychological and pedagogical literature, the essence of the concept of ecological consciousness of the individual includes mental state, as well as cognitive, spiritual and practical human activities. In the context of cognitive activity, the content of the future teacher's education should contain not only a certain amount of natural science knowledge aimed at forming a protective attitude to nature, emotional, ecological and aesthetic perception of nature, but also valeological information, basics of social health theory, methods of creating a health-preserving environment of educational space, etc.

The necessity of such an approach is confirmed by the results of a study conducted by us through questionnaires and surveys of secondary school students and teachers, as well as analysis of test tasks performed by secondary school students and students of higher education. The experience of pedagogical higher education institutions shows that the real state of formation of professional readiness of teachers for environmental education of secondary school students,

given all the recent positive developments, lags far behind the needs of pedagogical practice. Many teachers still lack the ability to assess the environment, protect natural environment from pollution and destruction; there is a contradiction between the general recognition of the need for environmental education and insufficient development of this scientific problem as a purposeful process of formation of environmental competencies of future teachers of labor training in the study of professional disciplines on an interdisciplinary basis.

Currently, environmental training is implemented in higher education in two directions: creation of conditions for the formation of environmental competence, which will contribute to overcoming the environmental crisis with the help of technologies (resource-saving technologies and implementation of restrictive measures) and formation of the ecological outlook of the future specialist in an ecocentric direction (a humanitarian way). For the labor training teacher, we offer a third methodical way: content modeling and organization of ecological training of the future labor training teacher on the basis of environmentalization and integration of education.

Research results

We have researched the naturalistic aspect of the individual educational disciplines content of the general and professional training cycles within the structural-logical scheme of teacher's training in higher education. It includes the study by students of technologies of waste-free production, issues of harmful effects on the environment of certain industries, discussion of health hazards posed by certain materials, etc. The study of such issues will contribute to the expansion of environmental knowledge of future teachers, which is part of environmental competence.

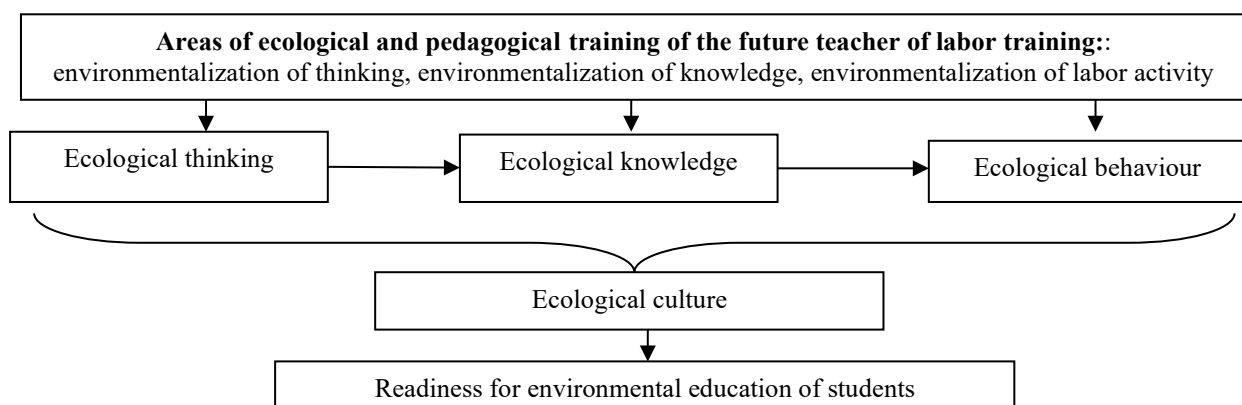


Figure 1 Areas of ecological and pedagogical training of the future teacher of labor training (created by the authors)

We believe that the main goal of the ecological training of a labor training teacher is the development of his ecological culture, which will ensure his readiness for nature conservation, nature protection and ecological-educational activities at school. The areas of ecological and pedagogical training of the future teacher of labor training are indicated in figure 1.

Readiness is an integrated high-quality personal education, the concrete expression of which is the emotional and intellectual characteristics of the individual (Kurliand et al., 2005). That is why we believe that the ecological training of the future teacher of labor training should be phased and integrated (Table 1).

Table 1 Stages of ecological and pedagogical training of the future teacher of labor training (created by the authors)

Stages	Purpose	Task	Forms, methods and technologies
Valuable and motivational	Formation of personal readiness for nature protection and environmental education activities	<ul style="list-style-type: none"> • emotional perception of the world; • education of a respectful attitude towards nature, motives of environmental protection behavior; • formation of interest in ecological and pedagogical activities 	Conducting educational classes, excursions, competitions on environmental topics; environmentalization of technological workshops
Educational and training	Targeted preparation for environmentalization of labor training lessons	<ul style="list-style-type: none"> • actualization of knowledge about the world, about the relationships between its objects, about the influence of man on nature; • disclosure of the essence, meaning and features of environmental education; • formation of knowledge about the essence of environmental culture of students 	Consideration of environmental problems in teaching professional disciplines; solving environmental problems and practical situations, independent processing of literature on the problems of environmental ecology and environmental education
Practically creative	Practical implementation of ecological knowledge, development of skills to carry out nature conservation, nature protection, ecological-artistic and ecological-educational activities	<ul style="list-style-type: none"> • implementation of environmental projects; • formulation and implementation of environmental and labor tasks; • structuring of integrated educational material with ecological content 	Application of the "project method", cooperation technology, implementation of scientific research and creative works on ecological topics, environmentalization of the pedagogical environment

I. Pavlenko recommends to follow such pedagogical conditions in the formation of the environmental culture of students of higher education institutions as implementation of a multidisciplinary approach, environmentalization of most

educational disciplines; organization of students' direct perception of natural objects; implementation at the moral and ethical level of immersion in the world of nature, experiencing its artistic image; the use of works of art as a means of aesthetic dialogue with objects of nature (Pavlenko, 2008).

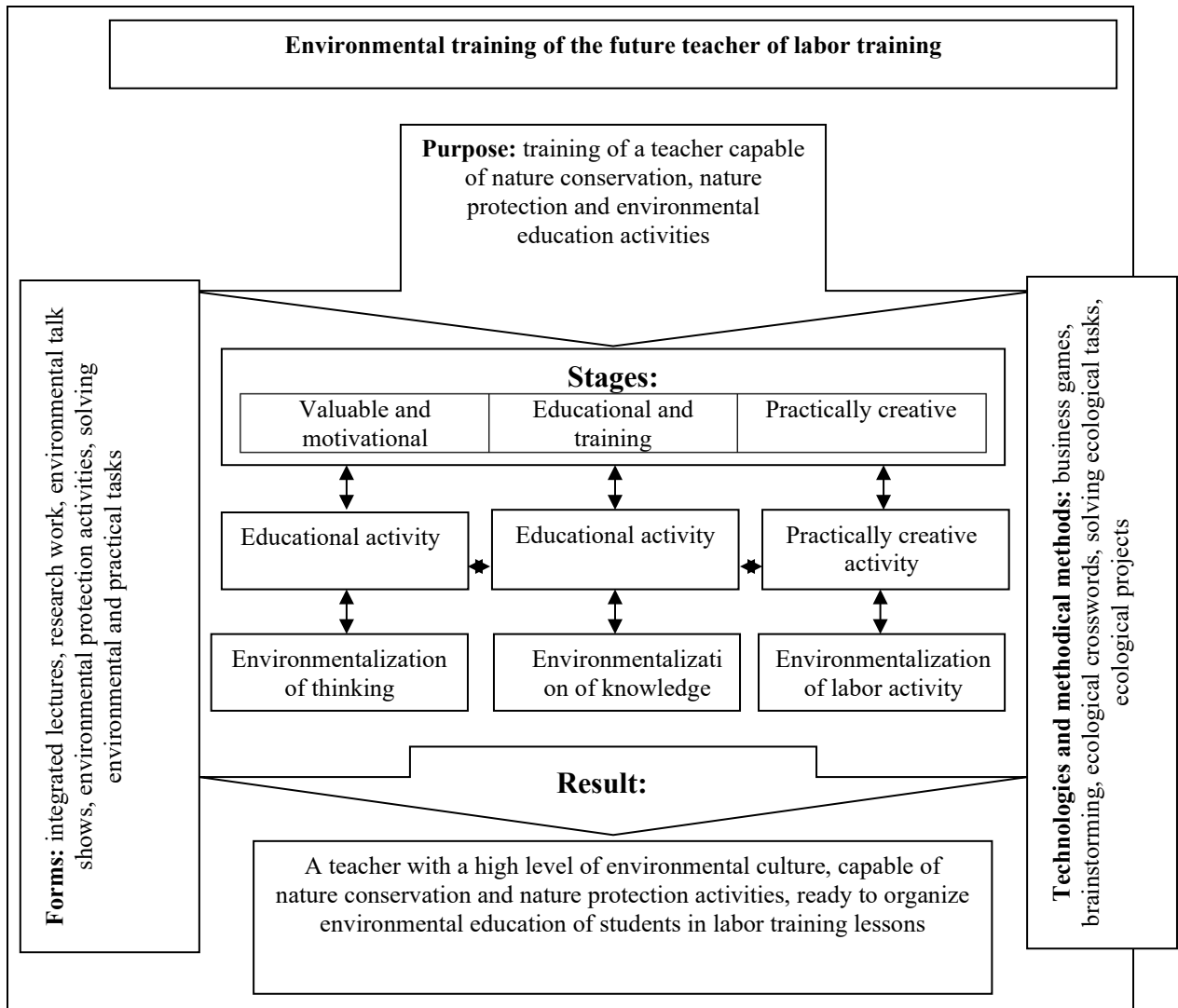


Figure 2 Model of environmental training of the future teacher of labor training (created by the authors)

The ecological culture of a labor training teacher is characterized by the possession of technical, scientific and economic competences and an aesthetic attitude to nature, the development of the emotional and sensory sphere, the cultivation of aesthetic needs and interests, and manifestations of creative activity. We consider the ecological training of the future labor training teacher through the formation of a system of ecological competences of rational nature use, nature conservation and ecological-educational activities and readiness for optimal interaction with nature, for effective ecological education of students of secondary

schools, for ecological education of the population through assimilation by students environmental knowledge, methods of activity, the formation of relevant beliefs, the need to actively participate in the process of educational, scientific activities related to environmental topics.

Taking into account all of the above, we offer a model of environmental training of a future teacher, which is presented in figure 2.

Future teachers of labor training, due to the environmentalization of educational material from professional disciplines, come to the conclusion that the following measures can be a way out of the environmental crisis: the use of environmentally friendly technologies; rational use of natural resources; creation of waste-free productions with a closed cycle; construction of efficient wastewater treatment facilities at all enterprises.

The forms of organization of ecological training of the future labor training teacher are lectures, practical classes, ecological projects, ecological holidays, games-competitions, excursions, expeditions, expositions, landings, ecological clubs, etc. The development of value orientations is facilitated by the participation of students in exhibitions of art products on ecological topics, etc. In classes on artistic and creative disciplines, students use natural materials provided by the program in combination with non-traditional ones. By comparing and examining their properties and qualities, future teachers are interested and creative in performing the proposed tasks, which significantly increases the effectiveness and productivity of classes. Examples of artistic and creative projects of students with ecological content (use of natural materials, secondary raw materials, etc.) are shown in figure 3.

In our opinion, the readiness of the future labor training teacher for ecological education can be ensured by observing the following *organizational and pedagogical conditions*: the development of deep awareness of the role of the labor training teacher in resolving contradictions in the relationship between nature and man; familiarization with the purpose, tasks and content of environmental education and upbringing; formation of a value-motivational attitude towards nature; combination of theoretical and practical training in professional disciplines with issues related to solving environmental problems; organization of labor and artistic and creative practical activities of an ecological direction.

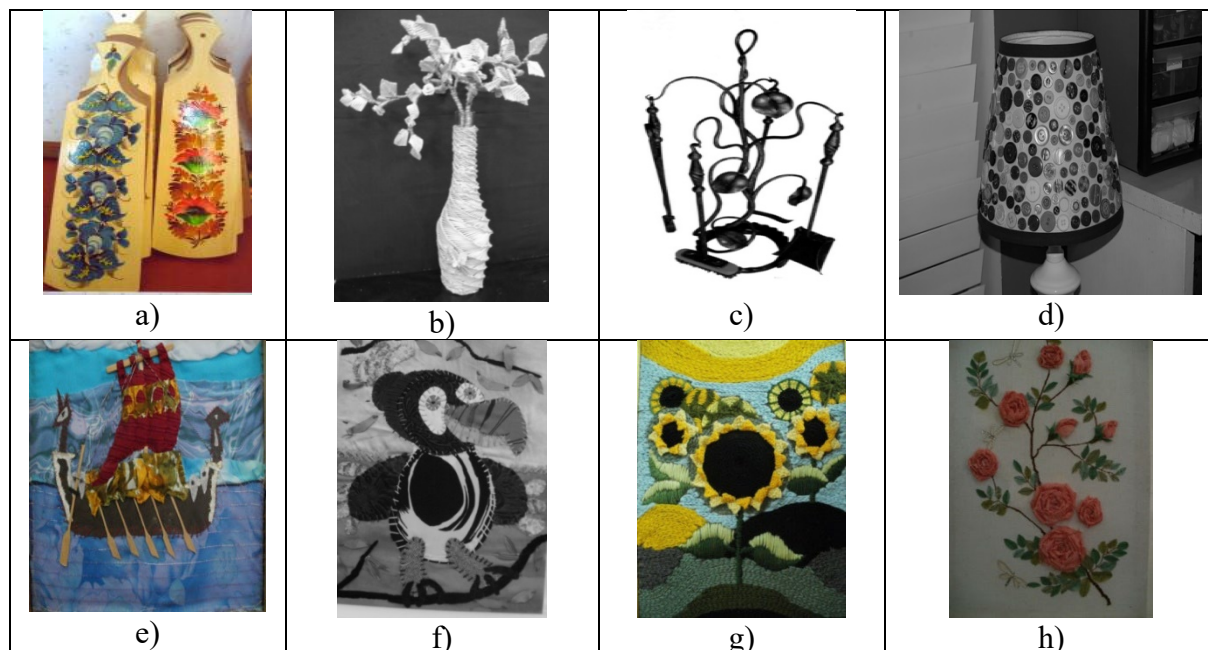


Figure 3 Photos of products from ecological artistic and creative activities of future teachers of labor training: a – made of wood; b – made of straw; c – made of metal; d – decorated with buttons; e,f – a panel made of pieces of fabric; g – knitted panel; h – panel made of paper (student works were performed under the guidance of Vitalii Hlukhaniuk)

We define the following as general indicators of the ecological culture of the labor training teacher: interest in nature; general educational and special ecological knowledge about nature, relationships in nature, human actions on nature; positive activity and behavior in nature; knowledge of safety rules and behavior of students in the environment; awareness of the purpose and tasks of environmental education of students; possession of knowledge about the psychological features of the formation of the ecological culture of the student of the secondary school; mastery of technologies, methods of planning and management of the ecological and educational process. The system of criteria and indicators of the ecological culture of the labor training teacher is given in the table 2.

Table 2 Criteria and indicators of ecological culture of the labor training teacher (created by the authors)

Criteria	Indicators	
Valuable and motivational	V1	awareness of the value of nature
	V2	awareness of responsibility for nature conservation
	V3	understanding the need to preserve the ecological environment for future generations
	V4	feeling the need for environmental protection activities
	V5	the ability to admire the beauty of nature
	V6	desire to communicate with nature
	V7	awareness of the importance of environmental education of students
	V8	desire to engage in environmental education of students;

	V9	understanding the need for nature-based work
	V10	desire to organize students' environmental protection activities
Cognitive	C1	understanding the essence of the nature of human transformative activity
	C2	knowledge about the harmful effects of production on nature
	C3	knowledge about environmental problems of the region, the country, and the world
	C4	environmental protection skills
	C5	mastering the technologies of the ecological educational process
	C6	knowledge of recycling technologies in various industries
	C7	knowledge of the properties of household waste
	C8	knowledge about the harmfulness of household chemicals for health
	C9	knowledge about the harmfulness of chemical fertilizers
	C10	knowledge about alternative types of energy, technologies, fertilizers
Practical	P1	the ability to predict the consequences of one's own actions and activities
	P2	the ability to harmonize relations with the environment
	P3	the presence of econormative behavior in everyday life
	P4	presence of econormative behavior in leisure time
	P5	skills and experience in solving local environmental problems
	P6	participation in propaganda and ecological educational activities
	P7	the ability to organize environmental protection measures
	P8	involvement in artistic and creative works on environmental topics
	P9	the ability to make products from natural material
	P10	the ability to use household waste in artistic and creative activities

Teachers of professional disciplines participated in the assessment of indicators using a 5-point system, as well as mentors of student groups who observed the behavior of students in the environment, conducted collective discussions of environmental problems, and individual conversations with students. The criteria for evaluating students' progress in the study were: the degree of formation of environmental and pedagogical competencies, the degree of independence and competence in the process of performing practical actions, creativity and originality, quality and flexibility in the performance of various tasks.

Conclusions and discussion

The study of the content of the educational and professional programs for the training of future teachers of labor training, the best experience of pedagogical higher education institutions of Ukraine, the personal long-term pedagogical experience of the researchers made it possible to identify the peculiarities of ecological training of future specialists in the teaching of professional disciplines based on a systemic approach: from the formation of an ecological worldview through the transformation of the content component and the application of modern pedagogical technologies for the development of students of high and sufficient levels of environmental culture and the formation of the readiness of future teachers to carry out environmental education of students of secondary schools during labor training.

The following were chosen as the main areas of training of future teachers of labor training for the environmental education of students of secondary schools:

formation of environmental awareness in students, environmentalization of the content of professional disciplines, students' study of environmental education technologies, organization of environmental and labor activities of students.

Future teachers of labor training will learn about the peculiarities of human economic activity during the study of professional disciplines, in the content of which ecological aspects are not sufficiently expressed. Therefore, it was decided to maximally ecologize the content of professional disciplines, which contributed to the formation of an ecological worldview and the development of environmentally sound labor activity skills.

In classes on professional disciplines, the main attention was paid to physical processes determined by nature itself, and the influence of technical achievements on these processes. The study of ecological aspects of production ensured students' assimilation of knowledge of technologies capable of both destroying and preserving the environment. During the teaching of psychological and pedagogical disciplines, the students studied the technologies of environmental education. Artistic and creative works were aimed at cultivating not only aesthetic taste, but also love for nature.

Summarizing the results of the study allows us to find out that the environmentalization of professional disciplines provides: a systematic construction of the entire educational process with regard to environmental problems; generalization and systematization of the content of professional disciplines, optimal combination of essential characteristics of human activity and its impact on nature; the relationship between theoretical and industrial training and the problems of the surrounding world; formation of a holistic system of knowledge and ecological outlook, education of responsibility for one's own activity or inaction; formation of students' ecological outlook and development of general ecological culture; familiarization with the main production technologies from the point of view of their impact on the environment; formation of a holistic system of environmental knowledge; acquiring the skills of researching environmental situations, carrying out the necessary measurements and calculations; development of practical skills in solving environmental problems.

Summary

The main practical result of the professional training of the future labor training teacher for environmental education of pupils is the readiness of students to carry out this activity. The criteria that make it possible to judge the readiness of a future teacher to organize labor activities taking into account the environmental education of students of the secondary school are: motivational (desire to engage in environmental education of students and the organization of environmental protection activities); axiological (awareness of the importance of environmental education of students, understanding of the value

of nature and the need to preserve it); cognitive (availability of ecological knowledge, nature conservation skills, mastery of technologies of the ecological and educational process); organizational and procedural (organization of environmental protection measures, environmental education and ecological educational activities).

Our research does not exhaust the entire scope of this problem, it touches only one of the areas of solving the problem of ecological training of the future teacher. We assume that the following directions of work may relate to the in-depth development of individual components of the training of future teachers of labor training for the ecological education of secondary school students by means of interdisciplinary extracurricular activities, the specification of various components of the professional training of future teachers for environmental and educational activities. The flexible modernization of the pedagogical technology of ecological training of teachers of labor training under the conditions of destructive ecological consequences and deterioration of the environment of Ukraine caused by the Russian military aggression in 2022-2023, which is directed against people, nature, material production and cultural heritage of Ukraine, is acutely relevant today.

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IZGLĪTĪBAS TERMINU TULKOJUMU PROBLEMĀTIKA

Translation Inconsistencies of Educational Terms

Inga Laizāne

Rīgas Stradiņa universitāte, Latvija

Ilze Miķelsone

Liepājas Universitāte, Latvija

Tatjana Koķe

Rīgas Stradiņa universitāte, Latvija

Abstract. *The article by means of extended literature review draws attention to the most common translation inconsistencies that arise in the rendering of word combinations with the concepts education and learning from English into Latvian and vice versa. The novelty and topicality of the article is related to the need to highlight the transformation of the understanding of concepts in connection with the modernization and changes in the field of education. The study was implemented as an interdisciplinary research analysing Latvia's education policy documents, dissertations, monographs, encyclopaedias, dictionaries and glossaries using induction, deduction and comparison methods. The research findings allow to emphasize the following major translation inconsistencies: superficiality in distinguishing the substantive meaning of the concepts "education" and "learning", incorporation of the substantive meaning of two terms into one term, direct adoption of Anglicisms into Latvian, lack of equivalents in Latvian language, use of several similar concepts to render one English term into Latvian that embarrasses the perception of the terms' meaning.*

Keywords: *education, learning, term, translation.*

Ievads

Introduction

Kopš iestāšanās Eiropas Savienībā 2004. gadā, Latvijā notika strauja iekļaušanās Eiropas kopējā izglītības telpā. Attīstījās sadarbība ar starptautiskajām organizācijām, tika uzsākti salīdzinošie pētījumi, izglītības politikas veidošanā tika izmantoti Ekonomiskās sadarbības un attīstības organizācijas starptautiskie indikatori *Education at a Glance*, aktualizējās izglītības internacionalizācija. Kļūstot par Ekonomiskās sadarbības un attīstības organizācijas dalībvalsti 2014. gadā,

Latvija aktīvi iesaistījās Eiropas Komisijas iniciatīvās un arī pati saņēma tās atbalstu, piemēram, skolotāju izglītības standartu pilnveidē, informācijas un pieredzes apmaiņā starp Eiropas Savienības dalībvalstu politikas veidotājiem, Erasmus programmu īstenošanā u.c.

Iesaiste Eiropas izglītības projektos un tīklojumos palielināja svešvalodu lietojumu, īpaši angļu valodas. Izglītības politikas dokumenti, pētījumu rezultāti, deklarācijas u.c. materiāli no angļu valodas tika tulkoti latviešu valodā. Taču nereti problēmas radās šo terminu atveidē no angļu valodas latviešu valodā vai otrādi.

Arī pašreiz Eiropas izglītības politikas telpā notiek būtiskas izmaiņas ne tikai izglītības saturā un mācību procesa organizācijā, bet arī izglītībā lietotajā terminoloģijā.

Jēdzieni *izglītība* un *mācīšanās* tiek izmantoti kā pamats daudziem terminiem, ar ko sastopamies ikdienā, piemēram, *pieaugušo izglītība*, *formālā izglītība*, *izglītības institūcija*, *mācīšanās rezultāti*, *kombinēta mācīšanās*, *mācīšanās tiešsaistē* un daudzi citi termini, taču to atveidojums latviešu valodā un lietojums ne vienmēr ir loģisks un precīzs, piemēram, *mācīšanās platforma*, *attālināta mācīšanās*, *neformālā mācīšanās* u. c. Kā norāda K. Norda (*C. Nord*) tulkošanas procesā ir jāņem vērā dažādi aspekti un viens no tiem ir kultūras tradīcijas (Nord, 2005). Latviešu valodā jēdzieniem *izglītība* un *mācīšanās* ir specifiskas nianšes, kas ir respektējamas tulkojumā.

Nereti problēmas rodas šo terminu atveidē no angļu valodas latviešu valodā vai pielīdzināšanā angļu valodā, piemēram, latviešu valodas terminam *akreditētas mācības* ir pielīdzināts termins angļu valodā ‘accredited learning’, *pieaugušo izglītība* tiek tulkots kā ‘adult learning’ (LZA TK, 2010).

Nekonsekvence terminoloģijā visos izglītības līmeņos skar visu iesaistīto pušu savstarpējo komunikāciju, jaunu zināšanu apguvi un izplatīšanu. Precīza izglītības terminoloģijas lietošana stiprina pētniecisko kapacitāti, veicina pētnieku starptautisko sadarbību, izstrādājot publikācijas svešvalodās un veidojot starptautiskos projektus. Terminoloģijas lietošana ir būtiska arī izglītības zinātņu studentiem, lai iesaistītos pētniecībā un stiprinātu pētniecības prasmes.

Raksta mērķis ir aktualizēt būtiskākās tulkojuma nekonsekvences, kas rodas vārdu savienojumu ar jēdzieniem *izglītība* ‘education’ un *mācīšanās* ‘learning’ terminu atveidē no angļu valodas latviešu valodā un otrādi, lai uzsāktu argumentētu diskusiju.

Raksts ir daļa no pētījuma „Izglītības terminu skaidrojošā tiešsaistes vārdnīca”, kura praktiskais materiāls ir aptuveni 3000 izglītības terminu, kas iegūti no izglītības politikas dokumentiem, pētījumiem, promocijas darbiem un monogrāfijām. Lai sasniegtu raksta mērķi, tika veikta dažādu rakstītu avotu un izglītības terminu analīze, izmantojot indukcijas, dedukcijas un salīdzināšanas metodes.

Metodoloģija *Methodology*

Lai sasniegtu raksta mērķi, nepieciešams skaidrot jēdzienus *izglītība* un *mācīšanās* angļu un latviešu valodā, kā arī analizēt izglītības terminus, kas veidoti kā vārdu savienojumi ar jēdzieniem *izglītība* un *mācīšanās* gan latviešu, gan angļu valodā.

Izglītības termini latviešu valodā tika atlasīti no aptuveni 3000 terminu datubāzes, kas tika iegūta projekta „Izglītības kvalitātes monitoringa sistēmas izveide” pētījumā¹ „Izglītības terminu skaidrojošā tiešsaistes vārdnīca”. Izglītības termini tika atlasīti no drukātām un digitālām izglītības terminu vārdnīcām, glosārijiem un sarakstiem, izglītības politikas un plānošanas dokumentiem, ar izglītību saistītiem projektiem un to pētījumu dokumentiem, izglītības tematikas monogrāfijām un izglītības zinātņu jomas promocijas darbiem. Kopumā tika analizēti 65 termini, kuros iekļauts jēdziens *mācīšanās* un 30 termini, kuros iekļauts jēdziens *izglītība*.

Lai skaidrotu jēdzienus *izglītība* un *mācīšanās*, kā arī apzinātu vārdu savienojumus angļu valodā ar šiem jēdzieniem, tika izmantoti dažādi drukāti avoti, kuri tika meklēti datu bāzēs ERIC, EBSCO, Latvijas Universitātes un Rīgas Stradiņa universitātes e-resursu repozitorijā, tiešsaistes meklētājprogrammās *Google Scholar* un *Google*, kā arī tika pielietota rokas meklēšana. Meklējot tika izmantoti šādi atslēgas vārdi: *izglītība*, *mācīšanās*, *termins*, *terminu atveide*. Atlasīto avotu analīze tika veikta, izmantojot indukciju, dedukciju un salīdzināšanu, ļaujot izdarīt vispārīgu atziņu izcelšanu no atsevišķiem faktiem, kā arī no vispārīgiem spriedumiem izdarīt mazāk vispārīgus spriedumus. Dati tika salīdzināti divās grupās – angļu un latviešu valodā.

Literatūras apskats *Literature review*

Lai labāk izprastu jēdzienu *mācīšanās* un *izglītība* būtību, ir analizēti šo jēdzienu skaidrojumi dažādos rakstītajos avotos angļu un latviešu valodā.

Jēdzienu *izglītība* un *mācīšanās* izpratne angļu valodā

Understanding of terms education and learning in English

¹ Darbs pie pētījuma „Izglītības terminu skaidrojošā tiešsaistes vārdnīca” projekta „Izglītības kvalitātes monitoringa sistēmas izveide” ietvaros tika uzsākts 2021. gada vasarā. Šī projekta mērķis ir izstrādāt izglītības terminu skaidrojošo tiešsaistes vārdnīcu latviešu valodā ar terminu ekvivalentiem angļu, vācu, franču un krievu valodā, lai nodrošinātu izglītības terminu attīstību, izglītības terminu kvalitatīvu lietojumu un vienotas izpratnes veidošanos.

Jēdziens *izglītība* tiek skaidrots (Cobuld Collins English Dictionary [CCED], 1995; Password English Dictionary for Speaker of Latvian [PEDSL], 1996; The Times English Dictionary [TED], 2000; Anohina, 2005; The Routledge International Encyclopedia of Education [RIEE], 2008; Jarvis, 2010; Richards & Schmidt, 2010; Cambridge dictionary [CD], n.y.; Webster dictionary [WD], n.y.; Oxford dictionary [OD], n.y.; Macmillan dictionary [MD], n.y.) kā mācību process, kas var būt gan formāls, gan neformāls, gan arī īslaicīgs un parasti saistīts ar kādu konkrētu dzīves posmu. Jēdziena skaidrojumā tiek uzsvērts ārējais avots, piemēram, izglītības institūcija, pedagogs, kas nodrošina izglītības norisi. Izglītība nevar būt īstenota bez pedagoga palīdzības, savukārt pedagogs vadās pēc konkrētas mācību programmas.

Atsevišķos avotos (TED, 2000; RIEE, 2008; CD, n.y.; WD, n.y.) izglītība tiek skaidrota ne tikai kā process, bet arī rezultāts, kuru var izmērīt. Plašākā izpratnē izglītība tiek saistīta arī ar audzināšanu (RIIE, 2008; WD, n.y.). Termini, kas atlasītajos avotos angļu valodā saistās ar izglītību, ir gana daudz, piemēram, *adult education, bilingual education, further education, special education* u. c.

Arī jēdziens *mācīšanās* dažādos avotos (CCED, 1995; TED, 2000; Illeris, 2007; RIEE, 2008; Jarvis, 2010; Richards & Schmidt, 2010; CD, n.y.; WD, n.y.; OD, n.y.; MD, n.y.) tiek traktēts kā process, kas ir nepārtraukts, neformāls, dabisks un kura rezultātā notiek izmaiņas indivīda fiziskajā un garīgajā attīstībā. Raksturojot mācīšanos, bieži tiek minēta pieredze (TED, 2000; CD, n.y.; MD, n.y.; OD, n.y.; WD, n.y.), kas nozīmē, ka *mācīšanās* tiek uzskatīta par reflektīvu procesu, kas palīdz indivīdam atcerēties savu iepriekšējo pieredzi, lai tai varētu pievienot jaunas zināšanas un attīstīt sevi.

Līdzīgi kā jēdziens *izglītība*, arī *mācīšanās* tiek skaidrota gan kā process, gan rezultāts, kas, iespējams var mudināt šos jēdzienus uzskatīt par sinonīmiem, uz ko norāda arī daži avoti, kuros abi šie jēdzieni terminos tiek lietoti kā sinonīmi, piemēram, *distance education* un *distance learning* (Richards & Schmidt, 2010; Katane, Katans, & Vavere 2012; Kuchynska, Bobkovych, Davydova, Polishchuk, Shumeiko, & Prysiaczaiuk, 2022; CD, n.y.; WD, n.y.), *open learning* un *open education* (Richards & Schmidt, 2010), *virtual learning* un *virtual education* (Richards & Schmidt, 2010). Taču jēdzienus *izglītība* un *mācīšanās*, kā arī terminus, kas darināti ar šiem jēdzieniem, nevajadzētu uzlūkot kā sinonīmus, jo jēdziens *izglītība* saistās ar formālo sistēmu, proti, izglītības īstenotāju (gan institūciju, gan personu), mācību programmu vai standartiem, izglītības apliecinājumu, kas ietver arī vērtēšanu u. c., savukārt *mācīšanās* ir vērsta uz indivīdu, tā var notikt apzināti ar vai arī bez jebkādas vadības.

Izglītības terminu tulkošana un sistematizācija ir piesaistījusi daudzu autoru interesi, piemēram, A. Anohina (Anohina, 2005) ir veikusi izglītības terminu, kas saistīti ar tehnoloģiju bagātinātu pieeju, klasificēšanu un sistematizēšanu.

Anglicismu un aizguvumu ietekmi uz citu valodu attīstību pētījuši (Šimon, Stoian, Dejica-Carțiș, & Kriston, 2021), secinot, ka izglītības jomā anglicismi ir sastopami retāk kā ir pieņemts uzskatīt un uzsver, ka katrā valstī izglītība ir pastāvējusi no seniem laikiem, attīstot terminoloģiju ilgi pirms angļu valodas hegemonijas. Šim secinājumam jāpiekrīt attiecībā uz lielajām valodām, piemēram, franču, taču tendence mazajās valodās, tai skaitā latviešu, vēl būtu pētāma.

*Jēdzienu izglītība un mācīšanās izpratne latviešu valodā
Understanding of terms education and learning in Latvian*

Latviešu valodā jēdziens *izglītība* tiek skaidrots plaši, ietverot gan procesu, gan rezultātu, gan audzināšanu, gan sabiedrības vēsturisko pieredzi, gan kultūrvērtību apgūšanu un nodošanu nākamajām paaudzēm (Broks, Buligina, Koķe, Špona, Šūmane, & Upmane, 1998; Pedagoģijas terminu skaidrojošā vārdnīca [PTSV], 2000; Boge, 2012; Terminoloģija Eiropas kvalifikācijas ietvarstruktūru un Latvijas kvalifikāciju ietvarstruktūras kontekstā [TEKI], 2016; LR Saeima, 1998). Turklāt, atšķirībā no skaidrojumiem, kas, rasti izpētot avotus angļu valodā, mūsdienās arvien biežāk tiek uzsvērts, ka *izglītība* ir arī viena no tautsaimniecības nozarēm. Taču šī nozīme rakstā netiks analizēta.

Līdzīgi kā angļu valodā, arī latviešu valodā (PTSV, 2000; Žogla, 2001; Maslo, 2003; Lanka, 2004; Gulbe, 2010; Vedins, 2011; Strods, 2012; Āboltiņa, 2014; TEKI, 2016; Ročāne, 2019; Lūkins, 2020) jēdziens *mācīšanās* tiek traktēts kā process, taču, atšķirībā no avotu analīzes angļu valodā, kur tika uzsvērts, ka mācīšanās ir dabisks process, latviešu autori (Žogla, 2001; Lanka, 2004; Āboltiņa, 2014; Lūkins, 2020) uzsver, ka tas ir mērķtiecīgs process, kuru var rosināt arī ārēji pamudinājumi. Mācīšanās sakarā tiek uzsvērti arī indivīda pieredze un sociālā vide, kurā indivīds atrodas un kas ietekmē mācīšanās rezultātus.

Salīdzinot datus, kas iegūti no avotu analīzes latviešu un angļu valodā, var secināt, ka lielu atšķirību jēdzienu *izglītība* un *mācīšanās* izpratnē nav.

Būtiskākie pētījuma rezultāti un to interpretācija
The main research results

Balstoties uz iepriekš apskatītās literatūras atziņām, ka jēdziens *mācīšanās* vārdu savienojumos izglītības terminos akcentē indivīda subjektīvo pozīciju un lietots ar indivīda iekšēji īstenotu procesu nozīmi, savukārt jēdziens *izglītība* attiecināms uz terminiem, kuros uzsvērts ārējais avots (izglītības institūcija, pedagogs), datu analīze vērsa uzmanību uz dažām terminu atveides nekonsekvencēm.

1. Termins *mācīšanās* vārdu savienojumos ir lietots saistībā ar ārējām darbībām, nevis ar indivīda vajadzībām un rīcību, piemēram, lietojot terminu *attālināta mācīšanās*, *adaptīva mācīšanās*, *sinhrona mācīšanās* vai *asinhronā mācīšanās*, *asinhrona mācīšanās*² (PricewaterhouseCoopers, 2020; Jansone-Ratinika, Strods, Brants, Koķe, Grigoroviča, Blese, Smirnova, & Sabeļņikovs, 2020).

Atsevišķos terminos, piemēram, *Individualized Learning* ‘individualizēta mācīšanās’ (Shin, Norris & Soloway, 2011), *Personalized Learning* ‘personalizēta mācīšanās’, ‘personalizētā mācīšanās’ (Nair & Thian, 2020; AIDJ, 2020), *Differentiated Learning* ‘diferencēta mācīšanās’ (Tenon & Epler, 2020), *Flipped Learning* ‘apvērsta mācīšanās’ (Jansone-Ratinika et al., 2020) latviešu valodā būtu jālieto lietvārds *mācības* vai *mācīšana*, jo individualizēšanu, personalizēšanu vai diferencēšanu veic pedagogs.

Tomēr ne vienmēr jēdziens *mācības* ir piemērots, piemēram, termins *Accredited learning* latviešu valodā tiek atveidots kā ‘akreditētas mācības’ (LZA TK, 2010), taču latviešu valodā akreditācija ir attiecināma uz programmām, nevis uz procesu, līdz ar to termins *akreditētas mācības* latviešu valodā ir neloģisks.

2. Neprecīzi un nepilnīgi tiek izprasta angļu valodas termina nozīme, kas var būt saistīta ar angļu valodas niansētas pārzināšanas trūkumu vai arī nepietiekamu termina nozīmes izpēti. Tādējādi, atveidojot terminu latviešu valodā, tiek ņemts vērā tiešais tulkojums jēdzienam *mācīšanās*, kas ne vienmēr ir atbilstošs, jo neatklāj termina patieso būtību, piemēram, *Transfer learning* ‘transfermācīšanās’ (Maslo, 2003), *Digital learning* ‘digitālā mācīšanās’ (AIDJ, 2020), *Hybrid learning* ‘hibrīdā mācīšanās’, *Hybrid Flexible learning* ‘hibrīdfleksiblā mācīšanās’ (Jansone-Ratinika et al., 2020). Tāpēc būtu jāizvairās no šādas terminu atveides. Iespējams, te būtu jārunā par tendenci nemeklēt latviskos ekvivalentus, bet gan iet vieglāko ceļu un izmantot anglicismu. Par šo problēmu ir rakstījušas arī (Kočote & Smirnova, 2016), norādot, ka tas ir galvenais izaicinājums, ar ko sastopas tulkotāji, atveidojot tekstus no valodas ar bagātīgu terminoloģisko bāzi un sastopoties ar mērķvalodas ekvivalenta trūkumu.

3. Dažkārt ir vērojama situācija, kad vienam terminam angļu valodā ir dažādi ekvivalenti latviešu valodā, piemēram, *Self-direct learning* latviešu valodā tiek atveidots kā ‘paša pārzināta mācīšanās’, ‘pašvadīta mācīšanās’, ‘paša plānota mācīšanās’, ‘pašnoteikta mācīšanās’, ‘pašvirzīta mācīšanās’ (Strods, 2012), kas, iespējams, ir darīts, nespējot atrast piemērotāko ekvivalentu latviešu valodā. Ienākot jaunai pieejai, metodei, parādībai valodā, pētnieki cenšas atrast piemērotāko terminu, noteiktā laika periodā radot vairākus terminus. Laikam ejot, nozare attīstās un valoda attīrās, tādējādi atstājot atbilstošāko variantu. Šajā konkrētajā gadījumā

² Reizēm latviešu valodā atveidotajos terminos tiek lietota noteiktā galotne, reizēm nenoteiktā galotne.

atbilstošākais termins ir *pašvadīta mācīšanās*, kas tiek aktīvi lietots arī jaunajā „Kompetenču pieejā mācību saturā” Skola2030.

4. Reizēm vērojama termina latviešu valodā dažāda atveide angļu valodā, lietojot gan jēdzienus *izglītība*, gan *mācīšanās*. Piemēram, termins *pieaugušo izglītība* tiek atveidots gan kā ‘Adult education’ (PTSV, 2000), gan kā ‘Adult learning’ (LZA TK, 2010), lai gan latviešu valodā pastāv divi termini – *pieaugušo izglītība* un *pieaugušo mācīšanās*, taču tie nav sinonīmi, katrs no tiem ietver savas nozīmes niansas.

Angļu valodas termins *Prior learning* latviešu valodā tiek atveidots gan kā ‘iepriekšējā mācīšanās’ (TEKI, 2016), gan kā ‘iepriekšējā izglītība’ (Akadēmiskās informācijas centrs, 2014).

Vajadzētu pievērst uzmanību arī terminam *Lifewide learning*, kas latviešu valodā tiek atveidots gan kā ‘plaštvēruma izglītība’ (LZA TK, 2010), gan kā ‘plaštvēruma mācīšanās’ (TEKI, 2016). Šeit vēl varētu diskutēt par termina izvēli latviešu valodā, proti, *mūžplaša mācīšanās* vai *plaštvēruma mācīšanās*.

Angļu valodā ir sastopami divi termini – *Distance education* un *Distance learning*, kas, kā jau tika minēts literatūras apskatā, ļoti bieži tiek lietoti kā sinonīmi, savukārt latviešu valodā tam ir ekvivalents ‘tālmācība’. Atveidojot terminu *tālmācība* angļu valodā, reizēm tiek lietots termins ‘distance education’, savukārt reizēm ‘distance learning’ (PTSV, 2020; LZA TK, 2010; Jansone-Ratinika et al., 2020; Jansone-Ratinika & Strods, 2021/2022).

Var secināt, ka biežākas terminu atveides nekonsekvences ir vērojamas tieši ar jēdzienu *mācīšanās*. Var pieņemt, ka šī nekonsekvence veidojusies vēsturiski un saistās ar vēlmi akcentēt indivīda subjektīvo pozīciju. Iekļaujoties Eiropas izglītības kopējā telpā, akceptējot demokrātiskas attiecības un skolēncentrētu pieeju, īpaši tika akcentēta indivīda subjekta pozīcija, kas rada arī atspoguļojumu terminu atveidē. Taču, mainoties kultūrsociālajai situācijai, mainās izpratnes un vajadzības un līdz ar to arī šo vajadzību izteikšana un terminu atveide. Būtiski ir pārskatīt terminoloģijas lietošanas atbilstību mūsdienu kontekstam, izvairoties no nepareizas nozīmes terminu veidošanā un lietošanā, piemēram, *formālā mācīšanās*, *neformālā mācīšanās*, *ikdienas mācīšanās*, *asinhronā mācīšanās*, *attālināta mācīšanās* u. c. Angļu valodas terminu tulkojumos latviešu valodā, piemēram, *Distance learning*, *Open learning*, *Synchronous learning*, *Asynchronous learning* būtu jāizvairās no to lietošanas savienojumā ar jēdzienu *mācīšanās*.

Būtiski ir vērst uzmanību arī uz bagātīgo latviešu valodas vārdu krājumu, kas piedāvā jēdzienu *mācības*, kam nav tieša ekvivalenta angļu valodā. Tādējādi mēs bagātinām savu terminoloģiju, sniedzam precīzāku nozīmes skaidrojumu, piemēram, *personalizētas mācības*, *tālmācība*.

Diskusija *Discussion*

Izglītības terminu tulkojuma problemātika ir tikai viens no jautājumiem, kam būtu jāpievērš uzmanība. Tikpat svarīgi ir pievērst uzmanību saturiskajam aspektam, proti, vai termini vārdu savienojumos ar jēdzieniem *izglītība*, *mācīšanās* un *mācības* patiešām atklāj termina patieso būtību. Tāpat vajadzētu pievērst uzmanību, vai konkrētais termins tiek pareizi izprasts, lai neveidotos neatbilstīgi sinonīmi, piemēram, termina *tālmācība* jaukšana ar terminiem *attālinātas mācības* un *tīmekļa bagātināta mācīšanās*, uz ko norāda arī atsevišķi pētnieki (Jansone-Ratinika & Strods, 2021/2022).

Uzmanība būtu pievēršama arī terminiem *kompetence / kompetences* un *prasme / prasmes* lietojumam, piemēram, *digitālā kompetence* vai *digitālās kompetences*, kas ir ļoti plaši lietots mūsdienu izglītībā.

Vajadzētu domāt arī par terminu darinājumu latviešu valodā, lai vairītos no terminiem *tenūra*, *tenūrprofesors*, *koučings*, *indukcijas gads* u. c. ieviešanas latviešu valodā, kas kā termini neatklāj to saturisko būtību. Tā, piemēram, projekta pētnieki *koučinga* vietā piedāvā terminu *spējraise*.

Vajadzētu vairīties no citu jomu, piemēram, biznesa jomas terminoloģijas pārneses izglītībā, saucot studentu par klientu un runāt par pakalpojumiem un pakalpojumu groziem attiecībā uz skolu, piemēram, lietojot vārdu virknējumus *skolas kopējais pakalpojumu piedāvājumu grozs*, *mācību priekšmetu grozi*, *izglītības izvēļu grozi*.

Kopsavilkums *Summary*

The article “Translation Inconsistencies of Educational Terms” by I. Laizane, I. Mikelsons and T. Koke is part of the project “Establishment of educational quality monitoring system” research “Online dictionary of educational terms”, the aim of which is to update definitions of educational terms in Latvian with equivalent terms in English, German, French and Russian in order to ensure qualitative use of educational terms and promote common understanding of the parties involved, including teachers, students, parents, researchers, politicians and society at large. The concepts of education and learning are used as a basis for tremendous amount of terms, but their representation in Latvian is not always logical enough and accurate. Inconsistency in terminology at all levels of education affects not only the mutual communication of the above-mentioned parties, but also acquisition and dissemination of new knowledge.

The authors of the article by means of extended literature review draw attention to the most common translation inconsistencies that arise in the rendering of word combinations with the concepts education and learning from English into Latvian and vice versa and open discussion about the issue. The novelty and topicality of the article is related to the need to highlight the transformation of the understanding of concepts in connection with the modernization and changes in the field of education. For instance, in the 1990ies in school practice it was an urgent need to strengthen the role of students in participation in educational process, therefore the concept of learning was intensively and widely introduced. Nowadays, equal cooperation between students and teachers is widely accepted practice, thus, in the context of Latvian language, it is more relevant to use “learning” emphasizing individual’s cognitive behaviour. The study was implemented as an interdisciplinary research analysing Latvia’s education policy documents, dissertations, monographs, encyclopaedias, dictionaries and glossaries using induction, deduction and comparison methods. The research findings allow to emphasize the following major translation inconsistencies: superficiality in distinguishing the substantive meaning of the concepts “education” and “learning”, incorporation of the substantive meaning of two terms into one term, direct adoption of Anglicisms into Latvian, lack of equivalents in Latvian language, use of several similar concepts to render one English term into Latvian that embarrasses the perception of the terms’ meaning.

The research findings give solid evidence that the precise use of educational terminology strengthens the research capacity, promotes understanding and cooperation both on national and international levels.

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TENDENCIES OF BORDER GUARDS EDUCATION SYSTEM QUALITY IN LATVIA

Artūrs Gaveika

Rezekne Academy of Technologies, Latvia

Abstract. *The novelty of the research is related to the need of Latvia as a member of the European Union and the Schengen area to continuously improve the requirements of vocational education, competence and professional qualification of border guards. The main objective of the research is to summarize the views of border guards on the positive achievements of the existing education system and the shortcomings detected for further improvement of the education system of border guards.*

The aim of the research is to summarize the views of border guards on the necessity of the vocational education including practical classes and training courses in the education system and possible solutions for further improvement, as well as the development of profession standards in a new quality and to develop cooperation between EU countries and neighboring countries to obtain knowledge and practical skills. The method of legal analysis was implemented by analyzing the requirements of the normative regulation concerning the professional qualification of border guards, the historical analysis method was used to explore the evolution of the professional education of border guards in the historical aspect, as well as the survey (questionnaire) method performing the survey of border guards of different educational levels has been performed. The research uses legal analysis, historical and survey methods. As a result of the research valuable information has been obtained that will serve to improve border guards profession and education standards. Since October 2017, the Rēzekne Academy of Technology continues to implement the long-term studies initiated by the European Regional Development Fund's Postdoctoral Research Support Project "EU External Border Security, Latvia's Internal Security" No. 1.1.2 / VIAA / 1/16/127. The cooperation partner of the project is the State Border Guard College.

Keywords: *Schengen acquis, study programs, the quality of vocational education.*

Introduction

The topicality of the subject is confirmed by the fact that both the European Union, the Schengen acquis (CIVITAS Institute for the Study of Civil Society, 2005), as well as national regulatory enactments, set requirements in several laws and regulations. against the competence of the authorities (Saeima, 2009, Article 1, paragraph 11), and the professional competence of the officials (Cabinet of Ministers, 2010, Paragraph 2.1), but without specifying the content of the concept of competence, it is limited to a number of requirements of

professional qualifications dispersed within the Schengen acquis (Gaveika, 2022).

Border guards' vocational education in the context of the EU Schengen legislation

The problem of the VRS professionalism was topical both in 2007 during the Schengen evaluation (Gaveika, 2008) before Latvia's accession to the Schengen area, as well as in the course of the evaluation of Schengen in 2012/13 and 2018, in particular in the improvement of professional qualifications, foreign language knowledge, structural cooperation, communication and management abilities (European Parliament, 2016). The requirements for the professional education of border guards were laid down in the standards of the profession of the inspector (LR Iekšlietu ministrija, 2009), the junior officer of the State Border Guard (Cabinet of Ministers, 2006a) and the Senior Officer (Cabinet of Ministers, 2006b).

However, in 2017, along with the entry into force of the new occupational classifier (Cabinet of Ministers, 2017), all the standards of the profession of border guards lost their validity.

In the development of new occupational standards, the views of different levels of border guards on vocational education are very important.

The aim of the study is to investigate the problems of the functioning of the EU external borders guarding system in terms of limiting illegal immigration in the countries of Eastern Europe, the Mediterranean and Western Europe, their impact on the EU and Latvia's internal security, to offer the tools of the EU external borders guarding system improvement to reduce the risk of illegal migration in the EU and Latvia. The aim is to develop proposals for the improvement of the regulatory framework and the improvement of the efficiency of law enforcement activities in the control of external borders and implementation of the asylum procedure in the EU and Latvia, to promote the professionalism and capacity of law enforcement officials.

Within the framework of the project, various research and scientific activities were planned, including a survey of the State Border Guard personnel on the restriction of illegal immigration and improvement of the professional training and education system of the State Border Guard personnel. Initially, the concept of the survey (Indriksons, 2018) intended to survey the border guards on the basis of the requirements of the relevant professional standards. However, when developing the content of the questionnaires, it was found that the list of questions based on the profession standard is too broad. Whilst coordinating the survey (questionnaire) content with the State Border Guard's main administration, the questionnaire questions were grouped together in more concise questions.

The responses of the personnel on the vocation education of border guards

The survey of the personnel of State Border Guard personnel was conducted by lecturer of the Border Guard and Immigration Services Department of the State Border Guard College lieutenant colonel Dr. paed A. Indriksons and lieutenant colonel Mg. iur. I. Adijane in cooperation with post-doctoral researcher Dr. iur. Arturs Gaveika, State Border Guard College and the Central Board of the State Border Guard (Figure 1).

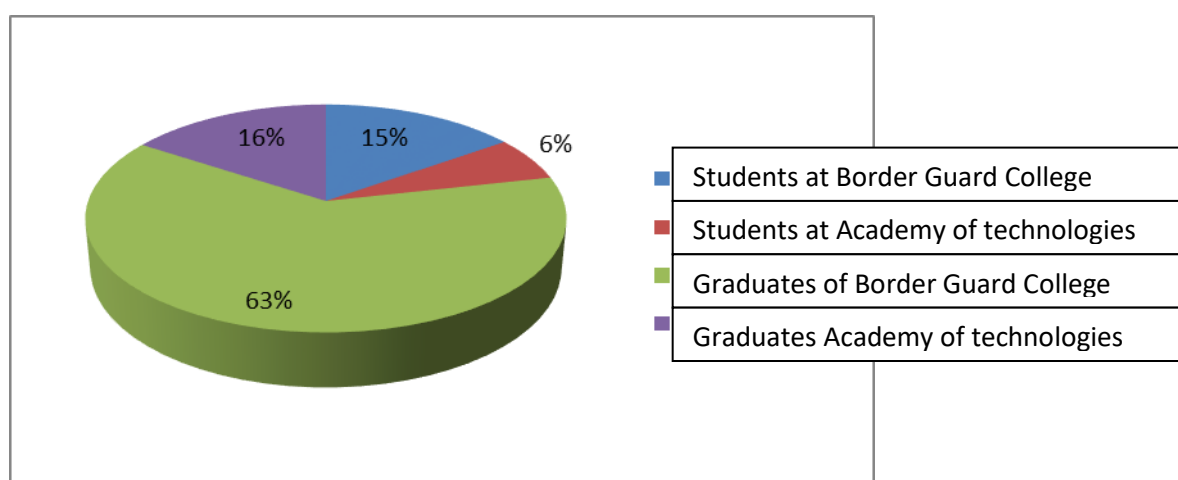


Figure 1 The level of respondents' vocational education (made by author)

Taking into account the fact that there is higher number of officials of the State Border Guard who have graduated the State Border Guard College than from the vocational Bachelor's study program "Borderguarding" of the Rezekne Technology Academy, the percentage of respondents who participated in the survey also show predominance of officials from the State Border Guard who have graduated the State Border Guard College. It can be concluded that in the processes of acquiring education the State Border Guard officials encourage to think about the necessary improvements, officials show more initiative in proposing improvements both in the vocational education system and the possibilities for improvement of the border guarding system.

The largest section of the survey included statements about the system of vocational training and education (Figure 2). Most of the officials of the State Border Guard believe that during the acquisition of the study programs of the State Border Guard College and Rezekne Technology Academy, sufficient skills are acquired during subjects as first medical assistance, guaranteeing safe action in case of need (30% agree, 46% somewhat agree), training on restricted information non-disclosure in the State Border Guard (agree 27% and 41%

somewhat agree), training in anti-corruption legislation, anti-corruption and anti-corruption in the State Border Guard (agree 21% and somewhat agree 52%).

Regarding the adequacy of the knowledge and skills required for the service acquired during the acquisition of the State Border Guard College and Rezekne Technology Academy study programs, the answers of the surveyed officials indicate that theoretical knowledge is acquired more than practical skills. 13% of respondents believe that all theoretical knowledge is acquired, 61% somewhat agree to this statement, while practical skills are assessed as fully acquired by 11% of respondents, another 37% somewhat agree. Thus, more than half of the respondents' replies indicate that vocational education programs lack the acquisition of practical skills. Those surveyed who have more than 10 years of experience in the State Border Guard mostly believe that theoretical knowledge is acquired at a sufficient level, while those with the lowest professional experience up to 5 years believe that theoretical knowledge is not at sufficient level.

As far as the acquisition of practical skills is concerned, answers are also given about the duration of the practice, most of who consider the practice time too short. Looking at the responses to the respondent's service experience in the State Border Guard, it must be concluded that those respondents who have more than 10 years of service tend to agree that the internship is too short, while those respondents whose length of service is shorter respond almost similarly, half of them believe that the internship is too short, the other part does not agree with this statement.

Respondents' views on the necessary skills in emergency situations, exceptional situations and military threats to the Republic of Latvia were shared in half by the respondents, while in the case of acquired skills and skills to survive in difficult circumstances, most of the interviewed officials of the State Border Guard believe that they have not acquired sufficient level i.e. 19% are of the opinion that it has not been acquired and 39% more likely disagree than agree to the acquisition of such skills and abilities. The biggest negative indicator in the responses is the ability to maintain and use high-tech technical equipment for border guarding (motorcycle, car, etc.) - (disagree by 34% and 35% somewhat disagree).

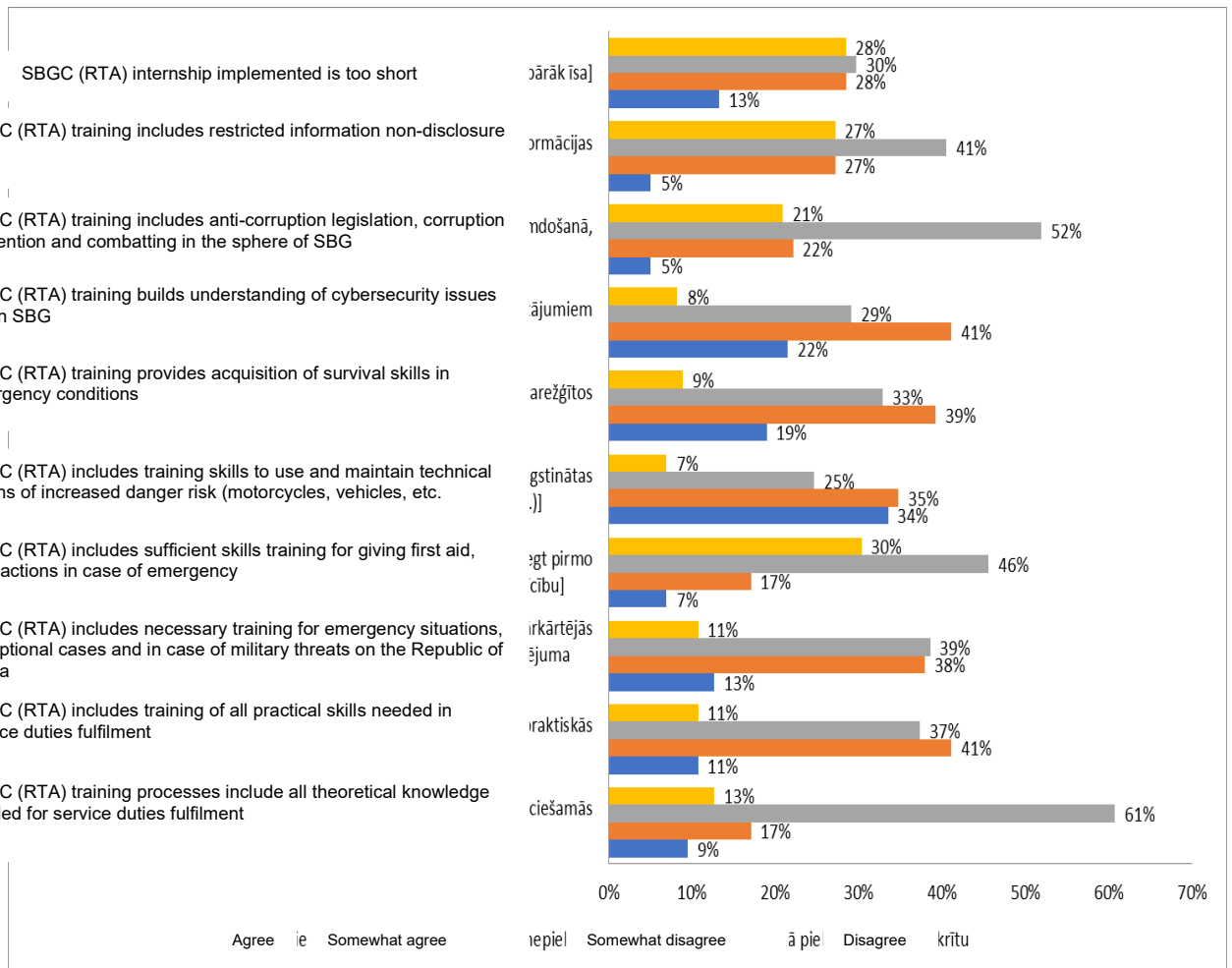


Figure 2 Characteristics of vocational education and training (made by author)

Respondents provided extensive answers about the possibilities for the improvement of the vocational training and education system of the border guards, which included proposals regarding changes in the education programs of the State Border Guard College and Rzekne Technology Academy, as well as the practice in the structural units of the State Border Guard, as well as the transfer of experience from other European Union countries as well cooperation between educational institutions and structural units of the State Border Guard, which would include not only the exchange of information, but also the organization of joint training and participation of the State Border Guard units in the training process as guest lecturers, thus sharing the most up-to-date information on border control and immigration control. Figure 3 shows the distribution of answers.

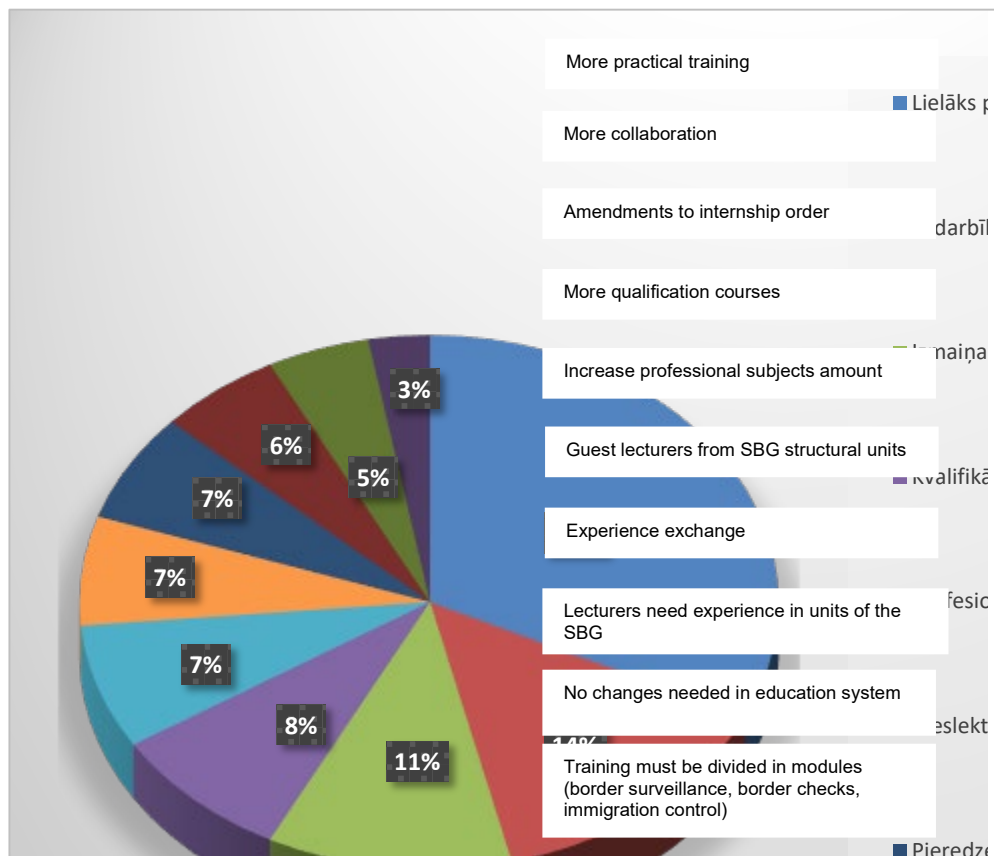


Figure 3 *Opinion of the State Border Guard officials on the most effective factors for improving vocational education (made by author)*

As can be seen in Figure 1.8, a large part of the respondents believe that the quality of the vocational education system of border guards could be improved by making amendments to the study programs of the State Border Guard College and Rezekne Technology Academy, firstly by increasing the number of practical classes, including practical classes in cooperation with the State Border Guard units, allowing students to maximize bringing practical tasks to the real life, thus better preparing them for different situations in the practical service. Respondents believe that guest lecturers from the State Border Guard structural units should be invited to the training process, officials of different levels of management of the units, such as the Heads of Border Guard Units, were named. Respondents were convinced that all lecturers participating in the implementation of professional education programs of the Border Guards require prior practical experience in the structural units of the State Border Guard, and the lecturers must maintain their qualification continuously, regularly, practicing in the structural units of the State Border Guard every year. Respondents emphasized that professional subjects cannot be taught by a lecturer who currently does not have links with current events of the State Border Guard. Several respondents suggested extending study time. There were

also suggestions for taking over the experience of other countries in the professional field of border guards, but there was no indication of what specific issues would need to be changed according to the experience of other countries.

As one of the biggest changes in the study programs, the officials of the State Border Guard interviewed mentioned the necessity to reduce the number and volume of general education courses, accordingly, increasing the amount of study courses concerning the performance of tasks of the State Border Guard. Areas such as border surveillance, border checks, immigration control, administrative practice, document examination were named.

As educational programs also include internships in structural units of the State Border Guard, respondents also actively put forward proposals specifically on this issue. The main aspects of the internship were indicated as the extension of the internship time, more practical tasks and situation analysis during the practice, more involvement in the real assignments, the possibility to practice in the units of the State Border Guard where the future student deployment is planned.

Very extensive responses were given to the need for training courses. The officials of the State Border Guard surveyed emphasized the necessity to arrange the system for sending of the State Border Guard personnel to the qualification upgrading courses. Various options were presented in the respondents' proposals, but the common aspect was that it was necessary to regularly re-send to the qualification improvement courses, because the situation in the juridical field as well as in real life nowadays is rapidly changing. It has been repeatedly stressed the need to issue certificates for the completion of qualification courses for a limited period, after which it would be mandatory to retrain in these courses. Respondents believe that in this way it would be easier to plan and control the training needs of personnel in the State Border Guard units. With regarding to training courses in e-environment, respondents indicated that they did not prove their usefulness.

Some of the factors that could affect the quality of education systems were the more rigorous selection of candidates for training as well as tighter discipline control and upbringing during the study process.

Conclusions

Officials of the State Border Guard surveyed consider that particular attention should also be paid more to regular and optimally planned acquisition of qualification improvement courses, continuous collaboration with the competent authorities of neighbouring countries, as well as the authorities of the Republic of Latvia involved in immigration control.

The quality of vocational education in general is satisfactory in the opinions of the officials of the State Border Guard surveyed. The main suggestions, which in the view of the respondents could be to improve the training - increase of the proportion of professional study courses as well as the number of practical classes in the education programs of both the State Border Guard College and Rezekne Technology Academy.

Further development of the border guard education system requires the development of high-quality, proportionate and sustainable border guard profession standards that meet the requirements and conditions of both the European Union and Latvia.

In general, it should be concluded that the majority of the officials of the State Border Guard surveyed believe that the illegal border migration could be reduced by a better arranged state border, which would include various innovative technical solutions. Many officials of the State Border Guard are convinced that better infrastructure and material and technical facilities would improve the border guard system, thus preventing illegal crossing of the state border.

The answers of the interviewed State Border Guard officials were concrete, practically feasible, which indicates the respondents' understanding and ability to assess the situation by identifying the necessary changes and directions of development.

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SPECIFICATIONS OF «MANAGING» THE EDUCATIONAL PROCESS IN THE CONDITIONS OF DISTANCE LEARNING (EXPERIENCE OF UKRAINE)

Anna Khilya

Vinnytsia Mykhailo Kotsiubynskyi State Pedagogical University, Ukraine

Abstract. *This publication focuses on the practice of implementing non-standard approaches to standardized educational processes. The involvement of students in the practical study of the possibilities of using a virtual classroom not only as a basic model for the transfer and testing of knowledge, but also to improve the emotional response and involvement in the educational process. This is due to the inclusion of art therapy technologies, its elements, and individual practice-oriented exercises in the structure of classes, which are inherently training.*

That is why in this publication we turned to the demonstration of the results of the survey, interviews with the participants of our classes. In particular, not only those with whom we have been working consistently and systematically for more than one year, but also those who study under other programs without the inclusion of the technologies and exercises we offer. In addition, to demonstrate the effectiveness of this method of managing the educational process, we propose to review the work with the use of the proposed inclusions when working with a «new» audience in the process of participation and presentation of the results of interaction with participants of all-Ukrainian conferences.

Keywords: *art therapy technologies, distance learning, experience of Ukraine, practical study.*

Introduction

Starting our presentation of the experience of «managing» the educational process, in particular teaching in modern conditions, we want to refer to the Ukrainian interpretation of «The Art of War» and the thesis, which today can be decisive for the formation of a new era in the educational management of network and distance forms of knowledge acquisition: *«To be innovative, you need to look for (not avoid) and solve anomalies, which are always boundaries in perception. Creativity is most productive when it is limited»* (Sun-Dzy, 2015, p.93).

Modern school, modern education... this is what we hear, talk about, strive for when organizing the educational process and scientific and pedagogical activities. Since 2019, a turning point has come for Ukrainian society (although perhaps the

same as for the whole world), when the need for change was accelerated not only by the need for time but also by the relevant circumstances.

Thus, in the process of quarantine restrictions, the Ukrainian educational space has faced problems that have long been «brewing», but somehow «postponed» due to the established norms and rules of the classroom system. To a certain extent, even the innovations and projects of NUSH (NUSH, 2016), Intellect (MON, 2016), inclusive classes (Hladkykh, 2020) did not have sufficiently prescribed and regulated parameters for organizing a distance learning format. And the individual form of education (Pro osvitu, 2017) still provided for direct contact with the school's teaching staff in situations of knowledge assessment and confirmation of skills regulated by educational programs.

Since such contacts were prohibited during quarantine restrictions, this led to the search for solutions to some of the problems in an extreme mode.

The same was true for the training of specialists in higher education institutions, as even the developments that involved students in distance education systems were duplicated and/or tested by various forms of control (tests, quizzes, exams) with the personal presence of the student in the educational institution.

In addition, as quite common in educational circles, online courses completely excluded interaction with a «live audience». This created the prerequisites for finding non-standard solutions in our work.

Literature review

Considering distance education as an innovation in the Ukrainian educational space, we faced the discrepancy between our timeframes for the introduction of this type of education in the information field and in foreign scientific and pedagogical works and practice. That is why for a more convenient and qualitative analysis of the prerequisites for the formation of a «managing» to ensure quality distance education, we turned to the scientific research of foreign representatives.

According to the needs and possibilities of organizing such training, there are synchronous and asynchronous formats (Georgescu, 2006; Grabusts & Teilans, 2021). The first of them allows you to work in real time using several types of interaction and data exchange. While asynchronous is gaining more popularity than synchronous, because learners can «study at a convenient time for them, without disrupting their daily routine. In this type of learning, audio and video sessions can be recorded during the lecture and made available to those who cannot attend the live event» (Grabusts & Teilans, 2021).

At the same time, while making the relevant recordings publicly available through YouTube channels, we concluded (based on statistics on views) that in the

case of asynchronous learning, students often view the proposed content either before the semester control or during additional meetings with the teacher. The reasons for this unevenness may be discussed in the following publications.

But, what is important for us right now? This is the definition of the main options for the educational process where the virtual classroom is considered as «an educational and methodological environment designed in software by teachers in such a way as to support collaborative learning between students, despite the fact that they can attend this class at a convenient time and place of their choice» (Bojović, Bojović, Vujošević, & Šuh, 2020; Hiltz, 1995). And this is an advantage of the virtual classroom, but at the same time, the lack of a sense of «real» presence in the classroom creates a number of feedback problems.

For example:

- interaction between students, which is sometimes overlooked by teachers, has a significant impact on the overall success of distance learning (Bojović, Bojović, Vujošević, & Šuh, 2020)
- instructors should engage students in a variety of cognitive tasks such as answering questions, asking questions, thinking, reasoning, analyzing information, repeating and retrieving information (Keengwe & Kidd, 2010).
- The role of the teacher is transforming from being a mere information provider to being a guide and facilitator of learning (Marjanovic, 1999) throughout the education system, and even more so in the online environment with all its possibilities of recording, searching and broadcasting content, such as open courses, wikis and video blogs (Bojović, Bojović, Vujošević, & Šuh, 2020).

Facilitation of the educational process became for us the key that allowed us to introduce elements of creativity into clearly structured classes that met the norms of the classroom system and measured lectures. We had the opportunity to include elements of art-therapeutic technologies and practice-oriented exercises in the educational process when teaching the cycle of disciplines «Inclusive Education». After all, given that «Creativity loves restrictions. Creativity is not just unbridled, uncontrolled manifestations of creative energy. Creativity must have a structure, and if you look deeper, you can see that some of the art forms - haiku, sonatas, religious paintings – are full of limitations. They are beautiful because creativity overcomes the rules... creativity thrives best where it is limited» (Sun-Dzy, 2015. p.94).

Methodology

The purpose of this publication is to reveal our findings from observations and practice of using art therapy technologies to improve the emotional response and inclusion in the educational process of students.

To outline and confirm the effect of our proposed technologies we will refer to:

- online surveys. In particular, the questions included in the comprehensive surveys based on the results of seminars, workshops (DPE, 2021).
- video recordings of materials covered within the framework of the annual conference (since video presentations of work and video recordings of meetings with students are available in accordance with the consent of the parties to demonstrate certain content).
- results of interviews and focus groups with participants of the educational process based on the results of the meetings.

Each of the proposed options for getting acquainted with the effectiveness of these technologies allows you to more deeply reveal how emotional stabilization and microclimate in the classroom can contribute to the assimilation of complex topics, and how the elements of art therapy interaction allow you to «keep in touch» your audience.

Research results

First, we consider it necessary to note the main positions that prompted us to take elements of art therapy and practice-oriented exercises in conducting classes with students.

In essence, the educational process in any educational institution is clearly regulated, and each class or lesson has its own plan. But, no plan includes in its structure such an element as an environment of diversity. That is, the teaching process usually does not consider the peculiarities of each subsequent group of students, their «group activity» in terms of perception of information, interpersonal interaction, fatigue, workload, level of critical thinking, as well as discussions, arguments of their own point of view.

This element of structuredness during our classes we «diluted» with elements of art therapy. After all, various exercises allowed to improve both the emotional response of students and to «stabilize» and maintain interest during the work during one hour and twenty minutes of the planned lesson. Allowed:

- vary the time and amount of use of pure perception of new material,
- willingness to have a discussion with the teacher,
- maintain psycho-emotional balance and microclimate in the virtual classroom.

In addition, in the process of the virtual classroom we added practice-oriented exercises that were close to training. That is, we adapted some elements of theoretical material for the audience so that students could feel, practice and understand the new material.

Secondly, in order to outline the results of the use of elements of art therapy in the educational process, we will use the analysis of the results of an online survey based on the results of the event. For example, we organized and conducted a joint online meeting-seminar on the topic «Points of contact in an inclusive environment and building cooperation on the example of cooperation between Masaryk University and the Teresias Center to help students with special needs», which took place on 17.05.2021 at 10.05 (Google Meet). This event was attended by 24 students from VDPU named after M. Kotsiubynskyi and Zhytomyr Ivan Franko State University. And according to the results of the meeting, we offered them a questionnaire with a number of questions, which was passed by 20 students, including 10 bachelor students (Vinnytsia) and 10 master students (Zhytomyr), which also influenced the students' answers.

In particular, there were 11 questions in total, but the most important for us were the following (DPE, 2021):

- The first and the second questions – «Are you a student of a higher education institution» (test format of the answer) and «Are you a practitioner (pedagogical worker)?» (test format of the answer), which allowed us to identify the practical interest of those who, in addition to studying, are involved in working with children with special educational needs and are directly involved in the organization of inclusive education. Thus, among bachelor's students there were no practicing teachers, while among masters there were most of them (6 people).
- The third question «What was the online meeting about (the main topic)?» (open question), gave us the opportunity to understand how much students were involved in the work and «heard» the information offered, since during the event they were allowed to be present but not to go online. It also made it possible to see not only the interest in working together, but also to bring students to discussions and short dialogues on the issues discussed during the seminar and to monitor their reaction to various exercises that were offered during the meeting with elements of art therapy.

- The fourth question «Was there anything that «touched» you during the meeting in the negative sense of the word (emotionally, informationally, physically)» (test format of the answer), allowed us to determine how the training exercise with emotional inclusion influenced the formation of understanding of the peculiarities of the perception of the world by children with special educational needs. Thus, among 20 people, only 1 person had a negative experience of participating in such an exercise, which was expected, since it was a representative of masters and a non-practicing student. While for practicing students and bachelor students who had repeated meetings and master classes in centers of social and psychological rehabilitation and supervisory meetings with practitioners of inclusive education.

- The sixth question «If you participated in the next joint sessions, what would you like to hear?» (open question), allowed us to formulate and develop areas for further cooperation based on answers such as «features of children with educational needs», «examples from practice», «experience of other countries», «more examples from life», «more about innovative approaches to inclusive education», etc.

- The eleventh question «Your short comment if you wish» allowed us to determine that masters studying in other programs and not related to the practice of working in educational institutions and inclusion noted the accessibility of the material, positive impressions of the audience interaction. Master students who noted that they are practitioners also noted the informativeness of the classes, acquaintance with previously unused means of audience interaction and timeliness of the information received. At the same time, it can be noted that bachelor's students who are «used» to such interaction were ready to perceive the material, engage in discussion issues and perform exercises, so the mark in one of the questions «Everything was great, but ...» gives a signal about their need for a more intensive practice-oriented format of work with the study of not only foreign experience, but also new training exercises and technologies of art therapy interaction that they can use in practice.

In addition, the answers given by the participants to the questions regarding further meetings allow us to conclude that:

- attentive listening during the one-and-a-half-hour intensive;
- interest in the topic and its presentation from different sides in comparison;
- desire to understand and delve into the proposed topic of inclusive education;

- a positive attitude to continue participating in the meetings, even if there is no element of interest in the topic of teaching.

Thirdly, we had the opportunity to test our theory of interaction, which we put into the purpose of presenting this material. In particular, interaction with the audience during meetings with a new unfamiliar audience in the process of presentations during conferences (VDPU, 2020; VDPU, 2021). And we had the opportunity to observe the appropriate emotional response to the proposed topics even without receiving visual feedback and to track the involvement of participants through discussion questions and reactions to the proposed theses, both voiced by the participants and through chat. In addition, the high level of involvement was confirmed by the implementation of the proposed tasks with elements of art therapy and discussions that took place in the process of direct acquaintance with the theory of the presentation.

Conclusions and discussion

Of course, we are not the first to pay attention to the need to «update» the educational process, to include new elements that will allow the teacher, teacher, pedagogical worker to go beyond the usual transfer of information to «manage» (facilitate) the process of searching and assimilation of knowledge. And we are not the first who draw attention to the need for and importance of the transition to the use of computer training, augmented and virtual reality. For example: «the future and education in the future will be digital... therefore, it is irresponsible to use ICT in education without defining the principles of digital humanistic pedagogy» (American article), the subject of which is the impact of ICT on all subjects of the pedagogical process, the study of educational and cognitive actions taking place both in material and virtual reality and, accordingly, the design of content, forms and methods of teaching (Ukrainian article).

If we take the goal that we pursued when presenting this material, then in our opinion we have revealed the effectiveness of using elements of art therapy in the educational process that takes place online, as a technology for involving all participants in the processes of performing individual tasks, including the «leader» of the process - the teacher.

In addition, it is worth noting that according to the results of the survey and preliminary classes with various groups of preparation for work in an inclusive school, we were able to continue working in this direction in accordance with the requests received from students and teachers:

- to join and implement cooperation with Faculty of Education, Masaryk University (Brno, Czech Republic) and Vinnitsia State Pedagogical University

(Vinnitsia, Ukraine) within the COIL project within the subject SOp150 «Inclusive education» (COIL, 2021);

- to develop and start implementation of the project module «The Social Integration of Children with Special Needs in an Environment of Diversity and Inclusion: European Approaches» Project: 101085267 - SEEDUE4UA - ERASMUS-JMO-2022-HEI-TCH-RSCH (MDPE, 2022).

Although in continuation and at the end of this article we can summarize that «winning strategies are never repeated, they are adapted to infinitely changing situations» (Sun-Dzy, 2015. p.30), which fully corresponds to the current situation of «management» of the educational process of distance learning.

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PERSPECTIVES OF DEVELOPING DIGITAL EDUCATION IN MILITARY INSTITUTIONS

Mārtiņš Spridzāns

Rezekne Academy of Technologies, Latvia

Abstract. *Digital education and education transformation perspectives have particularly become the topics of interest and research during Covid-19 pandemic in all law enforcement institutions. Experience gained by overcoming weaknesses in e-learning and best practices identified need to be summarised and shared in order to strengthen existing border guards e-learning systems as well as timely prepare infrastructure and trainers for unexpected challenges and future education trends. The article outlines research results on the analysis of the current trends in digital learning in context of e-learning in the State Border Guard as a part of military education system in Latvia. Article includes research of main problems, risks and concerns regarding digital education in general as well as potential opportunities and recommendations for further development of e-learning for the Border Guard and the military. Existing problematic areas have been identified by historic research method, particularly from Covid-19 pandemic distance learning experience. Future perspectives in developing border guard's digital education capacity and potential have been defined based on analysis of scientific literature, empirical observations based on experience lecturing within military education environment.*

Keywords: *digital capacity, digital competence, digital education, military education.*

Introduction

Military education has always been considered as a strict, hierarchical, discipline-based system, where education processes, training approaches have evolved based on historical values and spiritual heritage of brotherhood, hence more difficult to be transformed. Nevertheless, despite traditional values and education approaches, also military education is gradually transforming. Transformation can be triggered by different factors, for example as experienced during Covid-19 pandemic due to movement and socializing restrictions military education also had to look for knowledge transfer solutions using digital education environment. Digitalisation of education is an ongoing process which will also have more impact on military education. Our future security and safety is primarily based on highly educated, competent and professional law enforcement and military personnel.

The goal of this research is to analyse and identify the key factors which facilitate or restrain the development of digital learning solutions in military education system, provide suggestions on how to use digital learning solutions as

well put forward proposals on how to enhance digital competence of educators involved in military education. To reach the goal of this research author analyses scientific literature concerning education and technologies, summarizes the success factors and drawbacks concerning digital education possibilities within military education systems, based on scientific research findings and questionnaire results develop suggestions for improving the military education systems is provided. The research includes investigation of scientific literature, analysis and synthesis of main trends of digital education as well as development of recommendations to increase the efficiency of e-learning in military institutions based on research conclusions.

Topicality of digital education development within the military

The rapid development of educational technologies, urgent need to be ready for new emergencies and challenges (as recently experienced Covid 19, currently war in Ukraine) keep us under constant watch for a transformation and rapid reaction capabilities when in need and under all circumstances. The Covid-19 pandemic highlighted the existing problems and challenges in providing and sustaining effective learning process under sudden transformation process. The processes of traditional education transformation directly affect both - the management of the education institution in the organisational and managerial level as well as the personnel – to be flexible and ready for fast change of traditional training environment. We can undoubtedly agree that the vast information exchange, development of artificial intelligence in information transfer, simulators, data processing systems have created military education more dynamic as compared to previous decades. Under constantly changing conditions, in order to ensure an efficient learning process, educators must not only be able to adapt quickly and effectively to the current educational challenges, but also to predict and timely prepare for future educational development trends - such as their own digital competence development.

The topicality of improving military education in the context of Latvia is defined in several security education policy planning and development documents, such as the National Defense Concept (Saeima, 2020; Valsts robežsardzes koledža, 2021), the action plan for the development of vocational education of institutions of the Ministry of the interior system with special service ranks for 2018-2021. The further research on digital education development is content analysed from other available scientific literature sources.

Research shows that over the last decade, especially in 2020-2021, the Covid-19 pandemic has led to the emergence of digital education opportunities and a rapid increase in research, highlighting gaps and barriers to the effective implementation of the digital learning environment. Digitization, virtual reality, online studios have become the norm, preparing for a future, super-intelligent

(5.0) society (Sa, Santos, Serpa, & Ferreira, 2020). Covid-19 emergency studies indicate that higher levels of teachers' digital capacity allow for faster and better organization of distance learning (European Commission, 2020). According to the research by Ministry of Education project "Life with COVID-19" (RSU, 2020) it is detected that the challenges posed by the crisis have contributed to the availability of digital resources and the development of competencies of professionals involved in education through combined and highly distance learning at all levels of the education systems.

The need to update all education systems is highlighted in the Digital Education Action Plan where the importance is put in of all levels and sectors of education to address digital skills gaps and updating educators' digital competences as well as recognizing and supporting the need to develop digital competences for individual participation in society in the context of European innovation and competitiveness (European Commission, 2020).

Also, military education systems should bear in mind that their target audience is our younger generation, which has already grown up within digital learning solutions. When transforming or revisiting military education environment it important to pay attention to civil education paradigm shift. Linda Daniela (2019) encourages us to prepare students for the future in which they will have to face different technologies, make the learning process more interesting, improve learning motivation and facilitate self-study for teachers, various technological innovations need to be introduced (Daniela, 2019). The potential success of students in the development of digital competencies depends on the attitude of teachers towards the changing amount of technology in order to achieve a deep understanding of their transformative nature and corresponding changes in curricula (Zogla et al., 2019).

The need for a paradigm shift in education, to adopt digital innovations in the learning process, ways of acquiring new knowledge in the context of digital learning solutions is expressed in several international research findings (Bessenyei et al., 2008; Clarke, 2008; Churchill, 2017; Hämäläinen, Nissinen et al., 2021).

Research on the Covid-19 pandemic shows that education systems are not fully exploiting the potential of digital technologies to improve teaching and learning, nor are opportunities for developing the digital competences of teachers and learners (Costa, Castaño-Muñoz, & Kamylylis, 2021). The topicality of the transformation of the educational environment is emphasised in the Digital Transformation Guidelines for 2021-2027, where the focus is put on the need for education systems to provide modern digital skills and professional skills with the opportunity to participate in the learning process (VARAM, 2020). Mykhailenko et al. (2021) emphasize the acquisition and transformation of digital skills from the acquisition of digital technologies to the use of digital tools in the pedagogical environment. Emphasis is placed on the link between pedagogy and technology

in achieving educational goals, focusing on the skilful, conscientious and effective use of digital technologies, promoting more personalized, flexible, student-centered and collaborative learning in the digital environment

The researches indicate the education systems of militarized educational institutions are gradually and purposefully developing, the inevitable increase in technology in the context of e-learning is expected to compile and adapt based on success stories (Wisher, Sabol, & Moses, 2002). The potential of e-learning, transformation of learning in theory and practice, theory and practice of student-centered process, manifestations of leadership in the military pedagogy change have been widely explored and underlined by several researchers (Vardi, 2010; Williamson & Murray, 2019). Several researchers also conclude on the need to address the risks related to e-learning, impose conservatism theory, caution, challenges to introducing innovations (Buckingham, 2007; Budhai & Skipwith, 2017; Garrison, 2017, etc.);

Education development tendencies and priorities of both Latvian and foreign militarized institutions define the key areas - strengthening of digital education capacity, paying special and timely attention to the development of future digital education potential - artificial intelligence, simulations and virtual reality, collaborative research. By analysing the literature related to the research topic, compared to other fields of education, it can be concluded that the among of research in militarized educational institutions in terms of digital education development is rather limited, which also highlights the need to increase the involvement of military academic staff in digital education research development. Insufficient research capacity can lead to the lack of a systemic approach to the organization and supervision of the e-learning further development process, the improvement and educators' digital competence as well as slowing down of modern digital education integration and sustainable development in specific military environment.

Researches indicate the basic requirements for successful integration of e-learning - definition of vision and strategic planning, the need to create an environment for change, successful integration of e-learning process is possible on planning integration and assessment quality criteria: teaching system, technical system, subject matter, technical services, quality of course leaders and users, basic support system (Engelbrecht, 2003; Vanderlinde, 2012). Based on the analysis of theoretical research, it can be concluded that strengthening the capacity of digital education and e-learning is one of the priorities for the development of education policy, which is also relevant to militarized education institutions.

Research and education policy planning documents show that by effectively integrating traditional teaching methods with modern digital education solutions, it is possible to ensure wider access to education, balancing financial savings without losing the quality of the learning process and achievements. The Covid-

19 pandemic proved that e-learning solutions are able to ensure the continuity of the study process in emergency situations, therefore the possibilities of implementing e-learning outside emergency situations should be analysed.

The research results also emphasizes the lack of interactivity in the developed teaching materials (Daniela, 2019), the topicality of the lecturers' development of digital competence and practical experience in the use of technology (Daniela, 2019; Čižmešija et al., 2018), development of didactic digital competence (Atanu & Bag, 2020).

Successful integration of digital resources in pedagogical activities depends on the development of lecturers' criteria of digital competence - knowledge, skills and attitudes. Research on the development of education (UNESCO, 2011) indicate that the lecturer has a duty and a direct influence in structuring an effective learning environment, must be able to anticipate and meaningfully combine new technologies with the usual pedagogical work environment. The conclusions of the research emphasize the need to create an effective online collaborative environment by developing socially active interactions through collaborative learning. The role of lecturers' changes from knowledge providers to facilitators of shared knowledge and team building.

An essential precondition for the integration of e-learning is the influence of management in the development of collective understanding, collective commitment and collective responsibility (Bērziņa et al., 2006), gradual and organic integration of digital education in the institution's culture with management and informal leader support, participation and motivation system, evaluating existing technologies, investing in future technologies, research, professional development, communication and collaboration (UNESCO, 2011; Ilomäki & Lakkala, 2018; Rožcenkova, 2008; Porritt et al., 2017).

The summarized research findings show that a prerequisite for educational change is an appropriate synergy between the leadership of teachers and educational institutions and digital competence. The introduction of change in a military culture is difficult, where the introduction of new innovations or traditions is highly resisted and counteracted, mainly due to the heritability of traditional learning processes and methods, knowledge, skills and attitudes towards innovation. Moving forward requires emphasizing and communicating the need for change, which includes creating the right climate for change, building a change management team, developing a vision and strategy for change, demonstrating short and long-term achievements, and consolidating established change.

When developing the e-learning environment of a militarized educational institution, it is necessary to ensure high-quality interaction between the lecturer and students, not only promoting learning achievements, but also the formation of lecturers' experience of online collaboration opportunities (Salmon, 2000; Budhai & Skipwith, 2017). The conditions for the development of a successful e-

learning course should integrate the development of lecturer-student cooperation in interaction with interactive learning content, tests, mutual cooperation, development of self-directed learning experience. Lecturers need to be aware of the peculiarities of modern communication, how students interact in social networks and communities (Bozkurt, 2019). As experienced worldwide and in Latvia international cooperation projects are becoming relevant for the exchange and adaptation of good practice examples for the further development of e-learning (European Commission, 2013). Collaboration centres for the effective use of existing and new technologies and for collaboration with other defence forces and academia are important to enhance digital capacity (Wisher, Sabol, & Moses, 2002). Research confirms that local and international cooperation provides lecturers with an opportunity to learn from each other, allows comparing and contrasting different approaches to education policy, analysing examples of good practice from other countries, but each technological development must take place in the context of environmental culture. An institution that wants to develop a technology-based learning process needs to adapt it to the culture of the institution as well as to the development trends of other higher education institutions.

The relevance of the development of digital competences is also confirmed by its inclusion in the European Qualifications Framework, thus defining the basic criterion of people's professional activity - proven ability to use knowledge and skills to use digital technologies effectively (EU Council Recommendations on Key Competences for Lifelong Learning, 2018). The topicality of digital competences in the education sector is confirmed by the European Competence Framework for Teachers developed in 2017 (European Commission, 2017), which synthesizes lecturers' professional and pedagogical competencies with learners' competencies, thus helping lecturers to identify, assess and independently promote digital competencies. To promote a common understanding, militarized educational institutions are bound by the main directions of the Digital Education Action Plan (European Commission, 2020) - to encourage lecturers to research, manage and effectively use the potential of digital technologies in education, constantly monitoring rapid technological progress and regularly increasing digital competence.

Research shows that the theoretical and practical need to improve the digital competence of lecturers has gained new significance due to the Covid-19 pandemic in the spring of 2020, along with the challenges of implementing the distance learning process in all education sectors. Research conclusions (Council of Europe Conclusions on Digital Education (European Commission, 2020), Latvian National Development Plan 2021–2027 (Cross-Sectorial Coordination Center, 2020); Digital Transformation Guidelines 2021-2027 (VARAM, 2020) etc.) emphasize the risk of low digital competence of lecturers, the acute need for the development of digital competence is defined, as well as the improvement of

digital competence is set as one of the priorities for the development and challenges of future education.

The main barriers and impacts for the development of digital competences and the full realization of digital learning opportunities have been defined - workload, lack of time, fragmented professional development, inadequate preparation of the educational institution for change, lack of understanding and awareness of the need to develop digital competences.

Based on the theoretical findings, it can be concluded that the improvement of lecturers' digital competence is the responsibility of both the educational institution and the lecturers, which stems from both the institution's strategic vision and the lecturer's personal and collective attitude towards the development of digital competence. Considering the specifics of militarized educational institutions, it is necessary to ensure, motivate and control the professional development of lecturers and its integration into pedagogical activities. Considering the risk that not all lecturers militarized educational institutions do not have higher pedagogical education it is essential that during professional development courses special attention is paid to the aspects of effective integration of basic principles of pedagogy and modern digital technologies.

Based on the descriptions of digital competence of teachers, the specifics of the militarized educational institution's environment, current practice, legal framework, as well as common trends (European Teachers' Digital Competence Framework (European Commission, 2017), Digital Transformation Guidelines for 2021-2027 (VARAM, 2020)), the author proposes in the future to evaluate the digital competence of militarized educational institutions the following criteria and indicators:

- knowledge of the basic principles and needs of the development and use of digital tools and resources, trends in pedagogical work;
- skills to effectively integrate digital tools and resources into the study process, creating and maintaining an interactive, self-directed and online collaboration environment;
- attitudes towards the development and use of digital tools and resources in professional activities and the development of digital competences.

In order to accurately assess the knowledge, skills and attitudes of lecturers, using digital tools and resources in professional activities, to determine the tasks of lecturers aimed at achieving results, professional development opportunities, training and development needs, the author offers to include digital competence among other competences to be evaluated for all educators of military training institutions. Amendments to Regulation No. 845 of 20 December "Procedures for the Activities and Evaluation of the Results of the Officials of the Institutions of the Ministry of the Interior and Prison Administration with Special Ranks" (Ministru kabinets, 2016) should be considered. The amendments with criteria and indicators for assessing the digital competence of lecturers developed as a

result of the research not only help to identify the necessary development activities, but together with other components of the digital competence development model promote the development of a creative digital environment, motivate lecturers to research, approbate and share experience with other colleagues.

Conclusions of empirical research results

By summarizing and analysing the research analysis the following suggestions are put forward to improve digital education for the military.

Focus should be put on lecturers' digital competence development, especially those who do not have higher pedagogical education, have difficulties in understanding the concepts related to the pedagogical process and digital education, which significantly affect the implementation of a unified approach to planning and organizing the e-learning process.

The development of the digital education is influenced by the strategic vision, attitude and approach of the management and the academic staff of military educational institutions. The lack understanding, predicting and flexibility of adopting modern education trends as well as communication within the institution regarding education development strategy does not promote the formation of a common understanding and vision of the opportunities of digital education opportunities and the topicality of digital competence development to further develop efficient knowledge transfer processes.

There is a need to implement a systematic policy of monitoring the quality of the implementation of the digital education development process and updating digital teaching aids. More attention is paid to the interactivity of digital learning tools and their use for self-directed learning as well as looking for the ways to include artificial intelligence within military learning environment.

The research carried out is limited to specific military education environment and context in which, due to restricted access information, full-scale integration of e-learning is limited. Further research should be elaborated on artificial intelligence application within the military environment.

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FORMATION OF SCIENTIFIC RESEARCH COMPETENCE OF MASTER'S DEGREE STUDENTS BY MEANS OF BYOD TECHNOLOGY

Oleksandra Shykyrynska

Vinnitsia Mykhailo Kotsiubynskyi State Pedagogical University, Ukraine

Vanda Vyshkivska

Mykhailo Drahomanov Ukrainian State University, Ukraine

Anzhelika Remnova

Mykhailo Drahomanov Ukrainian State University, Ukraine

Olena Malinka

Vinnitsia Mykhailo Kotsiubynskyi State Pedagogical University, Ukraine

Inna Lobachuk

Vinnitsia Mykhailo Kotsiubynskyi State Pedagogical University, Ukraine

Tetiana Kryvosheya

Vinnitsia Mykhailo Kotsiubynskyi State Pedagogical University, Ukraine

Abstract. *The authors of the article analyzed the features of using the innovative BYOD (Bring Your Own Device) technology in the formation of research competence of master's degree students. The European experience of applying BYOD technology is analyzed. Emphasis is placed on the relevant use of this technology in higher education institutions, which is related to the digitalization of the educational process, the pandemic and martial law in Ukraine.*

The results of the ascertaining phase of the pedagogical experiment are presented, the participants of which were master's degree students of Vinnitsia Mykhailo Kotsiubynskyi State Pedagogical University and Mykhailo Drahomanov Ukrainian State University (Kyiv). The students are enrolled in such academic programs as "Pedagogy of Higher Education. Tutoring", "Counseling", "Preschool Education. Primary Education", "Preschool Education. Speech Therapy", "Physical Therapy, Occupational Therapy".

The article reveals the educational potential of BYOD technology for the formation of scientific research competence of master's degree students. It is noted that the use of this technology in terms of offline, online and mixed studying helps higher education students acquire skills necessary to analyze, generalize, systematize and compare information. In addition, information retrieval and critical analysis skills are successfully formed. The differences in the application of this technology in conditions of individual and group work with master's degree students are shown.

Keywords: *BYOD (Bring Your Own Device) technology, educational process in higher education institutions, master's degree students, research competence.*

Introduction

Integration into the European educational space, modern challenges related to the Covid-19 pandemic, the martial law in Ukraine necessitate the improvement of the content of education by applying innovative approaches to the educational process in higher education institutions. An important ability a higher education student must possess upon completion of studies is scientific research competence. The most important components of such competence are: the ability to understand, describe and analyze the features and principles of the organization of scientific research activities; knowledge of algorithms for setting the topic, problem, aim and hypothesis of scientific research, as well as peculiarities of conducting theoretical and experimental research; the ability to develop a methodology and a research execution plan, and to use theoretical and empirical research methods.

Scientific research is a specific activity that requires significant efforts of a student to be rather good at it. In view of this, the problem of modernization of the educational process of higher education institutions aimed at the development of scientific research competence of each student becomes relevant. Therefore, it is important to create favorable conditions for the maximum motivation of each student in acquiring scientific research competence.

We believe that innovations that improve the organization of the educational process of higher education institutions deserve special attention. One of such innovations is the modern BYOD (Bring Your Own Device) technology. Due to the use of BYOD, master's degree students will be able to develop all components of scientific research competence.

The aim of the article is to highlight the educational potential of BYOD technology in the formation of scientific research competence of master's degree students.

In our research, the following methods were used: theoretical (analysis; generalization of literary sources in order to determine the theoretical aspects of the outlined research problem) and empirical (pedagogical observation of classes in higher education institutions regarding the use of innovative technologies for the formation of scientific research competence of master's degree students; questionnaires).

The theoretical background

The term BYOD was introduced in the IT field in 2009. Intel executives, noticing a trend among employees to bring their own laptops, tablets and smartphones for work in the corporate network, allowed them to use their own

devices for professional tasks. Over time, this approach was applied in the field of education.

Mobile learning is gaining popularity as a new trend that facilitates the process of teaching and learning in the 21st century. However, not all students (Spanish students among others), possessing several personal devices (tablets, laptops, smartphones), use them for studying (Urbano, 2022). Having 20-27 years of work experience at higher education institutions, we can confirm the fact that not all Ukrainian students work in class with their own device for the purpose of studying.

BYOD was first mentioned in 2005 in the university work of Rafael Ballagas. In scientific publications, BYOD is considered to improve cooperation and internal communication within the company (Felix et al., 2017), integration, loyalty and commitment of company employees (Jacobs et al., 2016). BYOD technology has been described in scientific works on higher education issues: as an effective tool for improving students' critical thinking (Urbano et al., 2020), with the aim of creating informal relationships between teachers and students, identifying mentors, facilitating remote work and developing social activities (Garcia, 2011). There are also some works on the use of BYOD technology in primary schools: the educational potential of BYOD technology for the development of creative abilities of younger schoolchildren was revealed (Demchenko et al., 2022), the experience of using BYOD in two Australian primary schools (Maher & Twining, 2017) was described. The author (Zilka, 2021) considers the possibility for students to use their own mobile devices in primary and secondary schools, and in higher education.

Methodology, organization and results of the research

In the course of this study, we used the following methods: theoretical: analysis of scientific sources to determine the state of research on the use of BYOD in the process of preparing masters for scientific activity, synthesis, systematization and generalization of the theoretical provisions of the problem; empirical: pedagogical observation of the activities of masters in classes, conversations with students about the reasons for their use of smartphones in pairs, conversations with teachers of higher education institutions about the use of mobile devices by students in classes for educational purposes, questionnaires of masters of Vinnytsia Mykhailo Kotsiubynskyi State Pedagogical University and Mykhailo Drahomanov Ukrainian State University.

56 students of Mykhailo Drahomanov Ukrainian State University (USU) of full-time and part-time education of the following faculties and specialties took part in the survey: 1. Faculty of Special and Inclusive Education, specialties "Special Education, Oligophrenic Pedagogy", "Special Education. Speech Therapy", "Special Education. Surdopedagogy", "Special Education. Typhlopedagogy". 2. Faculty of Ukrainian Philology, specialty "Secondary

Education. Ukrainian Language and Literature”. 3. Faculty of Pedagogy, specialties “Primary Education”, “Pedagogical Counseling”, “Preschool Education”, “Andragogy. Adult Education”. In addition, 29 full-time and part-time master’s degree students of Valentyna Voloshyna Faculty of Preschool and Primary Education, specialty “012 Preschool Education”, and 7 part-time students of the Faculty of Physical Education and Sports, specialty “227 Physical Therapy, Occupational Therapy” of Vinnytsia Mykhailo Kotsiubynskyi State Pedagogical University (VSPU) took part in the survey. Let's analyze them.

To the first question of the questionnaire (“How often do you use the Internet?”), 96.4% of the master’s degree students of USU said that they use it every day, 3.6% - when necessary. There were no answers “very rarely” and “never”. The answers of the master’s degree students of VSPU were approximately the same.

Table 1 shows the distribution of the responses of the master’s degree students of USU and VSPU to the second question of the questionnaire (“What percentage of time on the Internet do you spend on searching and researching?”).

Table 1 Answers of the master’s degree students of Mykhailo Drahomanov Ukrainian State University and Vinnytsia Mykhailo Kotsiubynskyi State Pedagogical University to the question concerning the time they spend on research activities (made by authors)

Range	Mykhailo Drahomanov Ukrainian State University, students	Vinnytsia Mykhailo Kotsiubynskyi State Pedagogical University, students (%)
Less than 10%	1	4
10-30%	15	8
30-50%	24	13
50-70%	12	8
More than 70%	4	3

As we can see from Table 1, most students use 30-50% of their time on the Internet for search and research activities. Such results are quite natural and understandable.

As far as the third question (“How do you search for scientific sources for your own research (indicate the search algorithm)?”) is concerned, the master’s degree students were asked to give a free answer regarding the algorithm for searching scientific sources for their own research. The spectrum of responses of the students of both universities was extremely wide: from an obscure explanation like “Recommendations of the curator, search for articles on the Internet and physical books where they are, use of resources provided by others” to a quite clear answer: “I go to Google Search, enter keywords of the research topic, start searching for publications in online libraries”. However, in this question, it was necessary to specify the search algorithm. Only 5 students of USU and 3 students

of VSPU coped with this task. The answers of the vast majority of the respondents were incomplete: they indicated that they search either through the Google system or through keywords or a topic. Many answers were incorrect. The search algorithm itself was not specified by the great majority of the master's degree students.

The results of the answers of the survey participants to the following question ("Do you know and do you use the institutional repository?") can be seen in Table 2.

Table 2 Answers of the master's degree students of Mykhailo Drahomanov Ukrainian State University and Vinnytsia Mykhailo Kotsyubynskyi State Pedagogical University to the question concerning their use of the university repository (made by authors)

Range	Mykhailo Drahomanov Ukrainian State University, students	Vinnytsia Mykhailo Kotsiubynskyi State Pedagogical University, students
Don't know	28	17
Know, but don't use	7	6
Know and use	3	6
Know, but rarely use	15	7
Know and constantly use	3	-

As we can see, a large number of respondents do not even know about the university repository, almost a third know and sometimes use it.

Table 3 shows the distribution of the answers regarding the use of the e-library by the master's degree students.

Table 3 Answers of the master's degree students of Mykhailo Drahomanov Ukrainian State University and Vinnytsia Mykhailo Kotsyubynskyi State Pedagogical University to the question concerning their use of the e-library (made by authors)

Range	Mykhailo Drahomanov Ukrainian State University, students, students	Vinnytsia Mykhailo Kotsiubynskyi State Pedagogical University, students
Don't know	5	3
Know, but don't use	17	8
Know and use	13	10
Know, but rarely use	18	14
Know and constantly use	3	1

If we compare the data in Tables 2 and 3, we can see that the respondents are more familiar with the e-library than with the university repository. However, a significant number of the master's degree students are aware of the e-library, but do not use it.

The students' responses regarding their awareness of scientific and metric databases can be seen in Table 4.

Table 4 Answers of the master's degree students of Mykhailo Drahomanov Ukrainian State University and Vinnytsia Mykhailo Kotsyubynskyi State Pedagogical University to the question concerning their awareness of scientific and metric databases (made by authors)

Range	Mykhailo Drahomanov Ukrainian State University, students (%)	Vinnytsia Mykhailo Kotsyubynskyi State Pedagogical University, students
Don't know	24	13
Know, but don't use	10	9
Know and use	8	7
Know, but rarely use	12	5
Know and constantly use	2	2

As we can see, more than a half of the master's degree students either do not know about such databases, or know, but do not use them in their own scientific research.

Regarding the answer to the following question ("Which scientific and metric databases do you know?"), 30 students out of 56 who took part in the survey from USU and 24 out of 36 students of VSPU do not know any scientific and metric databases. 16 students from USU and 7 from VSPU know such scientific metric database as Google Scholar, only 7 students from USU and 4 from VSPU know Scholar, Scopus, Orcid, Web of Science and only a few students (2 from USU and 3 from VSPU) know Google Scholar, Scopus, Orcid, Web of Science. As we can see, despite the master's degree students having the disciplines "Methodology and Methods of Scientific and Pedagogical Research", "Research Activity of a Preschool Teacher" and their work with the research supervisor, a significant number of the survey participants are either unfamiliar or partially familiar with such scientific and metric databases as Google Scholar, Scopus, Orcid, Web of Science. The results regarding the time framework of using the applied knowledge in their own scientific research can be seen in Table 5.

As we can see from the table, most students try to apply their knowledge to their own research immediately, at the first opportunity or in a few days. Undoubtedly, such a result testifies to the positive motivation of the master's degree students who participated in the survey to conduct their scientific research independently and qualitatively.

Table 5 Answers of the master's degree students of Mykhailo Drahomanov Ukrainian State University and Vinnytsia Mykhailo Kotsiubynskyi State Pedagogical University to the question concerning the time framework of using the applied knowledge in their own scientific research (made by authors)

Range	National Pedagogical Dragomanov University, students	Vinnytsia Mykhailo Kotsiubynskyi State Pedagogical University, students
Immediately, at the first opportunity	24	18
Very often – in a few days	27	14
Before the credit	5	2
Before the defence of the qualification work	-	2

As evidenced by experience and communication with master's degree students, scientific activity is specific and complex. During both online and offline studying, we noticed that while the teacher was explaining the material, the students could communicate with their friends on social networks, text in messengers or play games. The use of BYOD technology makes it possible to involve every student in scientific research work. Let's consider several options for using BYOD technology: during online and offline studying.

As it is known, the effectiveness of scientific activity largely depends on the topic chosen by the researcher. Within the framework of teaching the discipline “Research Activities of a Preschool Teacher” (online studying), we offer the master's degree students to review the list of topics using their own devices. During the review, they ask the teacher questions, propose their own topics and supplement the already formulated ones. As a result, the students start communicating with each other. In case of debatable situations, the teacher can offer the author of the question to review scientific research on this issue, showing the whole group the screen of his/her device. In this way, all students present in class will be involved in the search. Those who search using their own devices comment on the result of their search and discuss it with the groupmates. In the course of a joint discussion, it is possible to find out how relevant this topic is and to study the under-researched aspects of the problem. During offline studying, the teacher's algorithm of actions is similar. If there is a projector in the classroom, the teacher can invite volunteers to search from the central computer if the search results are important for everyone, or students can use their devices to show the search results to the groupmates. In a similar way, the plan and formulation of the scientific apparatus of the future research are drawn up.

At the beginning of the semester students of each academic group usually make a Viber group or community. During the search in class, they can exchange

links to interesting sources both with each other and send them to the Viber group. That is, we have a constructive combination of individual and group forms of work.

Our survey of students, the results of which are given above, shows that the vast majority of the respondents are not familiar with the university's e-library and repository. Using BYOD technology makes it possible to close this gap and motivate students to use their resources for scientific work. Of course, the necessary information concerning the e-library and repository of the university can be provided by the teacher in a lecture or practical classes. However, if the teacher's explanation is supported by the students' independent processing of information in the e-library or repository by means of their own device, then the situation will be changed. Also, our questionnaire showed that the master's degree students of both universities are unaware of the scientific and metric databases. To our mind, the use of BYOD technology can be effective in solving this problem as well.

Modern education has become mobile, that is, it is available regardless of the location of the subject and the time when he/she learns new information. In connection with this, the function of the teacher has changed radically – he/she is no longer a translator and the only source of knowledge – the teacher of a higher school today has to create conditions for his/her students' independent scientific search. As is well known, the search and research activity of master's degree students organized in this way contributes to a more powerful development of scientific thinking, increases positive motivation for scientific activity. All this leads to higher quality scientific work. In our opinion, the use of BYOD technology solves these tasks quite effectively.

Conclusions

The use of BYOD technology makes it possible to provide a differentiated approach to students, to meet the individual needs of each student in receiving advice and guidance from their scientific supervisor. In this way, it is possible to increase the motivation of master's degree students for research activities and to facilitate their access to programs and information on the Internet.

It is feasible to provide formative or control assessment of students (both online and offline in Kahoot, Google Forms, Classtime resources) using their own mobile devices. During classes, it is sometimes necessary to refer to the virtual environment of Google Classroom for certain materials. This is also possible due to BYOD.

The issue of students' use of their own device for educational purposes remains debatable. In order to engage the maximum number of students in the use of their own device for studying, in our opinion, higher school teachers should increase the level of their professional skills. To make the most of the advantages

of mobile devices as educational tools and to use the potential of digital resources and mobile technologies in education, it is necessary for higher school teachers to plan the appropriate use of mobile devices in the educational process, as well as to change activities and choose different digital tools at different stages of the lesson.

The teacher should aim to get students so interested in scientific activity that, at least in class, their desire to work on scientific research exceeds the desire to play games and communicate with friends in social networks or messengers.

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CREATING A PROTOTYPE OF AN INTERACTIVE LEARNING GAME IN MOLECULAR AND CELL BIOLOGY

Rudīte Koka

Rīga Stradiņš University, Latvia

Vilnis Šķipars

Rīga Stradiņš University, Latvia

Renāte Šukele

Rīga Stradiņš University, Latvia

Juta Kroiča

Rīga Stradiņš University, Latvia

Abstract. *At the beginning of medical studies at Rīga Stradiņš University (RSU), students' knowledge and skills differ widely. In the first semester, students must take a course, "Molecular and Cell Biology." In many cases, problems in students' abilities to absorb new information of this new, specific nature are evident. The reason for this is insufficient prior preparation. On average, 3-4 % of students failed this course each academic year. After focus group discussions and interviews with colleagues and leading specialists in information technologies, we concluded the need to create an interactive and pedagogically correct tool for improving students' competence in molecular and cell biology; one such tool could be an interactive learning game.*

This article describes the process of creating a learning game prototype in molecular and cellular biology. With the help of selected RSU students, a prototype was created. The involvement of students proved beneficial for them (improving understanding of the topics) and for us (clarifying students' preferences for the game's design).

The learning game was tested with a target group (1st-semester students from the Medicine and Dentistry faculties of RSU). Initial feedback from the students and teachers certifies that this example is an opportunity to provide a desired, low-stress self-paced learning resource.

Keywords: *Game-Based Learning, Interactive Learning Game, Molecular and Cell Biology.*

Introduction

Medical and dentistry studies include several specific subjects like medical genetics, DNA in vitro methods, horizontal gene transfer, and others, which require a basic understanding of the most important cellular processes, and cell

structure. For this reason, in the first semester, students take a course “Molecular and Cell Biology.” This course introduces students to concepts, terms, processes, problems and technologies which are new to many of them. The abundance of these new terms makes it hard for students to grasp the linkage between them and the application of the processes or methods described by these terms in problem-solving. Several of the terms are phonetically similar (for example, DNA vs RNA, transcription vs translation, genetic code vs genome, genetics vs epigenetics). Upon failure, some students stop studying, which means they have to repeat the course in the next semester, costing time. We are looking for solutions which would improve this situation. Some prior effort to familiarize themselves with these terms before the beginning of this course would reduce the probability of inadequate use or misunderstandings regarding these terms later and improve students’ performance. It would also equalise the starting point of the students concerning the preparedness for this course, which, according to the experience of our colleagues, varies widely.

The article describes the experience gained in creating and testing a learning game prototype for the 1st-semester medicine and dentistry students for the study course “Molecular and Cell Biology.”

In creating and testing a learning game prototype, we formulated three tasks and selected appropriate methods:

1. Determine how many and why students drop out during the first year of study.

To identify how many students dropped out during the first year of study, we started with document analysis from the Department of Biology and Microbiology. To determine the reason for dropping out, we had one interview with the Medicine faculty vice-provost, who holds interviews with students who fail courses.

2. Find out typical pedagogical techniques we use to support students to improve their knowledge and skills in the study course Molecular and Cell Biology.

One focus-group discussion with colleagues in our department was organised for this task. Eight teachers participated in the debate, and the conversation was audio-recorded and transcribed. The education specialist managed the focus-group discussion. After data transcription, we found out whether the current solutions were practical or not effective.

3. Clarify technical and pedagogical specifications for developing a modern tool for learning Molecular and Cell Biology.

Technical and pedagogical specifications for developing a modern tool for learning were set based on literature analysis about game-based learning (GBL). Engagement positively affects learning and motivation but relies on a pleasant design and appropriate game culture. Games, as part of 21st-century pedagogy, demonstrate the depth and breadth of scholarship on games (Jabbar & Felicia,

2015; Steinkuehler, Squire, & Barab, 2012). The authors emphasize the importance of enjoyment and motivation to sustain players' engagement. Barzilai & Blaun (2014) add that the central challenge of integrating GBL is helping learners connect the knowledge learned in the game and the knowledge learned in lectures, books, and practical classes.

Another meaningful aspect of implementing the GBL approach is the use of a smartphone interface, which is a big part of the everyday life of today's youth. Three interviews with universities' IT system administrators were conducted to make the learning game compatible with the technological interface of our universities' e-studies system (RSU). After the discussions and interviews with specialists, we concluded whether the current solutions are effective or not practical.

Secondly, students with good drawing skills and interest in the study subject were approached and asked to participate voluntarily in this project. Engaging volunteer students helped us to understand whether our ideas and designs were meaningful and exciting for the target group. Ten students participated in interviews. Six volunteered, and their motivation to participate in this project was recorded.

Interactive Learning Game

An analysis of the theoretical literature about valuable tools for improving students' learning outcomes and achievement indicated gamification as a promising solution. Gamification is the incentivization of learning, and one could think of game-based learning (GBL) as the fullest form of gamification.

Interactions with game-based learning environments hold significant promise for developing a deeper understanding of game-based learning, designing GBL environments to detect maladaptive behaviours, and informing adaptive scaffolding to support individualised learning (Emerson, Cloude, Azevedo, & Lester, 2020).

Educational game designer Kalmpourtzis shares some of the following characteristics, challenges, and difficulties for learning game-creating authors:

1. They are dedicated, interested, or simply curious to explore how games can be used and designed in learning contexts.
2. They constantly think of innovative and novel ways to design learning experiences in school, work, family, and daily life.
3. They impact the use and design of educational games.
4. They are creative minds interested in helping their field of work evolve and have a meaningful impact on their peers, friends, and society (Kalmpourtzis, 2018).

In the Handbook of Game-Based Learning (Plass, Mayer, & Homer, 2019) authors emphasise that learning games must comply with three options modes of competition and collaboration:

- self-directed learning,
- competition within a group of players,
- student interaction during the game to discuss the questions and answers.

According to pedagogical and theoretical literature analysis, GBL has a recommended concept structure. As noted by Boyle et.al. (Boyle, Connolly, Hainey, & Boyle, 2012), engagement in games is related to a wide range of elements inherent in the games (e.g., design), as well as to the attributes of players, and game-based education means a learning task is redesigned to make it more interesting, meaningful, and, ultimately, more effective for learning than a nongame or gamified reading. Many of the studies on this topic are limited to understanding the nature of engagement in games for entertainment purposes (and not those designed with learning in mind) and the outcomes; in such studies, learning outcomes are not assessed. Thus, we set a goal to make a game for learning molecular and cell biology. GBL can be explained as learning that is facilitated by the use of a game (Whitton, 2012), and players can engage on affective, behavioural, cognitive, and sociocultural levels (Fig. 1). The content of Molecular and Cell Biology studies is very complicated and demanding. Still, we can think about making the learning environment more motivating, transforming the learning exercise to make it more interesting, meaningful, and, finally, more effective for learning.

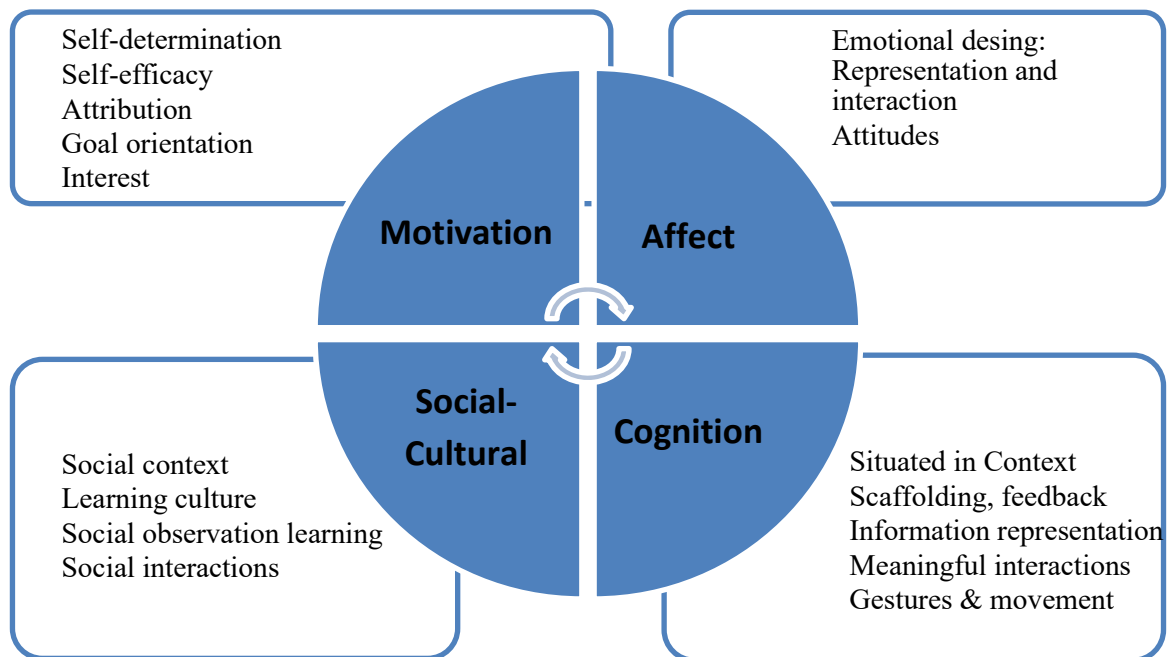


Figure 1 Game-based learning theoretical perspectives
(Source: Plass, Mayer & Homer, 2019)

Before learning the game-creating process, we must define expected user motivation, such as self-determination and goal orientation, and consider different interests. We must consider it a game with competition or collaboration mode for a group of players. The social context is critical; we can respect and predict different learning cultures and social interactions. We can also see the entertaining aspect: knowledge-based competition with a little strategy, simultaneously including different learning cognition levels. And finally, we must remember the emotional aspect one gets during the game (Jabbar & Felicia, 2015). We strived to follow all the aforementioned suggestions to build a successful interactive learning game prototype. The learning game can be played individually as well, in which case the only benefits would be learning from high-quality material that includes questions and feedback with explanations.

Following an analysis of the theoretical literature, we see the essential principles relevant to creating a learning game (Fig. 2).

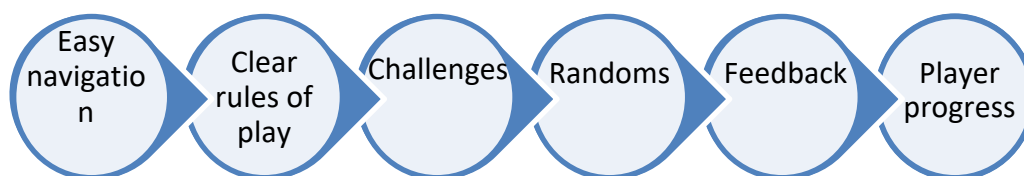


Figure 2 Relevant principles of play in an educational game (Source: Foundations of Game-Based Learning, 2015)

Parallel to the educational aspects, we thought about the interactivity of the game and the technical aspects because we wanted to create a combined game - a board game using a smartphone.

Last but not least, we studied game-based studying tools for molecular and cell biology available online or in print. Some of these are focused on a single subject (Gene of Fortune, Genetic Dice & Origami Organelles product line by Edvotec, Molecular Biology Vocabulary Review Game by Serendip studio, a range of video games and virtual labs by bioman.com, Central Dogma Game by centraldogmagame.com, Guardians of the Genome by AXS studio, Phylo by McGill University, EteRNA - a fascinating project developed by scientists from Carnegie Mellon University and Stanford University, and many more) thus don't provide a full overview of topics included in our course. The majority of the abovementioned games are not multiplayer. The game BioQuest (da Silva & da Costa Fuentes, 2020) covers several topics of applied molecular biology in a step-by-step fashion but it still is focused on methods and is single-player. Understanding that there are probably many more online and in-print tools

designed to help in teaching and learning molecular biology, the overall trend seems to be that these tools are too focused and are, with exception of in-print games by Edvotec, single-player. One exception, the game *Discovering the Cell* (Spiegel et al., 2008), which is multiplayer and addresses several topics, did come to our attention but the game is in Portuguese. Nevertheless, the scope of topics and concepts covered by this game is broad and the approach is intriguing. Still, what can be understood from the respective publication, the game is missing several topics important in the university-level course. Authors (Emerson, Cloude, Azevedo, & Lester, 2020) write that GBL environments integrate game content with learning activities (eg, exploring, navigating, investigating) to enhance domain-specific knowledge (e.g., microbiology) and skill acquisition (e.g., self-regulation), where activities typically involve problem-solving and challenge to foster students' perceived achievement (e.g., solve a mysterious illness outbreak).

We concluded that their content does not correspond to the content being studied at our university. Some of these games were too simple, and some covered only part of the content of our subject. These conclusions gave us the confidence to create a new and better-suited offer for our students – an interactive learning game in molecular and cell biology. Using such an approach, students can also improve teamwork in small groups and learn from each other.

Results

We analysed data obtained over the last seven academic years from 2015. /2016 academic year till 2021. /2022. Figure 3 shows a summary.

An average of 578 students per year take this course; on average, 23 (4%) fail it (regardless of whether it's the first time they fail it). The data set is too small to check for statistical reliability ($r=0.6904$, $p= 0.08$), but in this case, the human factor is crucial to us, and we had to find out the leading causes of students who dropped out of their studies.

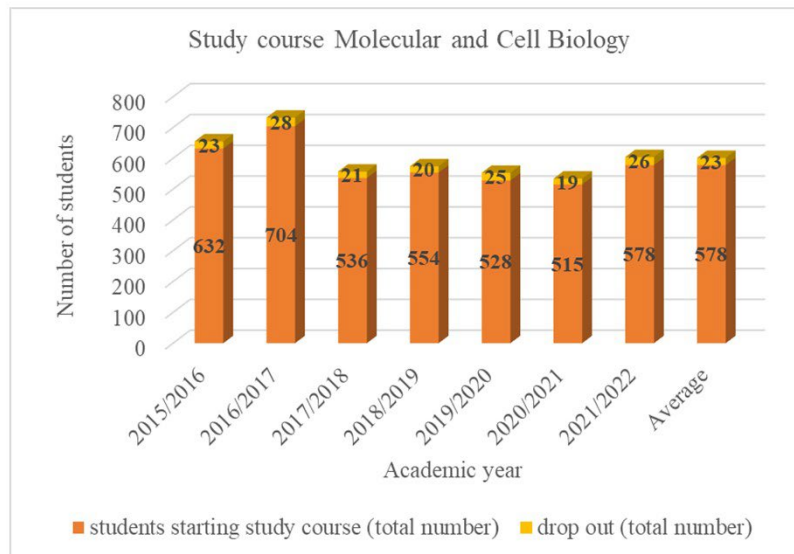


Figure 3 Changes in the number of students over seven years (made by authors)

In an interview with the Medicine faculty vice-provost, we learned that students need help with this course and are stopping their studies when they don't get it. Students admitted that they need more prerequisites in Biology from secondary school, and the new content in Molecular and Cell Biology is complex and voluminous. There needs to be more clarity between the latest topics. Some students also openly respond that university staff provides insufficient support, especially teachers. The traditional tutorial doesn't help. Therefore, we should see solutions for practical and genuine support for the students, which indicates the need for more support.

To accomplish the task, we organised a focus group discussion for all teachers who teach the Molecular and Cell Biology study course. All eight involved professors were interested in reducing the number of students failing this course.

After analysing the data obtained, we conclude that: teachers use only tutorials to support students. Also, as observed by the teacher, they don't ask questions in the lessons either.

The average experience of the teachers in teaching this course is 7.5 years. This experience is sufficient to make suggestions for improvements to the process. In addition, playing to a highly technological environment (daily use of smartphones and devices), the new tools must be modern, preferably smartphone-friendly, and interesting for a student to use.

Together with RSU information technology department specialists, we decided that the game has to be as simple as possible, for example, using a smartphone to scan a QR code that provides a random question after choosing a topic and difficulty level on the game board. Correct answers score points. Initially, the decision was to use the platform Moodle. The Moodle platform was

instantly available to test the concept and was familiar to teachers and students. Secondly, during development, it helps to protect copyright as authorization is required for access.

An important technical issue was “How to provide a random question?”. This functionality is essential to make the game entertaining and, given the different difficulty levels, introduces a touch of strategy - the main gameplay challenge is to get a better score, yet the amount of questions is fixed.

After the discussions and interviews, we concluded that students nowadays study differently and use more information technologies. Some students use books and YouTube videos, and essential visual information, but verbal communication is more critical for others. This type of learning with mobile devices with wireless network connections, cameras, GPS, and other readers expands learning with games from the screen to learning in a mixed-reality environment using urban spaces as a game board (Huizenga, Admiraal, Dam, & Voogt, 2019). One of the first steps to a successful product is knowing your audience. “Have a better understanding of the needs, tools, materials, people, and procedures needed for implementing educational games so that you can handle issues, avoid pitfalls, and overcome obstacles that may arise throughout the process of creating your games.” (Kalmpourtzis, 2018)

Our target audience is 1st-year university Medicine and Dentistry faculty students.

Therefore, a focus-group discussion was held with student volunteers with good drawing skills. The goals and target audience of this project were explained to the students. The volunteers supported this idea. Some interesting aspects of this cooperation between the students and we emerged – each of them draws in different styles and techniques and showed unique undertones in how they interpreted different steps or events in the biological processes included in the game. Occasionally participation of the students in this project clarified some unclear issues or misunderstandings regarding the topics themselves.

In subsequent work with students, we agreed on:

1. the learning game consists of six-game fields corresponding to six main themes: Cell structure and functions. Cell division: Mitosis. Cell division: Meiosis. DNA replication. Protein synthesis. Molecular transport.

2. Which playing field will each student draw?

3. Weekly meetings for progress monitoring, checking for mistakes, and editing.

4. Teachers (the authors of this article): agreed on the IT system used. Created the game's rules for online and printed versions and created a certain number (10-20) of questions/tasks in each topic and difficulty level and generated the corresponding colour-coded QR codes.

A total of six meetings were held with students, and every smallest nuance in the drawings of the six playing fields was analysed. 170 multiple-choice,

true/false questions, and 63 essay-type tasks were created on six molecular and cell biology topics. Three color-coded QR codes were included in each learning game field, providing a link with the RSU Moodle system, which served as the IT background of the game.

After creating the first versions, a group of students and colleagues were formed to validate the learning game “The Cell.” Students received learning-game fields with QR codes and conducted a pilot test online (we worked remotely during this period).

Students and teachers had to play one of the on-playing fields and answer the questions:

1. What are the benefits of playing this game?
2. What were the disadvantages of the game?
3. What improvements can you suggest?

Initial feedback from the students was that this is an example of outside-the-box thinking and that they like it. Students take a long time looking for different learning materials, and this game provides a nice bundle. There was a loss of the stereotype that learning is hard work. It is one step towards a more positive vision and attitude for students. From students’ answers: “*..this game is a great learning tool because it allows you to actively apply your knowledge and find out what needs to be repeated and what is not fully understood...*”; “*..in the game, I learned more new knowledge..*”; “*.. competitive spirit emerges that motivates to engage with full dedication...*”; “*...I usually have tension and anxiety in class that I don't know something, but there was no tension during the game...*”.

One of the main recommendations was to change the Moodle platform of the learning game because when students open that platform, it generates memories related to tests, stress, and grades.

In the feedback from colleagues, the main conclusion was that the learning game prototype is interactive, and the playing fields are attractive. Several constructive suggestions were received:

1. The solution offered by the Moodle environment is clumsy. A more advanced game environment solution has to be sought.
2. In order to promote a better understanding of molecular processes in the cell, the questions should be arranged according to the principle of the processes.
3. Editorial review is recommended for questions.

As a result, all content issues were improved within a month, and several zoom meetings were organised with IT specialists of various publishers of educational materials in Latvia to identify the possibilities of the platform change. We concluded that none of the publishers could offer already established platforms perfectly fitting the intended final functionality of the game. It is necessary to perform additional programming on already existing platforms to eliminate various shortcomings, for example, the same question appearing several times (as it’s assigned randomly), issues with keeping track of the score of each

player, issues with the addition of new tasks and playing fields, issues with specific feedback (for example video as feedback). We have contacted IT companies to clarify the cost of creating a new platform suited for learning games of other gameplay styles. We are now looking for funding opportunities to bring this game to the final design.

The next step to continue the research would be useful to have some data analysis regarding the efficiency of such a gamification approach, and we should approbating the game with all medical and dentistry students.

Conclusions

Necessity and motivation. As evidenced by the data obtained from historical records about student performance, interviews, and focus-group discussions, current pedagogical tools are ineffective for some students. New learning tools are needed to help students succeed in their studies.

Benefits for students. The students learn differently and improve cooperation and argumentation skills in small groups. They learn not only from the game but from each other as well. Self-directed learning is promoted due to the gamification of learning, assuming the design is welcoming and not frustrating (resembling colloquia or tests).

Competition within a group of players is more fun in any game. Yet, this game can be played individually as well, in which case the only benefits would be learning from high-quality material that includes questions and feedback with explanations.

Benefits at the institutional level. The interactive learning game “The Cell” has already been an example for other study course managers, teachers, designers, and students. It has encouraged colleagues to create analogy resources in the context of their courses.

Successfully designed and validated the interactive learning game “The Cell” can be used in various activities organized by the university for the society, for example, scientists’ night event, open-door event, adaption week, and others, not to forget benefits in the marketing of the university brand.

The recommended concept for creating the prototype of an interactive learning game:

- 1) Learning objectives- clearly defined for creating tasks and improving knowledge and skills in the study course.
- 2) Entertaining aspect- knowledge-based competition with a little bit of strategy.
- 3) Player’s role (main activity)- choose a topic, choose the difficulty level, and use a smartphone to scan a QR code that provides a random question. Answer correctly to score points and discuss your answers with other players.
- 4) IT platform – prioritize simplicity and design.

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ASSESSMENT OF PEDAGOGICAL COMPETENCE OF ACADEMIC STAFF: CASE STUDY

Olga Vindača

Rezekne Academy of Technologies, Riga Technical University, Latvia

Abstract. *The current European guidelines and national priorities for the development of Latvia – to strengthen the teaching, learning and research capacity of higher education institutions and to develop the corresponding skills and competence of academic staff, promoting the excellence of science and higher education.*

The article will review the issue of pedagogical competence of academic staff (PCAS) in higher education institutions focusing on the primary tenants of its formation and development, offering the definition of PCAS, emphasizing non-teacher trained academic staff (without pedagogical background). As well as contribute to the discussion of PCAS among the experts and professionals of non-pedagogical field, formulating the core elements for the assessment of PCAS in three perspectives: of educators, of students, of higher education institution.

The aim of this article is to determine the list of core elements for the assessment of PCAS, analyzing the proposals of 60 experts from Riga Technical University and defining the perspectives of PCAS assessment.

This study will help higher education institutions to rethink their strategies for the assessment of academic staff and further perspectives of their development planning.

Keywords: *academic staff, assessment, higher education, non-teacher trained academic staff, pedagogical competence, teacher-trained academic staff.*

Introduction

The new European strategy for universities highlighted the updated challenges and trends in the context of HE, emphasizing the necessity to equip the academic staff with the corresponding skills that are necessary for achieving the scientific excellence, implementing innovations and effectively using the potential of information and communications technologies (European Commission, 2022).

Moreover, UNESCO, a global leader in education, by focusing on the transformation of education tried to answer the core questions: what should be continued, what should be abandon, what needs to be creatively invented afresh in teaching and learning, emphasizing the necessity to make further teaching professionalized, by moving pedagogy back to the foreground in higher education context (UNESCO, 2021).

The idea is not new, as it has been approved by the detailed Eurydice report in the context of higher education, where the insight into the realities faced by

higher education in general and academic staff in particular at a time of fast-moving changes and challenges has been highlighted, considering the fact that not enough is known and investigated about how academic staff are affected by such changes, because academic staff are vital for the success and progress of higher education (European Commission/EACEA/Eurydice, 2017).

Conceptually, the idea of professionalism of academic staff is directly linked with pedagogical innovations and is often generalized to mean technological progress (Walder, 2014), while two different aspects have to be considered: social and technical. Social dimension is related to the continuous self and professional development and concept of teaching/learning, interdisciplinarity and interculturality. While technical dimension is related to tools/instruments, including information and communication technologies, pedagogical methods, models and approaches (Walder, 2015).

So, in concern of academic staff there is a need to stimulate pedagogical innovation, by redesigning and updating forms of teaching, learning and assessment (Kukulsk-Hulme et al., 2021), focused on the learners, with a variety of learning spaces and flexible, interdisciplinary paths (O'Neill, McMahon, 2005), the study process has to be based on hybrid solutions representing a good balance between physical presence and digital tools (Pavlik, 2015). Moreover, there is a need to tackle in a systemic and comprehensive way academic careers, to promote flexible and attractive career structures and improve working conditions. Assessment procedure of academic career performance is an integrate part of career planning. The assessment should consider the variety of activities of academics such as teaching, research, entrepreneurship, management and/or leadership. This will help to improve the attractiveness of research careers and ensure better access to excellent science (European Commission, 2022).

Without the clear understanding of further career development, the overall excellence and quality assurance can't be achieved. Therefore, academic careers have to be an important aspect of higher education policies and practice. High-quality academic work conducted by well-selected, supported, and incentivized academics is a major output of higher education. In this aspect within the World Bank project in close co-operation with the Ministry of Education and Science Republic of Latvia the new academic career framework has been offered, considering the solutions to fragmentation of teaching and research; lack of a predictable career path and weak internationalization (Ambasz et al., 2022).

Summarizing the aspect, the academic staff of higher education institutions should combine teaching, learning and research work for ensuring the high-quality study process, but the progress should be systematically evaluated for further development planning.

Besides this, two types of academic staff are considered within the current analyses: teacher-trained academic staff and non-teacher trained academic staff (without pedagogical background). R. Voss and T. Gruber (2006) indicate that

having an attitude that best promote learning of students is the most important aspect of pedagogical competence and is more implemented in teacher-trained educators than in non-teacher trained educators (Voss, Gruber, 2006). Still the need of continuous improvement and development is required to achieve the quality of teaching/learning in engineering education (Kersten, 2018). Moreover, any academic understand the importance of high-quality teaching as a part of their academic career (Graham, 2015).

So, the aim of this article is to determine the list of core elements for the assessment of PCAS, analyzing the proposals of 60 experts from Riga Technical University and defining the perspectives of PCAS assessment, focusing on the non-teacher trained academic staff.

Literature Review

For clear understanding of the assessment process of academic staff in higher education institutions the funding model used by the Ministry of Education and Science Republic of Latvia has been reviewed in order to figure out the main pillars to stimulate research and innovation, according to the three-pillar funding model there are three types of funding specified: base funding for studies and basic research; performance-based funding for study outcomes and research results; innovation funding - development-oriented financing to promote the specialization of institutions and their profile development (Ministry of Education and Science of the Republic of Latvia, 2015).

Still the requirements for the academic staff performance are not clear from the offered three-pillar funding model. Additionally, the progress forecast for scientific excellence has been reviewed. The progress is planned to measure by the following indicators: number of research staff, % of total number of employees (full-time); % of population aged 25-34 with a doctoral qualification; funding for research and development, % of GDP; number of annual publications by Latvian authors in the international citation database Scopus; Latvian author publications in the top 10 of most frequently cited within their field, %; Business funding for R&D activities in the public sector and higher education sector, % of total R&D funding in the public sector and higher education sector (Saeima of the Republic of Latvia, 2020).

Only quantitative indicators are specified for the assessment of academic staff performance, considering the fact that academic staff takes an elective position, so there is a need for the regulations for evaluating their performance. According to the regulations of Cabinet of Ministers of Republic of Latvia Nr. 129 for evaluating the scientific and teaching qualifications of an applicant for the position of professor or associate professor covering the key requirements in three dimensions: scientific qualification, pedagogical qualification and organizational work (Cabinet of Ministers Republic of Latvia, 2021).

Despite the fact that pedagogical competence of academic staff hasn't been mentioned in either strategic documents, the regulations for evaluating associate professors or professors, or three-pillar funding model, in the context of current research, when the emphasize is on non-teacher trained academic staff, there is a need to specify the list of core elements for the assessment of PCAS as a part of academic performance.

Pedagogical Competence

There is no unique concept of pedagogical competence, while by analyzing several scientific doctrines the reflection of how the concept of pedagogical competence has been changed over time is specified.

A.I. Suciu and L. Mata have defined pedagogical competence by considering psychological, interactional, organizational, managerial, administrative, social, economic, cultural (ethnic, religious, of gender, class, age, etc.) aspects and regarded it in close connection with three important factors of education: educational achievement/ success/ efficiency, professional development and societal change (Suciu, Mata, 2011).

While I. Febrianis, P. Muljono, D. Susanto have defined pedagogical competence as the ability to organize the study material in understandable way for the students by using pedagogical knowledge and skills for best achievements of the students. Additionally, specifying that pedagogical competence affects the success of educator in teaching, students' motivation and is directly linked with creativity and performance of educator and their satisfaction of work (Febrianis, Muljono, Susanto, 2014).

S. Aimah, M. Ifadah, D.A.L. Bharati have specified pedagogical competence as the ability to manage and run the process of teaching and learning in the classroom, interaction, educators' performance, the ability of planning, the appropriateness in choosing the method and media of learning. It should be built through active practicing and collaboration with the colleagues, taking into consideration the progress of students' learning. Additionally, the importance of professional development has been specified (Aimah, Ifadah, Bharati, 2017).

Similar concept of offered by C.K. Sahana as pedagogical competence referring to performance, knowledge and skill in teaching and learning, including educators' capability to manage the teaching and learning process from the planning to the evaluation stages (Sahana, 2018).

Moreover, N. Novianti and I. Nurlaelawati have defined the pedagogical competence as the ability to manage students' learning which includes understanding the learner; designing, and implementing, learning outcomes; and developing learners to actualize their potential. Additionally, it is comprehensive, encompassing an educator's ability in various aspects of teaching and learning that has to be developed in line with the development of time, such as technological advances, scientific revolution, etc. (Novianti, Nurlaelawati, 2019).

According to A.V. Fakhrutdinova, M.R. Ziganshina, V. Mendelson, and L.G. Chumarova pedagogical competence is a professional and personal characteristic of the educator, providing a high level of scientific and pedagogical activity. While in the detailed interpretation of pedagogical competence as the possession of the necessary amount of knowledge and skills that determine the formation of the pedagogical activity, pedagogical communication and the personality of the educator as a carrier of certain values, ideals and pedagogical consciousness. A set of knowledge, experience, skills and possession of pedagogical technology, finding the optimal means of influence on the students, considering their needs and interests, rights and free choice of ways of activity and behavior (Fakhrutdinova et al., 2020).

While additional aspect is added by L. Yue, Z. Li, and S. Yu-Sheng. In terms of the cognitive area, it is emphasized that educators should have certain types of knowledge, including pedagogical content knowledge, educators' content knowledge, and general pedagogical knowledge. With the application of digital technology in the education system, the usage of digital technology in the process of teaching has placed higher requirements on educators' competence, so their knowledge and skills should be expanded by utilizing technology effectively in teaching/learning, by adding technological pedagogical knowledge (Yue, Li, Yu-Sheng, 2022).

By combining the analyzed doctrines, the definition of pedagogical competence is specified as the professional and personal characteristic of educator, providing a high level of scientific and pedagogical activity with the ability to manage and run effectively the process of teaching and learning through active practicing and collaboration, with the application of digital technologies, considering continuous self and professional development.

A Romanian Perspective of Pedagogical Competence reflects the core activities and elements of pedagogical competence, emphasizing the study environment as well, mapping the theoretical background (see Figure 1).

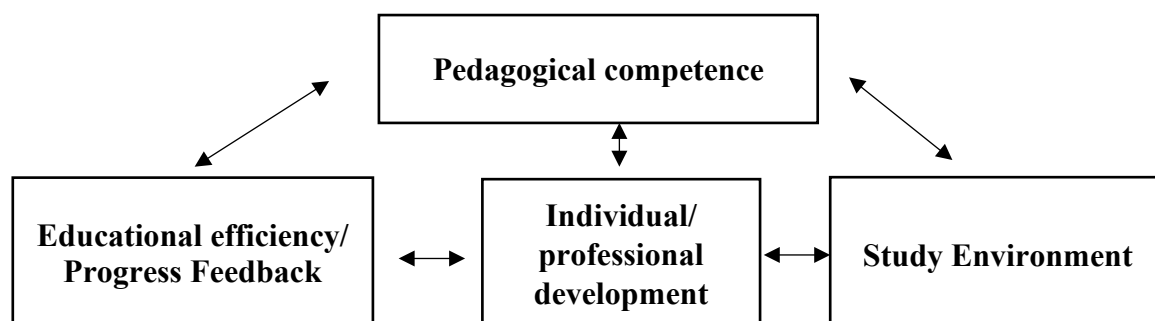


Figure 1 A Romanian Perspective of Pedagogical Competence (Suciu, Mata, 2011)

According to Figure 1 the teaching/learning and research fields are combined, where the education efficiency corresponds to teaching and learning, while professional development covers the related discipline.

Research Methodology

The current study is based on non-experimental qualitative research design. In April 2022 the Methodological Conference took place in Riga Technical University, organized by RTU Study Department Center of Academic Excellence. The theme of the conference was the Enhancement of Pedagogical Competence of Academic Staff: Content, Methods, Experience. Sixty representatives of RTU academic staff took part in the conference, additionally providing the comments and suggestions for open-ended questions, concerning two key aspects:

- the core elements for the assessment of pedagogical competence of academic staff;
- the proposals, how to make the assessment process more effective and value-added.

The answers of experts were analyzed in three different perspective:

- I. Group – Educators’ Perspective;
- II. Group – Students’ Perspective;
- III. Group – Institutional Perspective.

All respondents were the representatives of academic staff of Riga Technical University. The answers were submitted in written, online form, using menti.com.

It is important to indicate, that several reports on the issue of pedagogical competence were listened during the conference, before the asked questions, therefore, the respondents had a common vision on the related topic.

Results

The results of open-ended questions were analyzed using the content analysis approach, by determining the presence of same words and ideas through content units, by categorizing the presence of the same ones and offering the concepts accordingly, as the primary aim of content analyses is to identify the subjective formation of the certain reality or situation (Kroplijs, Raščevska, 2010).

Educators’ perspective was analyzed in Table 1. The unit of content is formed by the particular statements of the respondents, while categories are general ideas scientifically expressed, then the concept is formed based on the applicable theory and scientific background, following the research tasks.

Table 1 Content, Unit, Categories and Concepts of PCAS from Educators' Perspective
 (developed by researcher)

Content Unit	Category	Concept
It is clear that knowledge, experience, the ability to explain are important, but also good mood and good communication skills are very important.	Knowledge, experience, communication	Knowledge Experience
Professional experience	Experience	
Ability to use terms understandable to students and provide their explanations; to change different types of perception, the use of assessment methods of students' performance.	Didactics Feedback Assessment	Feedback Assessment
Ability to provide qualitative results.	Feedback	
Using various pedagogical methods, the ability to organize the study process in such a way as to provide useful, effective students training	Didactics Teaching/ Learning	Didactics Teaching/ Learning
A clear goal expressed in text format, as well as methods for achieving it. Evidence that the development and improvement is taking place.	Didactics Teaching/ Learning	
The most important are teaching methods and motivation of students in the study process.	Didactics Teaching/ Learning	
Clearly understandable and properly prepared teaching materials and lecture structure. Digital skills (using different techniques).	Didactics Digital skills	Didactics Digital skills
Understandably and meaningfully implement the specific study course in the changed world; use the opportunities offered by Moodle.	Didactics Digital skills	
To formulate interesting technical problems and motivate students to solve them.	Teaching/ Learning	Teaching/ Learning Field knowledge
Ability to teach and learn, while maintaining interest in the field, the subject being taught.	Teaching/ Learning Field knowledge	
Knowledge in the field of your study subject and constructive contact with students.	Field knowledge	
The desire for self-development and self-learning and the ability to combine several fields while teaching the specified subject.	Self-development Self-learning	Self-development
The ability to keep up with the development trends in order to keep up with students	Self-development	
Interest in teaching and self-learning. Empathy. Ability to explain. Patience.	Teaching/ Learning Empathy	Attitude Empathy
Attitude, support, sensitivity, empathy, orientation to the solution, ethics.	Attitude Empathy	
Attitude towards students and studies.	Attitudes	
Educators' attitude towards the students	Attitude	
Respect, take in account the suggestions of the students concerning the changes of topics etc.	Suggestions of students	Student-centered approach
Flexibility, a balance between wishes of students and subject requirements	Flexibility, suggestions	
Cooperation with the students	Cooperation	Cooperation skills
Cooperation and openness	Cooperation	

Students' perspective was analyzed in Table 2. In general categories and concepts of Students' perspective are similar to Educators' perspective.

Table 2 Content, Unit, Categories and Concepts of PCAS from Students' Perspective (developed by researcher)

Content Unit	Category	Concept
The educator's PC is the best shown by the students' acquired knowledge, their compliance with the corresponding subject level	Results/ knowledge	Assessment Feedback Reflection
Students' achievements in practical work	Achievements	
The actual results of the work and the assessment of students and graduates	Results of work	
Students' professional competence acquired/improved during the lecturers, practical lessons. Students' assessment both in surveys and their presence in the classes as an indicator.	Results/ competence	
Complex: 1) increase the level of knowledge of students as at the beginning of study course and at the end; 2) feedback of students; 3) the student chooses an educator as the supervisor of their scientific paper.	Results/ knowledge Attitude	
Feedback of students, long-term skills and competencies of students (surveys of graduates)	Results/ long-term skills Long-term competencies	
Growth of students	Results	
Concerning the study results, a lot depends on the students himself, including the previous knowledge	Results	
As a result, students understand the subject (can't always be evaluated with a grade), are interested in it.	Results/ understanding	
Feedback of students on the course and educator	Results	
Students' respect	Attitude	Attitude
The best moment occurs when students admire the academic staff for their knowledge and contribution to the work.	Attitude	
Students' attitude towards the educator	Attitude	

Finally, the perspective of higher education institution was analyzed (see Table 3), where the main concept is to understand the term of competence and pedagogical competence, including the criteria and indicators for PCAS assessment.

Table 3 Content, Unit, Categories and Concepts of PCAS from Perspective of Higher Education Institution (developed by researcher)

Content Unit	Category	Concept
Competence description, self-assessment options and systematic tests for self-assessment with the offered self-development courses at the end.	Competence description	Essence of Competence Index of Competences
It might look like an index that includes several competences.	Index of Competences	
First of all, it would be important to agree, at least at RTU level, what do we mean by the term competence, including pedagogical competence. It currently means and describes different things.	Description of competence	
At first, it is necessary to determine the most important competences, and afterwards to look for the appropriate evaluation mechanisms.	List of competences Evaluation mechanisms	
To provide recommendations for the improvement of competences.	Improvement of Competences	
Criteria	Criteria	Assessment System Assessment Criteria
Measurable and clearly classified criteria.	Criteria	
Clear criteria. It is useful to find out the opinion of students as well.	Clear criteria	
To go to the heart of the matter of each representative of academic staff – there shouldn't be the same measure for all	Criteria	
Internal Quality Management	Criteria	
Comprehensible criteria covering all areas of the work of academic staff	Comprehensible criteria	
Create a system with clear/understandable criteria that will motivate academic staff to increase their pedagogical competence, not just a set of formal criteria for fulfillment.	System with clear criteria	
Centralized system.	Centralized system	Assessment Evaluation Self-assessment
The performance of academic staff can't be evaluated all over the world. It is discussed in many parts of the world – what of all work conducted by academic staff has a real impact on a student (attitude, excellent knowledge/ erudition, good leadership skills, digital skills, etc.)?	Impact Evaluation	
Qualitative evaluation of competences – that can't be evaluated according to the usual quantitative criteria (number of supervised theses, number of supervised lecturers, etc.)	Qualitative evaluation of competences	
Attitude towards students and studies can be assessed using questionnaires.	Assessment using questionnaires	
Evaluation of the professional qualification of academic staff can only be done by another representative of academic staff.	Evaluation of professional qualification	
Self-critical assessment	Self -assessment	

By summarizing the concepts, the following core elements should be specified for the assessment of PCAS:

- in Educators' Perspective – knowledge and experience of teaching/learning (didactics) and related field, student-centered approach, digital and cooperation skills, considering self-development;
- in Students' Perspective – assessment, feedback, reflection and attitude;
- in Perspective of higher education institution – assessment system and index of competence.

For ensuring the assessment of PCAS the higher education institution should develop the assessment system of PCAS with clear and transparent index of pedagogical competence, listing the above-mentioned elements. For credibility check the self-assessment and students' assessment of the same elements is recommended.

Conclusions

Summarizing the study results, it can be concluded that the academic staff of higher education institutions should combine teaching, learning and research work for ensuring the high-quality study process, but the progress should be systematically evaluated for further development planning. While the core elements of the assessment of PCAS should be clearly identified within the higher education institution, by developing the assessment system, considering the non-teacher trained and teacher-trained academic staff aspect.

By combining the analyzed doctrines, the definition of pedagogical competence was specified as the professional and personal characteristic of educator, providing a high level of scientific and pedagogical activity with the ability to manage and run effectively the process of teaching and learning through active practicing and collaboration, with the application of digital technologies, considering continuous self and professional development.

Moreover, the following core elements should be specified for the assessment of PCAS: knowledge and experience of teaching/learning (didactics) and related field, student-centered approach, digital and cooperation skills, considering self-development; assessment, feedback, reflection and attitude, forming the clear and transparent assessment system and index of pedagogical competence. For credibility check the self-assessment and students' assessment of the same elements should be organized.

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PROJECT MODELLING TOOLBOX IN HIGHER EDUCATION: HEXAGONAL CANVAS IN PROJECT BASED LEARNING

Alvis Sokolovs

Vidzeme University of Applied Sciences, Latvia

Ilze Grīnfelde

Vidzeme University of Applied Sciences, Latvia

Abstract. *Inclusion of project modelling tools into higher education is based on expectations of industry about young professionals with applicable, rich skillset. Business or project model canvas is one of the most widely used frameworks in contrary to traditional planning tools. Pedagogically - project model canvas is a teaching goal and method simultaneously. Those aspects widen possibilities to integrate the tool in various study courses and levels. The aim of the research is to explore and evaluate functional and cognitive impacts of Hex-canvas use in project-based learning in higher education. This tool is represented in a form of template of 11 fundamental elements which describe a specific aspect of a project. The research is based on experiences gathered in Vidzeme University of Applied Sciences, Latvia. Data used in this research has been comprised of structured interviews of doctoral level students (n=8) who used Hex-canvas in summer school and from bachelor and master level students (n=16) of “I Living Labs” study course (year 2022). Results reveal high applicability in structuring of the projects, defining aims and activities for implementation, it gives overall perspective of project, however there must be clear instructions by teachers, as well the consistency of usage is recommended.*
Keywords: *hex-canvas, higher education pedagogy, project-based learning, project modelling tools.*

Introduction

Contemporary conditions in nearly any field request knowledge, skills, competencies and mindset towards problem solving. As a response, continuous practice of experimentation with iterations of methods and tools used in university level management study courses over years has become an essential part from pedagogic point of view. One of the widely used approaches in this context is project-based learning which is student-centric pedagogic approach that provides learners with subject related knowledge, meanwhile enhancing generic competencies. This pedagogic approach forms the pillars of facilitation of applied future skills such as critical thinking, complex problem-solving in any emerging context, skills in self-efficacy enhancement such as active learning, resilience,

stress forbearance, openness, short- and long-term planning (Hsieh & Tsai, 2017; World Economic Forum, 2020).

Project-based learning as a form of pedagogy includes specific set of elements, such as high initiative from students, including the setting of the solution for problem, resultative teamwork with credible evidence (plan, prototype, report etc.), specific timing and advising (Helle, Tinjala, & Olkinoura, 2006). It is important to note, that this pedagogic approach produces a different type of relationship which results in a new learning environment which can be characterized by coaching and mentoring rather than traditional professor centric teaching. Although academic coaching is historically embedded method in higher education, but it varies in project-based learning and requests different approach, set of skills and competencies, such as leadership which academic leaders often are lacking (Cruz & Rosemond, 2017; Haage, Voss, Nguyen, & Eggert, 2021).

According to Kuzle (2015) higher education institutions should approach problem solving and project-based learning by using the relevant toolbox from both perspectives - as an instructional goal and instructional method. The tools, typically used in project-based learning, represent various types of business or project models or known as canvas, that have been acknowledged by higher education institutions. Despite the immensely normative nature of the concept, business and project model thinking creates synergetic chain of decisions about how to design, deliver and apprehend value (Bidmon & Holm, 2021)

There are various iterations of canvas, for instance of research projects, data analytics projects, urban planning, innovation projects, artificial intelligence projects etc. (Fatima, 2022; Hohmann & Truffer, 2022; Kühn et al. 2018, Silva & Cardoso, 2019). The diverse versions of canvas have been developed due to the core differences between business and public sector (Ranerup, Henriksen, & Hedman, 2016). Kline et al. (2013) indicates that is important to test every new iteration of canvas as they are adapted for specific purposes frequently.

The aim of the research is to explore and evaluate functional and cognitive impacts of Hex-canvas use in project-based learning in higher education. The research is based on experiences in study year 2022 /2023 gathered in Vidzeme University of Applied sciences, Latvia. Data used in this research has been comprised of structured interviews of doctoral level students (n=8) who used Hex-canvas in summer school and bachelor and master level students who applied Hex-canvas in study course "I Living Labs" (n=16). "I Living Labs" " is a project-based course with the aim to train problem solving and project management skills by creating response in a form of prototype to realistic problem identified by external stakeholder. In this study course students work in teams and are facilitated by mentors from university.

As research limitation is the fact that only students of Vidzeme University of Applied Sciences were interviewed and students from other universities might have expressed other opinion due to different study background and experiences.

Business and project model canvas in the context of pedagogy

The Business Model canvas originally was designed to describe the logical basis for actions and beliefs which organizations use to create, deliver and capture value (Osterwalder & Pigneur, 2010). Canvas serves as a tool for planning new product ideas or wider processes, and document existing ones. It has been generally accepted as a helptool used in business teaching and training for more than fifteen years (Babič & Gole, 2022). The main advantages of canvas are that tool is universal, allows clear representation and ensures holistic view, however it might be too static and simplified which might result in missing of some details, such as wider environmental analysis is absent (Becker & Bröcker, 2021).

The Project Model Canvas has been developed as an iteration of Business model canvas. Project Model Canvas is explained as visual tool to abet elaboration of complex issues such as diverse projects, characterizing canvas as a mental design model of concepts, such as resources, stakeholders, deliverables, risks and inter-concept relationships (Habermann, 2015). Kühn et al. (2018) defines canvas as semi-formal specification technique for the early planning and specification of project. Compared to other frameworks used (e. g. Kanban, Scrum etc.), project model canvas covers full project cycle related activities (Silva & Cardoso, 2019).

The pedagogical aim of a canvas is not to concentrate on a particular product, but rather to enhance students' ability to learn the necessary competencies for formation and execution of their own value propositions. Several research studies prove, that irrelevant teaching of specific business or project modelling tools could lead to failures in the study results, such as usage of limited personal and professional experiences, trivial idea generation, non-significant improvements, thematically irrelevant proposals or solutions that exceed student's expertise (Hinton, 2022; Lee, Blackwell, Drake, & Moran, 2014; Vasiliene-Vasiliauskiene, Vasiliauskas-Vasilis, Meidute-Kavaliauskiene, & Sabaityte, 2020). A considerable factor of pedagogic failures relates to deeper comprehension of business or project management aspects. The lack of networking between academia and industries which has an impact on business related environment management skills development among faculty members is one of the causes (Giones, 2019; Williamsson, Schaad, & Sandoff, 2022).

Other student related factors that have considerable impact on integration of project modelling tools in study process are linked with team work as typical format used in project-based studies. For instance, differences in team dynamics related to number and diversity of students, challenges in decision making etc. Lima & Baudier (2017) in their research have concluded that study background and level can have moderate influence on students' perceptions about functional and cognitive use of canvas. Proper instruction even in the format of short manuals would be useful (Holdford, Pontinha, & Wagner, 2021).

Stenkjær, Brøndum, Sort, & Lund (2021) suggest providing additional training of creativity competencies to invigorate the flow of ideas. Lima & Baudier (2017) stress that facilitation conditions are an important factor to ensure beneficial usage of business or project model canvas. As well, problem-solving process within a study process should be based on encouragement of experimentation with suggested project modelling tools and practiced continuously (Jackson, Scott, & Schwagler, 2015).

Hex-canvas as project modelling tool – concept and application

Hex-canvas was created by one of the authors of this article Alvis Sokolovs. Primary intention was to develop helping tool for students to start new projects, such as study and innovation projects, thesis works. The tool is meant to be intuitive and easy to understand for use in learning, project planning, creating awareness of different aspects of the project at the early stages of project development and during later stages. Even though there are many different types of canvas available for different purposes, most of them are based on business model canvas, which usually have fixed vertical and horizontal structure, and their cell names are also predefined. Hex-canvas was designed for more flexible and general applications.

The Hex-canvas contains several blocks – for simplicity called “space” – each used to describe a specific aspect of a project. In general case spaces can be managed and manipulated as required for each individual project and can be filled in at different stages of project planning as new information arrives (see Figure 1). Further in this section main blocks will be formulated and explained. It has empty spaces that can be used and adapted according to users' needs and project requirements.

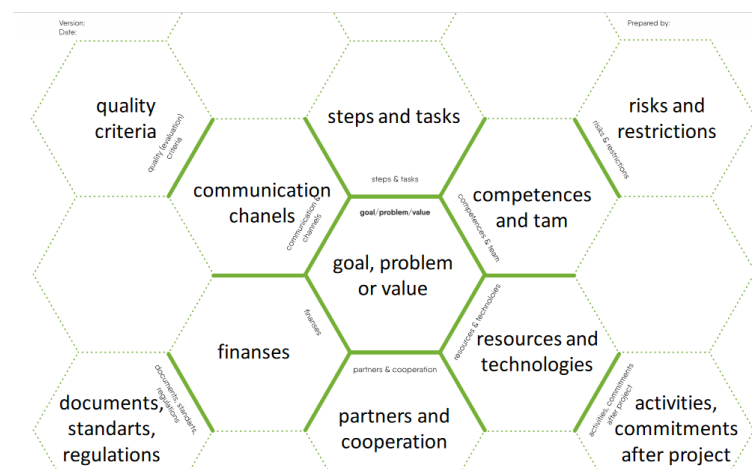


Figure 1 Hex canvas template (source: authors)

For learning and self-discipline purposes students are asked to start by checking and defining documenting version, date particular version of the document was created; and team members who participated. It is recommended to keep track of any changes by fixing document version and dates.

Goal, problem, value. The central element of the Hex-canvas is the goal of the project, challenge or the value, it is the target of the project and hence is placed in the centre. Here the main objectives of the project must be formulated. In most cases each study project will have one main goal that solves a problem, deals with a challenge or creates value for a user or a customer. It is recommended to add information about the user of the solution, product or service to whom the project is targeted at.

Steps and tasks. Here focus is on main activities and tasks that must be done to achieve the goal – being specific about actions that will lead the project to the goal and to get from abstract idea to tangible results.

Competences and team. This space represents the main competences and skills required to implement activities to achieve the goal. First a list of competences and skills should be made and then team members can be added. Typically, there are more competences required than there are people on the team, in that case some of the missing competences can be linked to partner space as an outsource later.

Resources and technologies. Resources and technologies are identified as physical and non-physical materials and tools that are required for production of prototypes. An observation made by authors is that students often confuse finances for a resource. Money and cash flow will be assigned separately since money is not considered as a resource, however here one should think about resources that request financial input – materials, machines, electricity.

Partners and cooperation. If the project team doesn't have the needed competences or the right skills, tools or technologies, they can be outsourced or rented from partners as that may be more effective. A list of suppliers who provide necessary resources and materials should be made here.

Finances. The main income sources and cost structure are stated here. A clear understanding of cash-flow gives students a chance to better understand how much project activities, competences, resources and services cost and how they will be financed. It is advised to use information form spaces “competences and teams”, “resources and technologies” and “partners and cooperation” to identify expenses.

Communication and channels. A clear communication plan or strategy is defined here to minimize miscommunication during the project implementation. Both internal and external communication should be defined at the beginning of the project. Internally the team must agree on communication platforms, communication frequency, document storage and other aspects to internal

information management. Also, external communication strategies can be defined here: audience, message content, channels, schedule and responsible.

Risks and restrictions. Risk analysis should be done in a simplified probability and impact/influence structure. It is also advised to identify preventive actions to minimize those risks and actions that will be taken if they must face the situation. As different restrictions also can influence the project development - related to external as well as internal factors like time, space, legal regulations, cultural and other aspects, the analysis (e.g. PESTEL) is recommended.

Quality criteria. Generally, the quality of the any deliverable should be discussed by both parties – deliverer and receiver. Quality criteria and means of measure must be defined. At this point students learn to define what quality is and how it will be achieved, identified and measured, should it be tangible deliverable on time or some other result – means of customer satisfaction should be identified.

Documents, standards, regulations. Documents that usually govern day-to-day activities are different kinds of agreements - in most cases time, financing and deliverables. However, in some cases external documents like national or international standards, laws or legal regulations regard some or all areas of the project. Students are asked to identify them here.

Activities and commitments after the project. Students should identify if this is a one-time project that has no continuation or if there will be another project like this. Commitment identification is relevant here - like sustaining project results for a certain period after the project, providing client with the service or providing any information to stakeholders. When this is defined, it is recommended to link this space with team, resource and finance spaces since future actions and commitments may require additional effort.

Methods and materials

The research data was obtained in the year 2022 by using qualitative method of research - structured interviews of two student segments. Firstly, the doctoral level students (n=8) who used Hex-canvas in summer school and, secondly, bachelor and master level students of Vidzeme University of Applied Sciences (n=16) of project-based study course “I Living Labs”. Each of the segments applied Hex-canvas tool in different settings, however with similar aim. Process-wise - students received information and instruction about the aim and usage of hex-canvas tool, then performed given assignments by using hex-canvas and provided feedback by answering certain set of questions assessing both - functional and cognitive impacts use of the Hex-canvas which according to Lima & Baudier (2017) belong to so called claimed benefits. In the first questions students had to rate the functional and cognitive usability of canvas and provide extended explanation of their experience in this context. In the third question informants were asked about the potential improvements to Hex-canvas tool, but

in the fourth question we explored the general intention to use the tool repeatedly and in the last questions informants provided pro and contra arguments of reiterative usage of tool.

In regards of doctoral students Hex-canvas tool was offered to improve and structure the conceptual scope of the doctoral thesis. Doctoral summer school is an annual event where doctoral students can meet and share their research achievements, hear feedback from mentors and other students. Students from different study fields and study years were introduced to Hex-canvas. During 45-minute lecture the main principles were explained, questions answered, and some examples shown. After that students were asked to state the aim and details of their research in such a way that people not familiar with the research topic would have a general idea and could relate to the topic and research project. After 30-minute session students presented their work. The aim of this event was to test Hex-canvas usability in non-business applications such as applied short- and long-term research.

Another researched segment was problem-based study course “I Living Labs” participants - bachelor and master level students from Vidzeme University of Applied Sciences and partner universities abroad. This was intensive study course, that took two weeks. During the first week online workshops devoted to training of specific skills and tools were organized for preparation. In the second week students worked in a present mode, developing solutions for specific problems defined by external stakeholders. Hex-canvas was used as compulsory tool for structuring of the project idea for initial development and later for pitches. The students of “I Living Labs” were introduced to the tool during preparation week. Students had a workshop session (90 min.) and then during the next week question and answer session about some of the aspects of canvas. There were 96 participants (12 teams) during “I Living Labs” in autumn 2022. A few weeks later after the course, student team representatives were invited to interviews.

Qualitative content analysis was performed on gained data. This is a research technique for making credible and replicable conclusions from data in the form of texts to the contexts of their use. It requests some degree of creativity in organizing the information via breaking it down to manageable sections and ensures detailed analysis (Krippendorf, 2013). The gathered information in a form of texts was studied several times to identify thematic break down categories relevant to impact evaluation criteria adapted from Lima & Baudier (2017) which represent **functional use** or aspects related to desired result (e.g. performance, innovation, communication) and **cognitive use** related to thinking process (e.g. decision making, creative thinking, visualization, teamwork etc.). The purpose of data breakdown was to identify the role of each element and later – to make decisions on improvements of Hex-canvas as tool and application of it in a study process.

Research results

In regards of the first question where students had to rate generally the functional and cognitive usability of canvas, most informants assessed the application of this tool as somewhat useful or extremely useful. Just a few indicated the neutrality of their opinion, mainly based on their project specifics or knowledge and habits to use other tools.

The informants shared their experience and conclusions about the functional and cognitive use of the Hex-canvas reporting about both aspects in a positive context. The most mentioned functional use elements relate to structure and output of that is highly useful in communication of the project idea. Informants refer that canvas was helpful due to the compact provision of overview of the project and for pitch presentation. Almost all informants stressed the role of the tool in context of clear structure of project idea which serves as perfect basis of action plan. From resource perspective, informants highlighted time management aspect: *“In reality, this tool saves the most important thing - time. It allows you to understand when and how there is a risk of reaching of a “dead end” and, based on this, to look for new directions to achieve the goal or to adjust it, if it turns out that the goal is utopic”*. Some informants emphasized that Hex-canvas are adaptable for other purposes, such as business idea development, however the majority reported flexibility as existing, although improvable feature.

As cognitive use elements informants referred that application of Hex-canvas influence on decision making process valuing that tool supports flexible modelling and review opportunities instead of “one direction plan”. Related aspects were goal setting, break-down to sub-elements that serves as a basis of idea. The tool is good to enhance teamwork and produce result by involving all members. Some informants stress, that hex canvas can help not to avoid or forget important aspects of project: *“The tool was useful when it was necessary to clarify things that were important in the project, but were forgotten.”*

Although most informants gave minimal remarks about specific changes to Hex-canvas, some proposed areas or aspects could be improved. From the technical perspective of users, some informants suggested that tools should be digitalized, even in the format of web applications to ensure better user experience especially in teamwork context. A considerable factor is simple design, comprehensive and user friendliness. The role of instruction provision and facilitation of process has been emphasized as aspect of improvements. The informants indicate that more detailed instruction in written format on how from the perspective of content fill in the spaces would be needed. One of informants has described this situation as: *“On one hand the tool is intuitive, however, for students without knowledge about the topic some misunderstanding could happen. Occasionally, thinking that everything in canvas is self-explanatory can be misleading assumption.”*

Even though flexibility has been identified as a strength of tool, informants suggested new perspectives on structure. For instance, that spaces in Hex-canvas could be structured in primary level, which is non-changeable and secondary level spaces which project team or student could freely define and add or delete adjusting canvas to project specifics. Thus, Hex-canvas would become a dynamic tool with personalization opportunities. Some informants suggested to add as a new space information about timeline or duration of implementation to add credibility to idea: *“A gauge of time of activities to implement is needed. Because if you don't set a deadline for achieving the goal, one can change or lose its meaning. Yes, it must be time-bounded.”* Other suggested to add some evaluation tool, such as SWOT etc.

Repeated practice of use of the Hex-canvas would strengthen users' competencies and ensure positive effect of project planning: *“More using of the tool “I think that it is simply necessary to start using such a tool more, to practice its use, then it will also be more useful and easy to use on a daily basis.”* In the context of future use, all informants except of one confirmed that they would use Hex-canvas repeatedly and showed intention to try the tool for both - study related and non-study related (e.g. business) environments.

Conclusive discussion

The results of the research allow us to conclude that Hex-canvas can be used as a tool and a method simultaneously in project-based learning settings, as well in specific context of research projects. Data prove aspects benefits discussed in another research (Babič & Gole, 2022; Bidmon & Hall, 2021; Lima & Baudier, 2017) of using visual project modelling tools such as the Hex-canvas in terms of improving the implementation of the ideation processes, decreasing the complexity involved in development of projects and innovations a models and improve conditions that facilitate exchange of best practices. Data reveals that usage of Hex-canvas can ensure both - functional and cognitive benefits for users along with high level support in communication of project models. To some extent we can say, that Hex-canvas improve disadvantages mentioned by Becker & Bröcker (2021) as the components of flexibility and environmental analysis has been implemented, nevertheless, retaining universality, ensures holistic perspective and compact view.

From the pedagogic perspective facilitation of students during application of Hex-canvas and other project or business modelling tools is crucial, as well including proper instruction in various formats. Accurately considered instruction tools could improve efficiency as well without facilitation in person. Typical student experience of learning and application of various tools offered by their tutors are usually short duration, one-time practice, however deeper comprehension and amplification of students' competences is possible in case that

practicing of the application of the same tool or methods happens consistently on regular basis throughout the learning journey in university.

Further development of new iterations of project modelling canvas as well is obvious, to fit in with the expectations of users and thematic boundaries as the nature of tool is dynamic. Future research in regards of Hex-canvas application could be related to wider user experience exploration regarding different student segments and study settings.

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DIGITAL HUMANIZATION OF EDUCATION IN THE LIGHT OF GEOPOLITICAL CHALLENGES

Iveta Mietule

Rezekne Academy of Technologies, Latvia

Hanna Purii

State University of Economics and Technology, Ukraine

Irina Maksymova

State University of Economics and Technology, Ukraine

Andrii Shaikan

State University of Economics and Technology, Ukraine

Serhii Hushko

State University of Economics and Technology, Ukraine

Volodymyr Kulishov

State University of Economics and Technology, Ukraine

Abstract. *The article examines systemic conditions and important determinants of the humanization of higher education in the light of crucial geopolitical challenges. Complex analysis of the international background of educational humanization is provided on the basis of world rankings given by international network of universities for European countries. The research discloses the most highlighting tendencies towards modern knowledge and education system in the conditions of innovation progress, digital transformation and sustainable development. The analysis reveals logical coherence between humanization, national education, and economic growth. The role of humanization of education is also considered, taking into account the requests of the world labor market, that shapes the most demanded personal criteria in different occupation areas. The concept of human-centrism of the educational system and its components are presented towards economic, geopolitical, digital and environmental discourse. It is concluded that higher education in EU and Ukraine quickly responds to crisis situations and becomes a necessary foundation for comprehensively overcoming the relevant challenges. The research represents authors' vision on the issue of digital humanization of education and reveals its empiric model.*

Keywords: *digital humanization of education, environmental discourse, geopolitical challenges, humanization of education, investments, labor market, ratings*

Introduction

Since the beginning of 2022, European countries have faced with serious geopolitical challenges shaping the existing models of foreign policy, economy, national security and territorial integrity. It became a pivotal time for the transformational processes, global shifts, and comprehensive rebuilding of the international economic environment, including key areas of intergovernmental support. To be more specific, EU member states and Ukraine came across fundamental case, which would determine not only their future path of development, but also their strategic place and role in the global order.

Considering the promising advantages of Ukraine, namely human capital, geographic location, natural resources, it is important to define the driving forces for the future innovation leap. In fact, that means encouraging competitive industrial sectors with high added value allowing the production of high-quality goods and services. Moreover, such innovative manufacturing implies social orientation and responsibility. This crucial objective could not be achieved without an effective education system, focused on a human-centered model of the society development.

Modern researches gave rise to the idea of “humanizing” education as a key accelerator for social and economic development in the era of digital globalization, informational explosion and geopolitical transformation. On the one hand, humanization of education affects its overall quality, setting the most important values of humanism, democracy and civic position (Shutaleva et al., 2019). On the other hand, such humanization contributes to the formation of human-oriented understanding of the future professional activities, whichever industry alumni work in (Zagorodnya et al., 2020). Also worthy of mentioning are range of scientific papers that explore the issue of educational humanization in the context of digital transition and online learning (Mehta & Aguilera, 2020; Golz et al., 2019; Juhary, 2022). The above-mentioned authors claim for a new human-oriented pedagogical paradigm that concerns innovations, technological expansion and irrevocability of a mixed online-offline learning. There is no doubt digitalization is observed as one of the most crucial forces for the educational development, that implies the necessity of its humanization (Polikarpova et al., 2020). In addition, humanization of education addresses the most important economic requests caused by current agenda on climate, ecology, social inclusion, fair market relations etc (Shanks, 2020). Finally, humanization of education impacts humanization of a global economy, because it overcomes the most dangerous ideological trap that “instead of economic education we have economic indoctrination or ideology disguised as science” (Blazevic, 2019).

Despite extensive survey of the mission of educational humanization in the international scientific discourse, the exploration of its external and internal environment remains particularly important.

The research aim is to outline and investigate the formative imperatives of the humanization of education in the era of digital transformation, considering complex discourse of geopolitical, technological and climate challenges of modern society.

Methodology. The methodological framework of the study is based on a comprehensive exploration of quantitative indicators for evaluating the modern education system, given by different world rating systems. In addition to that, qualitative indicators are based on practical experience and empirical studies of models and global scenarios for the development of the educational environment. The research map covers the countries of Europe. Particularly, the analysis focuses on the problems of the EU member states and Ukraine as an active player of the modern geopolitical space and forward-looking member of the EU community. The study uses general scientific methods as well as a number of specific methods of research, namely: scientific abstraction, comparison, grouping, systematization, graphical, statistical, economic and logical analysis.

Research results

The national system of higher education of Ukraine, which has developed today, continues to change due to the global trends. Through the profound modernization policy, Ukrainian education system takes promising position in the world educational rankings, but it is not a final point, especially in comparison with education systems in the leading countries of the EU and global space.

The results of the global ranking of national higher education systems reveal that Ukraine takes 36th position in U21 Ranking of National Higher Education Systems, while the USA, Switzerland, Denmark, Singapore occupy the leading positions (QSTopUniversities, 2022).

It is worth noting that above-mentioned ranking is calculated according to the methodology of the Institute of Applied Economic and Social Research of the Melbourne University in partnership with Elsevier, and evaluates national higher education system within 24 performance indicators arranged into four groups:

- 1) resources (investments from the private and public sectors) - 25%;
- 2) results (scientific research, scientific publications, compliance of higher education with the needs of the national labor market, including further employment of graduates of educational institutions) - 40%;
- 3) connections (the level of international cooperation, demonstrating the degree of openness or closedness of the higher education system) - 10%;
- 4) environment (state policy and regulation, educational opportunities) - 25%.

Results of the ranking are represented in the table (Williams, 2022).

Table 1 The results of the ranking of national higher education systems in some European countries in 2020 (by the approach of Williams, 2022 and GDP statistics by statista.com)

Position in the ranking by the level of Index	Country	Index	GDP per capita, thou.\$
2	Switzerland	90.1	91.9
3	Denmark	85.7	68.0
5	Sweden	84.3	61.0
6	United Kingdom	83.6	46.5
8	Finland	82.8	53.7
10	Netherlands	81.6	57.8
11	Norway	80.5	89.2
12	Austria	82.2	53.6
13	Belgium	75.6	51.2
16	Germany	70.5	51.2
17	France	68.6	43.7
23	Spain	58.6	30.1
30	Italy	54.5	35.7
32	Poland	52.6	18.0
33	Hungary	51.3	18.7
36	Ukraine	47.8	4.8
37	Greece	47.4	20.2
43	Croatia	43.6	17.7
44	Romania	43.0	14.9

The table above summarizes not only institutional performance indicators for higher education development (resources, environment, communication and results), but also reflects country’s position in terms of its level of GDP per capita.

Thinking this way, we assume the development of high education encourages the global economy and this tendency will be relevant in the context of humanization of education. This correlation is outlined in the figure below (Fig. 1).

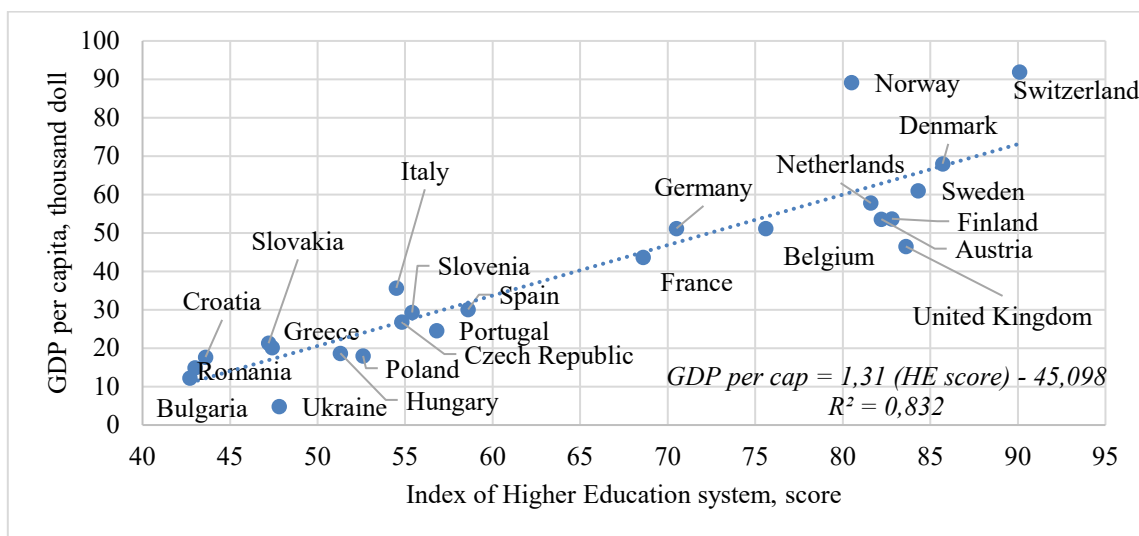


Figure 1 Correlation linkage between Index of Higher Education and GDP per capita (authors’ calculations)

The diagram above depicts the strong correlation between level of higher education and GDP per capita in different European countries. Consequently, the following important statements could be provided.

First, humanization of education encourages overall educational development, which in turn affects GDP growth. It is worthy to admit that such economic growth could be considered as sustainable and human-oriented. Roughly speaking, average growth of country's educational position up to 1 score impacts GDP rising up to 1.3 thousand dollars per capita.

Second, taking into account both educational Index and GDP level, the leadership in ranking passes to Finland, Great Britain and Denmark. In these countries, the given scores mean that overall performance indicators are about 20 percent higher the average level of educational achievements comparing with countries from the same GDP level.

Third, given correlation is both direct and reverse. Thus, its "formula" is especially important for the countries with comparatively low level of higher education and GDP per capita. This statement could be provided by the example of Ukraine. The results of the ranking of national higher education systems show that Ukraine's 36th place combines 27th place in resources, 39th place in environment, 38th place in communications and 42nd place in results. To be more specific, Ukraine takes 6th place in terms of public spending on higher education as a percentage of GDP. However, the level of R&D spending remains only at 46th position. In the sphere of communications, Ukraine ranks 18th in joint scientific publications by industry, but only 46th in knowledge transfer. The country ranks 35th in co-publishing with international authors and 45th in knowledge sharing with business. The level of GDP per capita in Ukraine is the lowest in Europe. We have to admit the overall in all these indicators due to the Russian-Ukraine war. Therefore, humanization of higher education could be considered as one of the key driver for social-oriented economic development and future recovering.

However, one more digital imperative should be disclosed due to the formation of a positive humanization environment. For a long time to the beginning of the Industrial Revolution, technological shift in educational sphere was not considered as a key factor for social development. However, the acceleration of both innovation and investment processes contributed to the positive social attitude towards knowledge and education. While modern society could be described as a "digitally dependent" and "loyal to the digital", scientists claim that safe technologies and human-oriented digital transition could be created only through humanizing education and intelligence culture (Arbidane et al., 2021).

This important digital imperative is considered in the following educational ranking of European countries. Education Level Index is given by the United

Nations Development Program and provided by University21. It measures the country's achievements in terms of the length of study (Figure 2).

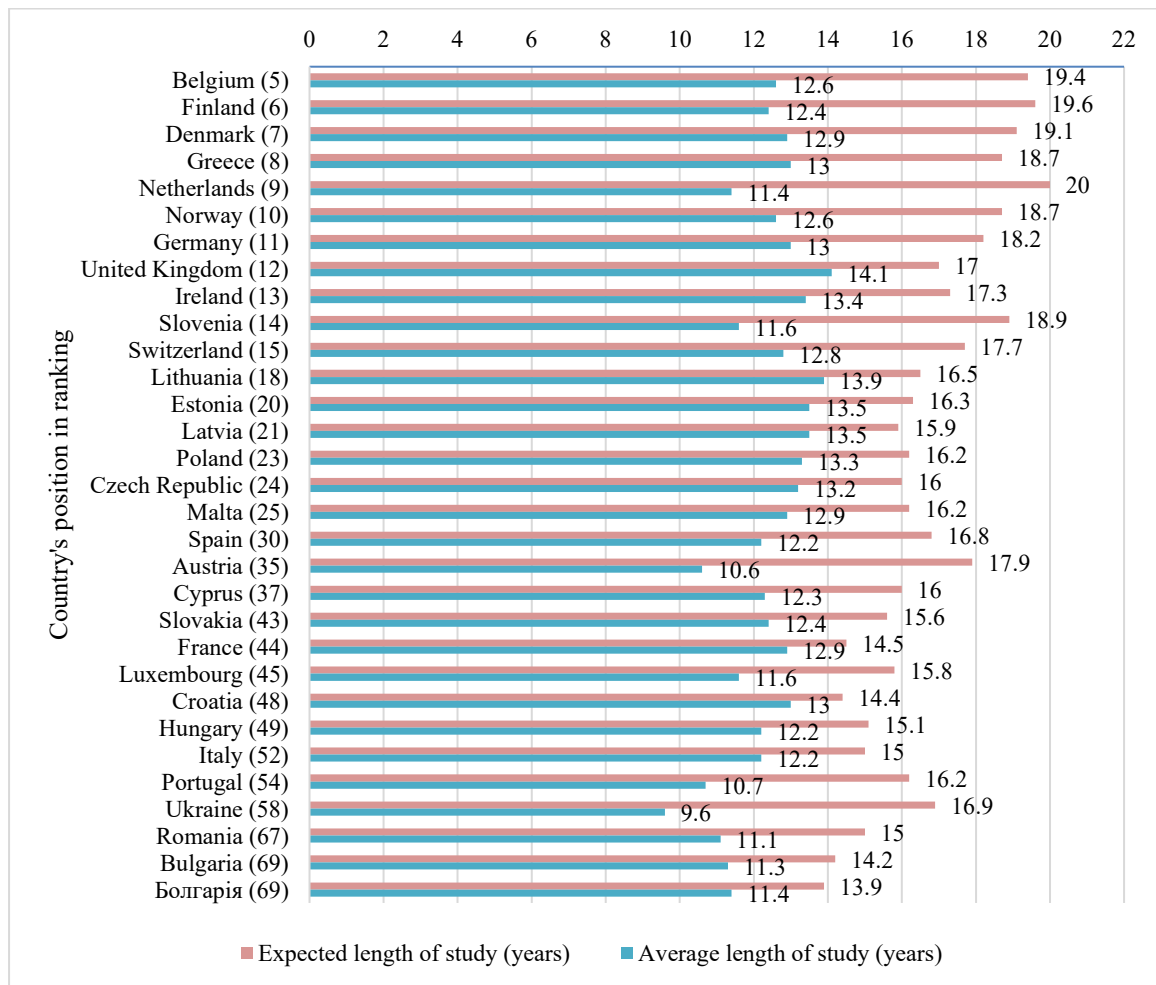


Figure 2 Rating of countries in the world by level of education (Universitas21, 2022)

The analysis shows that the leading positions are occupied by countries with the longest expected years of educational process. Traditionally among European countries, Sweden, Belgium, Finland, Denmark and Greece take the highest positions, while Italy, Portugal, Ukraine, Romania and Bulgaria show significantly lower results according to Education Index 2022. Based on the integration prospects, Ukraine faces an urgent need to rebuild the entire system of the national education in terms of its adaptation to European standards.

Thinking about modern education system and its humanization, the current conjuncture of the global labor market should be considered, because employers are one of the most influential stakeholders. Traditionally, labor market is shaped by the employers' needs and demand for labor. Moreover, some professional areas remain the most popular for many years mostly due to the digital awareness, data

explosion, technological transformation and innovation. By the end of 2021 the most eligible occupations were the following (QSTopUniversities, 2022):

- "Computer science and information systems";
- "Technique and technology";
- "Business and Management";
- "Medicine";
- "Economics and econometrics";
- "Law";
- "Mechanical, aviation and industrial equipment";
- "Architecture";
- "Art and design";
- "Accounting and Finance".

In fact, the significant attention to these professions reflects social reaction on current global challenges. However, the supply-planning at the educational environment should focus not only on the preferences of applicants, but also on the demand of employers as stakeholders. In 2022 Manpower Group presented the most demanded occupation areas by global industries (ManpowerGroup, 2023):

1. IT-sphere and Data analytics.
2. Marketing and sales area.
3. Transport and logistics.
4. Secondary industry and manufacture.
5. Work with clients (managers, consultants etc.)

Each industry implies a fairly wide list of occupations. It is expected this demand will rise at least twice by 2025.

In addition to the above, the following "soft skills" are distinguished in terms of the formation of specialists in human-oriented society (Figure 3).

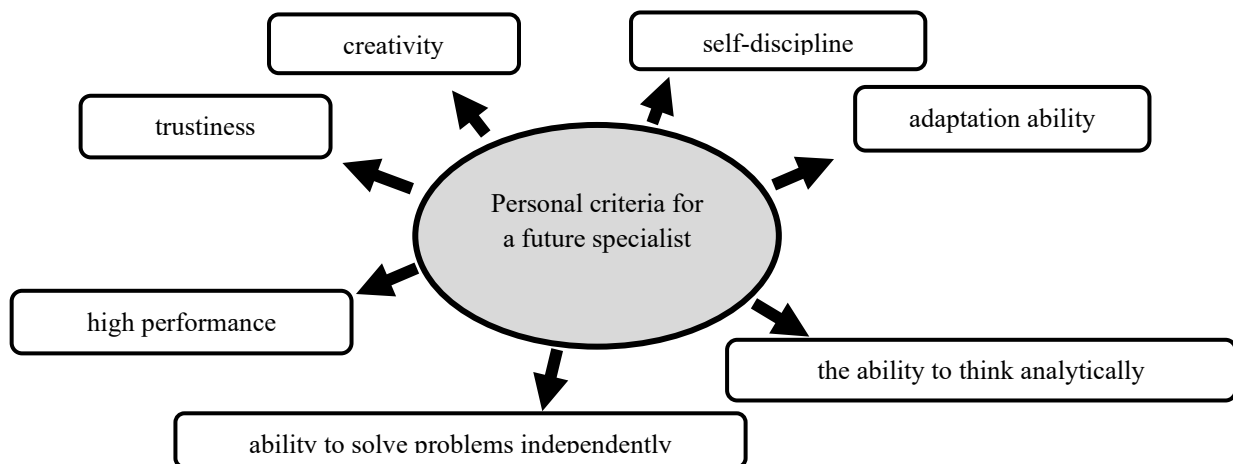


Figure 3 Personal criteria ("soft skills") for a future specialist (ManpowerGroup, 2023)

At the same time, McKinsey Global Institute highlights three key skill sets that contribute to career building in the era of humanization. (Dondi et al., 2021):

1. Higher cognitive abilities. These include advanced literacy and writing, critical thinking, quantitative analysis, and statistical skills. They are used by doctors, accountants, analysts and writers.

2. Social and emotional skills. These include improved communication, empathy, adaptability, and the ability to continually learn. Business development, programming and consulting need these skills. These jobs are also among the best jobs for the next ten years.

3. Technological skills, that include everything from basic to advanced skills in IT, data analysis and engineering. These future skills are likely to be the highest paying ones.

The research confirms the greatest demand for the professions in IT sector and software, medicine, ecology and climate change, financial services. To ensure the competitiveness of specialists, modern higher education must provide the analytical skills of the digital society (Kulishov, 2023).

Also, special attention of academic community and stakeholders is given to the issues of climate education, particularly, climate management of modern industries. To be more specific, climate oriented competencies lie in the plane of human oriented paradigm. Thus, it becomes an important component of modern education in terms of sustainable development. This trend is risen by the global implementation of climate-neutral strategies: the Long-Term Ecological Strategy 2050, the EU Climate Neutrality Roadmap to 2050, the world's first European Climate Law, as well as integration of green and digital transition programs and projects (Maksymova, Kurylyak, 2022). There is no doubt, education system should quickly respond to such important requests, because educational institutions are considered as providers of human oriented changes.

Besides, the OECD predicts that the global amount of university alumni will double, reaching 300 million by 2030 (OECD, 2019). Organization for Economic Cooperation and Development maintains the idea of enlarged investment in higher education worldwide, since it ensures economic well-being, national resistance and the long-term strategy of economic development. The new paradigm of modern higher education requires direct investment for rapid leap from "Education 1.0/2.0/3.0" to the digital standards of "Education 4.0".

Thinking this way, the development of higher education implies digital humanization and implementation of a human-centered approach in the conditions of digital transformation.

The human-centered model is outlined at the next scheme (Fig. 4).

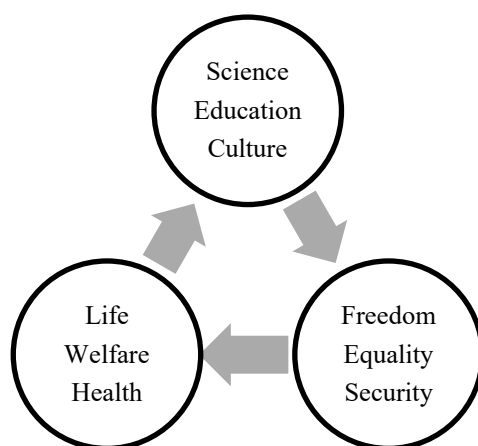


Figure 4 **Human-oriented model of the development** (rethinking Zhilinska et al., 2017)

Digital humanization of education is observed as a background of a human-oriented model of the development. Thus, digital humanization implies a process aimed at comprehensive individual development based on creativity, cognition and communication in the context of digitalization of the economy and society.

Moreover, digital humanization is the most important characteristic of the educational process that integrates the levels of -bio, -techno, -eco etc. and explains how to organize the educational process in the conditions of a real-virtual space. The humanization of education is the basis for the implementation of sustainable development goals at regional and national levels, because it promotes the formation of the generation with innovative thinking (Din et al, 2021).

The authors' vision of the digital humanization of education is represented at the following scheme (Fig.5).

According to the model, the digital humanization of education provides the synergy between technological inclusion of the educational process and the system of a versatile thinking of its participants. In this framework, the digital component is an accelerator of qualitative changes in education system, namely technical development, flexibility, and adaptability of the educational process. In other words, digital technologies open up new opportunities for human-oriented learning, that is able to meet geopolitical challenges and empower the applicants with diversity of thought and skills. As a result, such model contributes to the following important aspects:

- strengthening humanization of educational relations;
- encouraging innovation;
- individualization and practical orientation;
- development of a technological culture of education and its fair differentiation.

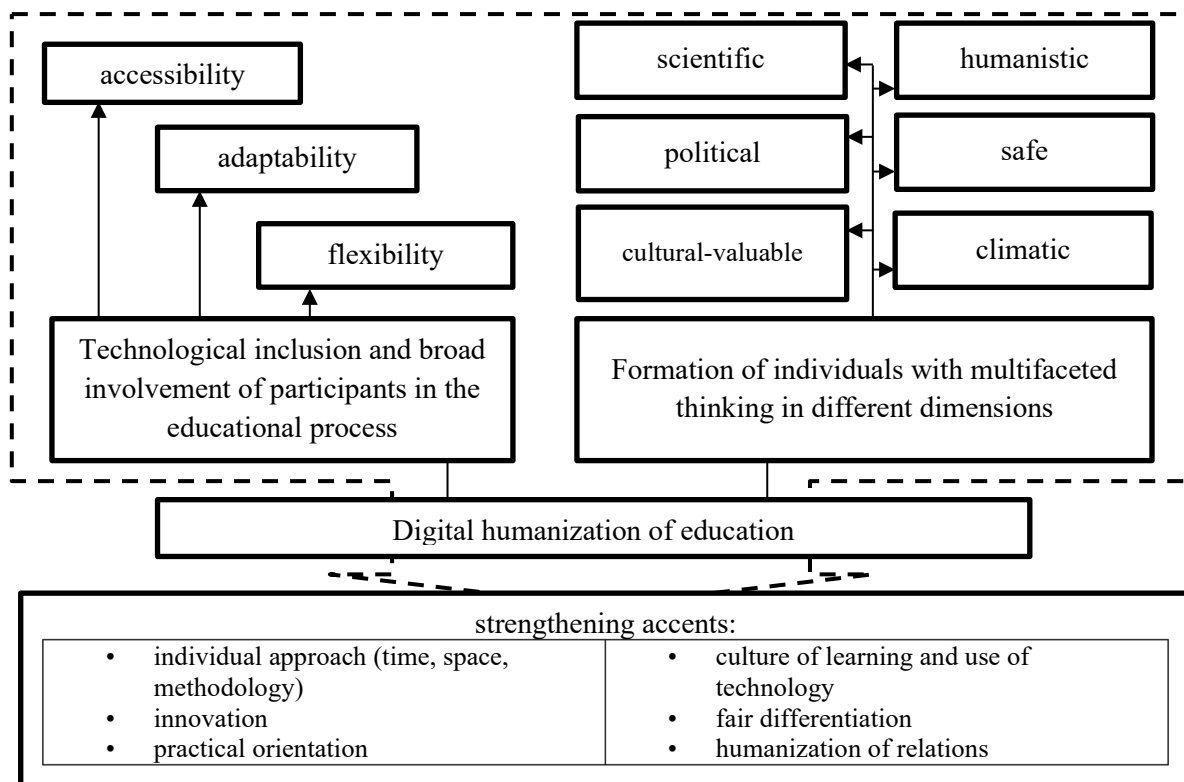


Figure 5 *Model of digital humanization of education (authors' development)*

Digital humanization is a key element of innovative thinking, that shifts the focus of the educational process to a new level, where both teachers and students are the “subjects” of the development of their creative individuality in real-virtual environment.

In addition, digital humanization involves the formation of hybrid reality of the educational environment, in which the teacher-student takes place at the intersection of the IT capacities and the global need for obtaining human-centered professional competencies. In this system, the educational instructions act as a provider for positive trends that are the most valuable for the society.

Conclusions

Considering modern geopolitical challenges for the countries of EU and Ukraine, humanization is considered in coherence with educational development and economic growth. Moreover, humanization of education encourages overall educational development, which in turn affects GDP growth. Such economic development could be considered as sustainable and human-oriented.

In the context of geopolitical challenges, the need for human oriented education is constantly growing. This requires the purposeful activity of society to create material, technical, organizational, economic and social conditions for effective and comprehensive background for a digital humanization of education.

The digital humanization of education is considered in terms of creating conditions for self-affirmation, self-expression and self-regulation in the digital space in order to ensure comprehensive and divisive development. Digital humanization of education provides the synergy between technological inclusion of the educational process and the system of a versatile thinking of its participants.

Humanization empowers all the participants of education system with needable skills for addressing economic, geopolitical, digital and environmental cases. As a result, such approach encourages the generation with human oriented values by the principles of availability of education, digital awareness, sustainable development, climate neutrality and global inclusion.

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LATVIAN HIGHER EDUCATION INSTITUTION STUDENT FOREIGN LANGUAGE LEARNING STRATEGIES

Monta Jakovleva

Latvian Academy of Sport Education, Latvia

Ieva Rudzinska

Latvian Academy of Sport Education, Latvia

Gita Jakovleva

Latvian Academy of Sport Education, Latvia

Abstract. *The study focused on the frequencies of Latvian higher education institution student self-reported foreign language learning strategies. From the 86 participants 44 were males and 42 – females; sport science was studied by 48 respondents, and health care by 38; 44.20% were freshmen and 55.80% - sophomores; 76.70% were full-time and 23.30% – part-time students. The study employed the Strategy Inventory for Foreign Language Learning (SILL), consisting of 50 statements divided into 6 categories: memory, cognitive, compensation, metacognitive, social and affective. One statement from the memory strategies was removed, as it was considered non-relevant for the students. Likert scale of three choices - never, sometimes and often – was used. SPSS Version 26 was used for the data analysis. Results: 1) the investigated students tended to use cognitive (mean =2.12; st.dev.=0.29; min.=1,43; max.=3) and compensation (mean =2.11; st.dev.=0.36; min.=1,33; max.=2.83) strategies more often; 2) the students tended to use affective (mean =1.78; st.dev.=0.39; min.=1.00; max.=2.67) strategies less often; Wilcoxon Signed Ranks Test showed that compensation strategies are used more often than memory strategies ($Z=5.08$; Sig. =0.00) and metacognitive strategies were used more often than affective strategies ($Z=5.00$; Sig. =0.00). **Keywords:** health care students, HEIs (higher education institutions), sport science students, Strategy Inventory for Foreign Language Learning (SILL).*

Introduction

The aim of the study is to gauge the strategies of learning a foreign language in a Latvian HEI before embarking on to full-scale research. In our first article on strategy use (Rudzinska & Jakovleva, 2019) the focus was on investigating self-reported foreign language learning strategies across four skills – listening, speaking, writing and reading, using language Learning Strategy Inventory, developed in CARLA Center (Kappler, Cohen, & Paige, 2009). The results showed that both sport science and health care students were aware of the

strategies and used them extensively; however, significant differences between the use of strategies by the students of the two programmes were found.

The present study does not compare the students the two programmes; instead, it focuses on the whole sample and investigates the students' self-reported frequency of the use of the Strategy Inventory for Language Learning (SILL) (Oxford, 1990).

Literature review

In the 1970s, scientists revealed that language learning is closely related to cognitive processes. In the 1990s the education paradigm changed, with the focus shifting from passive learners to active learners. Leading researchers hold the view that learning strategies facilitate self-directed active learning (Oxford, 1990; O'Malley & Chamot; 1990; Cohen, 2003, 2011). Moreover, Riazi argues that "it might be reasonable to help students in classrooms appreciate the use ... of strategies" (Riazi, 2008, p. 439).

The European Union Guidelines on language learning, for example, the Common European Framework for Reference (CEFR) in Language Learning, Producing and Testing acknowledges in the introductory part that "Europe action based approach ... takes into account the cognitive, emotional, and volitional resources and the full range of abilities specific to and applied by the individual as a social agent" (CEFR, 2001, p. 10). However, the CEFR concentrates basically on language learning and production skills – reading, listening, writing and speaking. Thus, it can be concluded that affective, cognitive, social and partly metacognitive approach are not formulated into language learning strategies. Meanwhile, the Companion Volume of New Descriptors (Council of Europe; 2018) replaces the descriptors of four language skills and lists appropriate strategies for carrying out the language tasks to be accomplished (Danko & Dečman, 2019).

The Strategy Inventory for Foreign Language Learning (SILL tool) has been developed by Oxford in 1990 (Oxford, 1990) and has been in use for more than 30 years. It consists of 50 language learning strategies, summarized into 6 categories – memory, cognitive, compensation, metacognitive, social and affective. Memory strategies are concerned with information storing and retrieval, cognitive strategies – with understanding and producing language, compensation strategies – with guessing and interlocution processes in producing the required language, metacognitive strategies – with thinking about one's own learning, social strategies – with benefitting from others, and affective – with coping with one's emotions in the learning process.

Conducting investigations about language learning strategies, the researchers use Oxford's original questionnaire with 50 strategies and 5 Likert scale options for answers, ranging from 1 "never or almost never true of me" to

5 “always or almost always true of me” (Bremner, 1998; Riazi, 2008; Vertongen, 2014-2015, Danko & Dečman, 2019). Other investigators, however, reduce the number of Likert scale options, offering the students to reply to strategy use statements with the options from “never” to “sometimes” (Bessai, 2018). Considering the reliability of the SLIL tool in the form of Cronbach’s alpha, the researchers report it as being very high and high – for example, .92 (Bremner, 1998; Riazi, 2008).

Considering the appropriateness of the language learning strategy use in the contemporary situation, Danko and Dečman (2019) argue that such strategies as the use of flashcards or rhymes from Oxford’s original questionnaire have been overtaken using modern information technology. Nonetheless, they acknowledge that some authors claim that kinaesthetic students might enjoy working with tangible objects (Oxford, 2003, p. 273).

Oxford’s questionnaire has been used in a variety of learning situations and cultural contexts. Bremner finds that compensation and metacognitive strategies were used most of all, while affective and memory strategies were the least used ones (1998). Danko and Dečman (2019) and Wu (2008) also report that affective strategies were the least used ones. Danko and Dečman suggest that the role of affective strategies was more obvious at lower levels of proficiency.

Riazi concludes that language learning strategies seem to be part of the students’ learning experience and reported that the general categories used in the order from the highest to the lowest were as follows: metacognitive, cognitive, compensation, social, memory, and affective. This result contrasts with studies about Asian students, which have reported high memory strategy use. However, the departure from route-learning to deep approach in learning has been recently observed in non-Western countries as well.

Bremner (1998) suggests that affective strategies are not strategies for learning but characteristics among low level learners. Vertongen (2014-2015) has observed that proficient language learners have less need of compensation strategies. Riazi (2008) emphasized the importance of the use of social strategies, especially in the after-Covid era.

Bremner (1998) argues that cognitive strategies could be related to higher proficiency level in English. Vertongen (2014-2015), on the other hand, concludes that the researchers should rather look at strategies as the output of proficiency instead of tools to enhance it. Riazi (2008) believes that higher level students do not use fewer strategies, but rather the strategies are internalized, and the learners use them automatically.

Methodology

This study uses descriptive research approach aimed at describing foreign language learning strategy characteristics. The study employs the Strategy

Inventory for Foreign Language Learning (SILL) tool (Oxford, 1990), consisting of fifty statements, divided into six categories – memory, cognitive, compensation, metacognitive, social and affective. However, the original SILL tool was slightly modified. Following Danko and Dečman (2019), who argued for the necessity to exclude the statement “I use flashcards to remember new English words” in the SILL, this strategy was removed from the memory strategies, considering it non-relevant for the participants, who were university students. Therefore, the final questionnaire consisted of 49 statements. The next adaptation concerns the five Likert-scale choices. Similarly, to Bessai (2018), we consider it sufficient to employ only three, namely, “never” (1), “sometimes” (2), and “often” (3).

Relying on the proven high command of English among the LASE students, the SILL questionnaire of 49 items was not translated into Latvia.

Descriptive data analysis was carried out with the help of SPSS Version 26. To assess the reliability of the SILL scale, we were guided by the Cronbach’s Alpha value.

One-Sample Kolmogorov-Smirnov Test showed that only some strategies follow normal distribution (Sig.>0.05). As a back-up test for the t-Test, Wilcoxon Signed Ranks Test was used to find the differences in the use of different strategy groups.

Participants

Convenience sampling, consisting of the students easily available during the two week session time – from January 16 to January 22, 2023 in a Latvian HEI, and willing to participate in the study, was used in the study.

Eighty-six surveys were eligible from the distributed ninety ones. 44 respondents were males, and 42 – females. 55.80% of the respondents were sport science students, and 44.20% - health care students. 76.70% were full-time and 23.30% - part-time students; 44.20% were Year 1 and 55.80% – Year 2 students.

Research results

All six language learning strategy groups are represented in Table 1. Descriptive statistics results are shown in the form of mean and standard deviation, as well as minimal and maximal values of the strategy groups.

Table 1 shows that the mean value of the strategies in the scale of 1 to 3 was from 1.87 to 2.12, so the conclusion can be made that the strategies are used relatively widely.

Cognitive (mean =2.12; st. dev.=0.29; min.=1,43; max.=3) and compensation (mean =2.11; st. dev.=0.36; min.=1,33; max.=2.83) strategies were reported to be used more often, and affective (mean =1.78; st.dev.=0.39;

min.=1.00; max.=2.67) – less often than the other ones.

Table 1 Strategy group descriptive statistics (made by authors)

Strategy category	N	Mean	Std. Deviation	Minimum	Maximum
Memory	85	1.87	0.33	1.00	3.00
Cognitive	86	2.12	0.29	1.43	3.00
Metacognitive	86	2.05	0.39	1.22	2.89
Affective	86	1.78	0.39	1.00	2.67
Social	86	1.93	0.42	1.17	3.00
Compensation	86	2.11	0.36	1.33	2.83

Wilcoxon Signed Ranks Test shows that compensation strategies were used more often than memory strategies ($Z=5.08$; Sig. =0.00) and metacognitive strategies – more often than affective strategies ($Z=5.00$; Sig. =0.00).

Strategy groups and individual strategies are discussed below in more detail.

Memory strategies

Characteristics of the memory strategies are shown in the form of the mean value, which was 1.87, and standard deviation, which was 0.33; minimal value of the scale was 1.00. It is interesting to note that there was one student who reported that he has never used any memory strategy.

The least often used memory strategies were “I use rhymes to remember new English words” and “I physically act out new English words.” For these strategies, the value of mode was 1, while for the other strategies it was 2.

Cognitive strategies

The mean value of the scale of cognitive strategies was 2.12, standard deviation - .39. The minimum value was 1.43, and the maximum value – 3. This means that students tend to use cognitive strategies; there are no students who never use any cognitive strategy.

The most frequently used memory strategies were “I'm not afraid to start a conversation in English” and “I watch English language TV shows or movies spoken in English without Latvian subtitles.” For these strategies, the value of the mode was 3, while for the other strategies it was 2.

Compensation strategies

The mean value of the scale was 2.11, standard deviation - .36. the minimum value of the scale was 1.33, and the maximum value was 2.83. This indicates that students use compensation strategies relatively often. On the other hand, there are no students who use all the six compensation strategies often.

From compensation strategies, the most often used the following was “I try to guess what the other person will say next in English.” For this strategy, the mode was 3, while for the other strategies it was 2.

Affective strategies

The mean value of the scale was 1.78, standard deviation - .39. The minimum value of the scale was 1.00, the maximum value was 2.67. This shows that students do not use affective strategies widely; there are some students who never use any affective strategy.

The most frequently used strategy was “I try to guess what the other person will say next in English.” The mode was 3 for this strategy, while for the other strategies it was 2 and 1.

The least frequently employed strategies (mode=1) were “I give myself a reward or treat when I do well in English,” “I write down my feelings in a language learning diary” and “I talk to someone else about how I feel when I am learning English.”

Metacognitive strategies

The mean value of the scale was 2.05, standard deviation .39.

The minimum value of the scale was 1.22, and the maximum value was 2.89. This suggests that the students used metacognitive strategies widely; there were no students who never used any metacognitive strategy.

The most frequently used strategies (mode = 3) were “I pay attention when someone is speaking English” and “I try to find out how to be a better learner of English.” The least frequently used strategy (mode=1) was “I plan my schedule so I will have enough time to study English.”

Social strategies

The mean value of the scale was 1.3, the standard deviation was .42.

The minimum value of the scale was 1.17, and the maximum value was 3.00. This indicates that the students widely used social strategies; there were no students who never used any social strategy, but neither there were students who often used all the six social strategies.

The least used strategy (mode=1) was “I practice English with other students outside the classroom.”

Table 2 Self-reported use of language learning strategies (made by authors)

N o.	Strategy category	Strategy statement	Mean	st. dev.
1.	Memory strategies	I think about the relationships between what I already know and new things I learn.	2.15	.52
2.		I use new English words in a sentence so that I can remember them.	2.05	.57
3.		I connect the sound of a new English word with a picture of it in my head to help me remember the word.	1.98	.78
4.		I remember a new English word by making a mental picture of a situation in which the word might be used.	1.90	.69
5.		I use rhymes to remember new English words.	1.57	.73
6.		I physically act out new English words.	1.52	.63
7.		I often review English lessons.	1.66	.64
8.		I remember new English words or phrases by remembering their location on the page, on the board, or on a street sign.	2.08	.72
9.	Cognitive strategies	I say or write new English words several times.	1.93	.76
10.		I try to talk like native English speakers.	2.20	.70
11.		I practice the sounds of English.	2.12	.69
12.		I use the English words I know in different contexts.	2.34	.64
13.		I'm not afraid to start a conversation in English.	2.41	.66
14.		I watch English language TV shows or movies spoken in English without Latvian subtitles.	2.63	.61
15.		I read for pleasure in English.	2.03	.68
16.		I write notes, messages, letters, or reports in English.	2.26	.67
17.		I first skim an English passage, then go back and read carefully.	1.93	.67
18.		I look for words in my own language that are similar to new words in English.	1.94	.76
19.		I try to find patterns in English.	1.79	.65

20.		I find the meaning of an English word by dividing it into parts that I understand.	2.00	.72	
21.		I try not to translate word-for-word.	2.21	.65	
22.		I make summaries of information that I hear or read in English.	1.88	.66	
23.	Compensation strategies	To understand unfamiliar English words, I make guesses.	2.06	.68	
24.		When I can't think of a word during a conversation in English, I use gestures.	2.01	.73	
25.		I make up new words if I do not know the right ones in English.	1.90	.78	
26.		I read English without looking up every new word.	2.28	.70	
27.		I try to guess what the other person will say next in English.	2.02	.83	
28.		If I can't think of an English word, I use a word or phrase that means the same thing.	2.41	.60	
29.		Metacognitive strategies	I try to find as many ways as I can to use my English.	2.30	.63
30.			I notice my English mistakes and use that information to help me do better.	2.38	.62
31.	I pay attention when someone is speaking English.		2.51	.65	
32.	I try to find out how to be a better learner of English.		2.16	.80	
33.	I plan my schedule so I will have enough time to study English.		1.52	.61	
34.	I look for people I can talk to in English.		1.91	.71	
35.	I look for opportunities to read as much as possible in English.		1.90	.72	
36.	I have clear goals for improving my English skills.		1.86	.69	
37.	I think about my progress in learning English.		1.93	.70	
38.	Affective strategies	I try to relax whenever I feel afraid of using English.	1.86	.74	
39.		I encourage myself to speak English even when I am afraid of making a mistake.	2.28	.73	
40.		I give myself a reward or treat when I do well in English.	1.67	.73	
41.		I notice if I am tense or nervous when I am studying or using English.	1.81	.68	

42.		I write down my feelings in a language learning diary.	1.50	.68
43.		I talk to someone else about how I feel when I am learning English.	1.53	.73
44.	Social strategies	If I do not understand something in English, I ask the other person to slow down or say it again.	2.31	.74
45.		I ask English speakers to correct me when I talk.	1.97	.76
46.		I practice English with other students outside the classroom.	1.69	.71
47.		I ask for help from English speakers.	1.88	.77
48.		I ask questions related to the acquisition of English in English.	1.80	.61
49.		I try to learn about the cultural contexts in which English is used around the world.	1.92	.67

Conclusions and Discussion

The findings show that language learning strategies are used extensively by the students. The students who participated in the survey reported to use the cognitive and compensation strategies more often, and the affective strategies – less often. As can be seen from the students’ choices, compensation strategies were used more often than memory strategies and metacognitive strategies were used more often than affective strategies.

The results comply with the existing research about language learning strategy use in universities. Similarly to the conclusions reached by Bremner (1998) and Riazi (2008), the sport science and health care students were most likely to use cognitive, metacognitive and compensation strategies, and, similarly to the findings of Danko and Dečman (2019) and Wu (2008), the LASE learners were the least likely to use affective strategies.

One unexpected finding was that one of the two the least frequently used memory strategies was “I physically act out new English words.” The finding was surprising, given the fact that the respondents – sports science and health care students – are likely to possess high bodily-kinaesthetic intelligence.

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21ST CENTURY TEACHER'S TRANSVERSAL COMPETENCIES: THEORETICAL ANALYSIS

Nataliia Tkachenko

Oleksandr Dovzhenko Hlukhiv national pedagogical university, Ukraine

Vasyl Kovalchuk

Oleksandr Dovzhenko Hlukhiv national pedagogical university, Ukraine

Yuan Wenjing

Oleksandr Dovzhenko Hlukhiv national pedagogical university, Ukraine

Abstract. *In the current situation, a significant part of the existing models of training specialists in the field of education no longer meet the conditions of the labour market. The most important pedagogical skills in the present time are significantly different from the skills that were relevant until recently. Knowledge is still important, but modern teachers also need to have transversal competencies to succeed in their professional activities.*

So, the research aim is to study the content of the phenomenon “transversal competences”, which will make the process of their forming more effective.

To achieve the aim the scientific literature and pedagogical practice was analysed. It was found out that transversal competences are transferable and reusable skills that can be applied in a wide variety of situations and work settings. Transversal competencies are considered as 21st century skills and correlate mostly with human ability to solve problems, related to technological advances and intercultural communication.

The analysis of the sources revealed the inconsistency in the use of terms denoting the studied concept and considerable diversity in defining the content of transversal competencies, as different sources distinguish different sets of skills. Based on the framework of transversal competences worked out by UNESCO the modern teacher's transversal competencies were characterized in six domains: 1) critical and innovative thinking, 2) interpersonal skills, 3) intrapersonal skills, 4) global citizenship, 5) media and information literacy, and 6) others.

Keywords: *21st century skills, modern teacher, transversal competencies.*

Introduction

The current state of the society and the world in general is characterized by processes of globalization and modernization. Socio-economic changes, such as social equality, rapid technological progress, economic growth, sustainable development and environmental preservation, force mankind to adapt for further existence. In the current situation, a significant part of the existing models of training specialists in the field of education no longer meet the conditions of the labour market, which makes it necessary to update them taking into account the

challenges of civilization. It is increasingly recognized that to survive and thrive in a competitive, fast-changing and technology-driven world, it is necessary to possess transversal competences, which combine knowledge, skills, abilities and values that can be transferred from one professional context to another, provide transfer of learning and meet the challenges of the 21st century. Their value is based on the growing need of social and labour realities, in which specialized knowledge becomes obsolete very quickly, and the ability to implement universal knowledge to different situations is considered to be necessary in the modern labour market.

According to “Piloting a European Employer Survey on Skill Needs”, employers and companies’ preferences are grouped into lists of desired transversal skills which include such skills as “the capacity to organize oneself and plan the priorities, the capacity to integrate socially into a company structure, the ability to learn permanently adapting to new technologies, the ability to take initiative and be proactive and result oriented by solving problems and making decisions” (CEDEFOP, 2013). The companies outline the necessity for such skills like “working in a group (managing relationship with others, team spirit); flexibility to organize work in autonomy (organizing the priorities); communication skills (first, with customers, but also with colleagues, listening); being able to act in the context of the company (respecting the roles, recognizing the context, analysing the context, observing, listening, respecting the rules); recognizing their error, being able to accept criticism (asking for help when necessary, asking for feedback); capacity to act in complex situations (solving problems, managing stress – or even resistance to stress); desire to learn, curiosity; per-severance; politeness (together with kindness); keeping a positive attitude (proactive)”(CEDEFOP, 2013).

Taking into account the above said, the main priorities of higher education today in training future specialists for any spheres should be concentrated on forming transversal competencies that will give university graduates a competitive advantage when entering the labour market. These competencies are increasingly sought after by employers because they enable employees to better cope with daily challenges in the face of competition, rapid economic, demographic, technological and environmental change.

Transversal competencies are the cornerstone for the modern teacher as teaching methods, and, accordingly, the most important pedagogical skills in the present time are significantly different from the skills that were relevant until recently. Knowledge is still important, but modern teachers also need to have universal competencies to succeed in their professional activities. No matter, whether a teacher specializes in teaching Mathematics, Foreign language, Natural science or History, it is necessary that he/she possesses the ability to communicate, the ability to clearly express one’s thoughts, interpersonal skills,

the ability to coordinate activities and manage people, leadership, emotional intelligence, etc. to perfection.

The above causes the need to study the content of the phenomenon “transversal competences” in the context of teacher profession, which will make the process of their forming in professional training more effective, which is the research aim.

Methodology

To reach the aim a qualitative research methodology was used for the study, thus data gained from existing literature are the most significant aspect of the study. They brought diverse background to the study and serve as the key approach to answering the research questions. Literature review approach, which involved synthesizing and analyzing existing sources, was adopted to the research. The rationale for adopting this approach is vital as “literature review is used to identify existing information on a topic and interpretable trends in a research area” (Pare et al., 2017). Essential themes were identified and collected from various literature sources through an inductive coding technique which according to Thomas (2006) “allows research findings to arise from important themes present in data without constraints posed by structured methodologies”.

Theoretical background

Transversal competencies, also known as transversal skills, basic skills, key competencies, employability skills or 21st-century skills, have become a topic of great interest in recent years. Previous studies have demonstrated that these terms have been used interchangeably (Ghademarzi & Mohamadi, 2022).

Although there are some differences in the way transversal skills are classified. They generally include skills such as collaborative problem-solving, digital competencies, learning to learn and continue to learn, initiative and independent thinking, adaptability, resilience, cultural awareness, expression (Whittemore, 2018); communication, teamwork, collaboration skills, planning and organizing, creativity, accountability, commitment to continuous learning, and client orientation (United Nations, n.y.); critical thinking, collaboration skills, communication skills, and innovation/creativity (The Ontario Public Service, 2016).

But evidence suggests the critical thinking, collaboration skills, communication skills, and innovation/creativity to be the core of transversal competencies (Trilling & Fadel, 2009; Kivunja, 2015).

To meet the challenges of the age of global technologies and economics critical thinking is a highly curial skill throughout life (Kivunja, 2015), it is the skill to solve problems (Stanford Encyclopedia of Philosophy, 2018). Critical

thinking possesses the ability to engage in reflection and reach a well-informed conclusion.

Collaboration skills are viewed by Trilling and Fadel (2009) as the ability to collectively make progress towards a common purpose or solve a common problem.

Communication skills involve giving and receiving different kinds of information (Maguire & Pitceathly, 2002; Tonekaboni & Nasiri, 2022), while creative thinking skills are the techniques used to approach an issue from different perspectives and develop a plan to evaluate it (Basadur et al., 2000; Alnamrouti et al., 2022).

Overall, transversal competencies are transferable and reusable skills that can be applied in a wide variety of situations and work settings, making them essential for success in the 21st century (Liu et al., 2021; Belchior-Rocha et al., 2022).

Results

The modern concept of education assumes that the teacher doesn't only have a subject and general pedagogical competency, but also universal ones. These skills are increasingly in high demand to successfully adapt to changes and to lead meaningful and productive life (MacKenzie & Polvere, 2009). Let's take a closer look at what transversal skills in teaching mean, and what necessary characteristics the teacher must have for effective professional activity and self-improvement.

In the regional study on transversal competencies in education policy and practice carried out by the leadership of UNESCO transversal competencies are defined as ones to include six domains: 1) critical and innovative thinking, 2) interpersonal skills, 3) intrapersonal skills, 4) global citizenship, 5) media and information literacy, and 6) others. The domain 'others' was created as a way for researchers to include competencies, such as physical health or religious values, that may not fall into one of the other (UNESCO, 2016).

Let's see these domains of transversal competencies in more detail.

Critical and innovative thinking. From a pedagogical point of view, critical thinking is a set of mental operations characterized by a person's ability to:

- analyze, compare, synthesize, evaluate information from any sources;
- see problems, ask questions;
- propose hypotheses and evaluate alternatives;
- make a conscious choice, make a decision and justify it.

Critical thinking is important for a teacher in organizing of the educational process. It helps to solve several important tasks: the selection of the content of educational material, the choice of forms and methods of organizing students' cognitive activity in the context of their personality development. When selecting

the material for the course construction, the teacher applies various elements of critical thinking, from the point of view of its reliability, relevance, practical utility, connection with other disciplines. It is thanks to the critical thinking of the teacher, who evaluates the material and builds the student's cognitive activity within the framework of this material, using various educational technologies and methods, that the traditional process of learning acquires individuality and becomes meaningful, continuous and productive.

Innovative thinking is the ability of an individual to possess systemic creativity, which ensures the birth of something new, the possibility of generating innovations that change the existing environment, the ability to look at the problem from different points of view, generate many ideas and possible solutions and improvise.

In teaching, creativity has always been an important aspect, but now it is gaining special importance, as it allows you to adapt to constantly changing conditions. Since teaching is an unpredictable activity, creativity is needed to deal with uncertainty. If the teacher is able improvise, adapt to the needs of students, be spontaneous, then he makes the most of all opportunities and get incredible results. A creative teacher has the ability to quickly come up with a large number of ideas; demonstrates flexibility in assessing problems and finding patterns, the ability to think outside the box, deepen and detail ideas, constantly absorb information, use various approaches to make learning more interesting, exciting and effective.

Interpersonal skills are often referred to as social intelligence. They include the behaviors and tactics that a person uses to interact effectively with others. The most relevant and valuable for the teacher are communication skills, teamwork, leadership, emotional intelligence, cooperation, sociability, collegiality, empathy etc.

New approaches to teaching dictate new requirements for the personality of the teacher, thereby educating teachers of a new generation, with a new type of thinking. Their task is to form a competent, social, successful personality. It is the teacher who has leadership qualities and abilities who can cope with the tasks. Today, a modern teacher is required to be competent in solving current and future problems. The main way to improve the quality of professional activity is a manifestation of leadership abilities, which means forming a comfort zone around oneself, developing students' desire for independent thinking, motivating them to understand the goal and the ways of its achievement, planning and organizing joint activities, responsibility for the results of the educational process, etc. The authoritarian style of teaching and interacting with students demonstrates ineffectiveness. The ability to lead helps to achieve mutual understanding and mutual respect between teacher and students; the ability to organize and direct teachers and students, both formally, and informally, increases the potential for learning.

Good communication skills are important for two reasons: to successfully convey educational information to students and to provide feedback. In order to teach students successful communication, the teacher should demonstrate communicative competence, implement the appropriate skills in life and professional situations. Developed listening, speaking, reading and writing skills are the hallmarks of a successful teacher. Communication skills are a necessary component of a person's leadership potential (Kovalchuk & Yermak, 2021).

Communication is a two-way process. It is both expressive and receptive. Teachers should be able to:

- listen and understand the thoughts and ideas of your students;
- express own thoughts clearly;
- be able to break complex tasks into easy-to-learn steps;
- be able to «read» the thoughts of their students.

The personalization of communication is equally important. A good teacher expresses sincere affection and interest in his students. Researchers emphasize that trusting relationship with students increases their motivation to learn. When the teacher-student relationship depends on the academic success of the second, this negatively affects the attitude to learning and interaction with others.

In order to establish effective communication, you need to get to know student's interests, character traits, perhaps even fears, find out what the student is uncertainty about, what he feels when faced with a difficult situation. It is important the student understands that he is communicated personally, and not with some "average student". The simple need to know a student by name, and, sometimes, by a nickname that has become closer to him, than a name is completely vital. The teacher cannot remain detached from the audience, indifferent, just those who gives knowledge. Sometimes it is worth talking to the audience in their language, learning the current vocabulary from modern sources of information. It is also important to celebrate the successes of your students and recognize their achievements, to emphasize their strengths. This is a great way to influence their learning.

In the modern digital world, communication has long gone beyond the "live". Effective communication today unthinkable without modern electronic means of communication. The use of technology makes communication accessible, easy, more understandable and closer to the modern student. Various messengers, allowing to exchange text, voice and video messages, stickers and photos, files of many formats, make video and audio calls, organize conferences, multi-user groups and channels, as well as the use of electronic educational platforms and programs for organizing videoconferencing has firmly entered the working environment of a modern teacher. So, the teacher should develop digital and media literacy to be a confident user.

It's necessary to note that the ability to work in a team is especially important in joint professional activities. It can include joint scientific work, solving

pedagogical problems, writing manuals and textbooks. Teamwork in the educational environment suggests that the team is not the sum of the efforts of several people, but a single whole, where each member of the group complements the other; knows the full extent of the situation and is aware of the goals, has a number of tasks assigned to him and is responsible for the implementation of each of them, is able to interact with other team members for the successful fulfilling the task. In teamwork, it is important that the general effect is qualitatively superior to the effect of the work of individuals.

Intrapersonal skills refer to a person's internal abilities and behaviors that help them manage their emotions, deal with challenges, and acquire new information. Such skills include self-discipline, self-awareness, persistence, flexibility, adaptability, self-motivation, compassion, integrity, and self-respect.

But it's worth to notify that it is emotional intelligence and adaptability that are of crucial importance for modern teachers.

In today's educational environment, teachers cannot distance themselves from students; they do much more than just teach their discipline. Teachers need to solve problems and be mediators, helping to reduce tensions between students (and sometimes and teachers). A favourable, comfortable educational environment is a condition that ensures the stable quality of the physical, mental and social health of the participants in the educational process by creating an emotional background that positively affects the development of the individual and reduces the adverse effects of other factors. To design such an environment, it is necessary to assess the real state of interpersonal relations in the pedagogical process, taking into account its components: pedagogical comfort, psychological microclimate, motivation, communications, management features of the socio-pedagogical educational environment. The teacher's emotional intelligence plays a major role in all of this. Developed emotional intelligence can help teachers perceive and be aware of their own emotions and what causes them, as well as constructively deal with them, demonstrate greater empathy for others, manage feelings for effective problem solving.

Adaptability is highly relevant to teachers given that "teaching work involves responding to and managing constant change" (Collie & Martin, 2016). The capacity to adapt in order to effectively manage these changes is crucial for teachers' work in the classroom, staff room, and beyond. To meet the changing needs of their students, teachers should be able to adjust their teaching pace, adapt activities to cater to different needs, and find alternative resources to explain key concepts effectively. They should also be able to regulate their emotions, exhibit patience, and come up with alternative solutions to unexpected situations in the classroom. Teachers should also effectively interact with colleagues under any circumstances, either when they require resources to teach a new part of the curriculum, or they need help to deal with a challenging student. Teachers must also adjust to the different priorities of a new principal or colleague, or calibrate to the style of a new teaching

aide in the classroom. Common change in most schools is connected with the changes in timetable that occur sometimes at the last minute. Moreover, teachers need to be ready to make changes such as halting a lesson midway or compacting content to manage time constraints. They are expected to be lifelong learners and incorporate their new knowledge into their teaching practice. Additionally, changes in curriculum or policy may require teachers to be adaptable.

Global citizenship. In the conditions of globalization and growing interconnections and interdependencies, there is a need to develop and spread a general ideology that would emphasize that, first of all, a person is a member of a global community of people, and not a separate nation. In order for the concept of a global citizenship and individual responsibility for the fate of the world community to spread and gain ideological strength, it should become a mandatory part of any educational program. Education with goals of global citizenship aims to development students' specific skills, knowledge and values, which will help to become conscious, responsible and active members of the world community.

By allowing their students to teach themselves, teachers can foster tolerance, respect for diversity, ethical and intercultural understanding, conflict resolution skills, democratic participation, respect for the environment, national identity, a sense of belonging, and other important traits. This not only helps create a more respectful atmosphere in the group, but can also help to communicate better with students from a variety of backgrounds.

Media and information literacy. National and international policy efforts are advocating that it has become essential for 21st century teachers to possess media and information literacy (MIL) – the set of competencies they need to critically evaluate information communicated through different multimedia sources (International Society for Technology in Education, 2015; BattelleforKids, 2019; Wilson et al., 2011).

A media-literate teacher has a knack for perceiving, considering, understanding and creating media information, assessing the socio-cultural and political context of the media functioning in today's world and skillfully uses mass media in professional activity. His key task is the systematic and competent education of young people, who must learn not only to use various media correctly, but also to understand the patterns of their behavior, to see how the media influence the personality. The teacher should also be able to teach students to think critically in the process of perceiving media products, to develop personal, evaluative attitude towards mass media products in general, based on ethical and aesthetic guidelines.

Additionally, it's necessary to stress that the ability to learn throughout life is more important for teacher than ever before. Exchange of knowledge and experience, as well as communication and learning from other teachers is an important part of the teaching process. Mastering some new knowledge and

acquiring new skills the teacher thereby gives students an example of effective learning.

Furthermore, an effective 21st century teacher should have his individual style which implies the orientation of the teacher to the process and learning outcomes, the adequacy of planning the educational process, efficiency in using means and methods of pedagogical activity. Intuitiveness, flexibility, caution, stability in relation to a changing situation, a stable positive emotional attitude towards students are also no less important dynamic characteristics of the teacher.

Conclusions

In conclusion, it should be noted that the 21st century changes in socio-cultural and economic situation caused changes in understanding effective teacher and his competencies. In order to be competitive in fast-changing and technology-driven world, the teacher should possess transversal competences, which combine knowledge, skills, abilities and values that can be transferred from one professional context to another. Transversal competences are generally considered as skills of the 21st century and are connected with the human ability to solve problems related to technological advances and intercultural communication, generate new ideas and possible solutions and improvise, interact effectively, be able to teamwork, leadership, reveal emotional intelligence, sociability, collegiality, empathy etc. Interpersonal and intrapersonal skills are considered especially important because of the many roles that a teacher can play.

Effective teachers are characterized by the presence of a certain set of positive personality traits, meaningful knowledge and pedagogical skills, combined with a deep understanding of their students and their learning needs.

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MOTIVATIONAL COMPONENT OF PEDAGOGICAL SKILLS' DEVELOPMENT OF FUTURE TEACHERS OF LABOR EDUCATION AND TECHNOLOGIES

Vasyl Kovalchuk

Oleksandr Dovzhenko Hlukhiv National Pedagogical University, Ukraine

Artem Androsenko

Oleksandr Dovzhenko Hlukhiv National Pedagogical University, Ukraine

Andrii Sherudylo

Oleksandr Dovzhenko Hlukhiv National Pedagogical University, Ukraine

Victoria Velychko

Alfred Nobel University, Ukraine

Abstract. *Relevance. The future teachers' motivation problem and value orientations as basic characteristics of readiness for the pedagogical skills development is one of the key issues in the conditions of professional training in higher education institutions.*

Objective: The article's aim is to substantiate in a theoretical way and experimental investigation the reasons, to disclose the set of values orientation of future teachers of labour education and technologies as development factors of their pedagogical skills.

Methods: theoretical: analysis of current psychological and pedagogical research on the development difficulties of pedagogical skills; generalization and systematization of approaches to the study of personal motivation and values; empiric: questionnaire according to the M. Rokych's method "Value Orientations", correlation of ranking results with A. Maslow's pyramid of values and needs; methods of mathematical statistics.

Results: Results: The essence of the "pedagogical skills" concept has been clarified. Based on the analysis of academic sources, the content of such categories as motives, motivation, values, and value orientations has been specified. The research method of the features of the motivational and value sphere for future teachers of labour education and technologies have been described. A qualitative and quantitative analysis of the distribution of value orientations of future teachers of labour education and technologies have been represented.

Conclusions: Founded on the study results, the priority groups of motives and values that are leading for those seeking education at this day stage of social evolution are identified, that is safety and comfort, health, interesting work, freedom and independence, productive life, development, and communication.

Keywords: *future teachers of labour education and technologies, motivation, pedagogical skills, professional training, values, value orientations.*

Introduction

Evidently, successful professional activity in terms of an information society presumes the constant development of professional thinking, creative skills, emotional intelligence, professional abilities, the capacity to solve tasks and problems productively and creatively, as well as an active intellectual activity and psychologically mobile in any situation (Kovalchuk, Prylepa, Chubrei et al., 2022).

The pedagogical skills consist of several components characterizing, on the one hand, the degree of a person's qualification, and on the other hand, the ability to productively cooperate with other people in the professional sphere. Successful cooperation largely depends on moral attitudes and norms of behaviour, motivation, value orientation of the individual, etc.

At first glance, the teacher's mastery reflects in the successful solution of one or another pedagogical task, in a high level of organization of the educational process, but, in fact, its essence lies in the teacher's personality traits which generate this activity and ensure its success (Ziaziun, Kramushchenko, & Kryvonos, 1997).

Undoubtedly, motivation and a valuable attitude to the future profession are the main components of the future teachers of labour education and technologies readiness for the development of professional activity in general and pedagogical skills in particular.

The significance of personality orientation is diverse. It depends, on one side, on the content of values chosen by the person, and on the other side, on the degree of assignment of these values. The individual value orientations are based on universal values, and the teacher or future teacher, as a representative of society, has to a corresponding focus on them (Brekhunets & Honcharenko, 2022).

For one's part, motivation is the most important characteristic of human activity reproducing such ways of the objective world transformation (or its symbolic equivalents to do), as a result of which new and more complex properties can be revealed (Kovalchuk & Prysiazhniuk, 2017).

The motives of the teacher's personality are the driving force of his independent activity and affect the process of acquiring the necessary professional qualities. A lack of purposeful motivation can be accompanied by a decrease in activity results, the development of a feeling of dissatisfaction with it, inadequacy of self-esteem, excessive psychological stress and, as a result, a decrease in the individual's desire for self-improvement and self-realization (Doroshenko, 2022).

Therefore, the substantiation of the motivational component as a basic and fundamental one in the structure of pedagogical skills of future teachers of labour education and technologies acquires of particular importance.

Theoretical Consideration

Founded on the analysis of a number of psychological and pedagogical works, it has been established, that at the current stage, the issues of future teachers' professional training and pedagogical skills development stay remain one of the most relevant for the pedagogical theory and practice (Androshchuk & Androshchuk, 2020; Ziaziun, Kramushchenko & Kryvonos, 1997; Kabysh, 2021; Kovalchuk, 2012, etc.).

When determining value orientations, the research of foreign and Ukrainian authors (Rokeach, 1986; Dolynska & Maksymchuk, 2008; Vecchione & Schwartz, 2016, etc.) was considered.

According to I. Ziaziun et al. (1997), pedagogical skills should be understood as professional quality, which ensures the organization of professional activity at a high level and on a reflective basis. The scientist proposes to consider pedagogical mastery as the teacher's discovery of his "I" and the manifestation of self-realization of the teacher's individuality during the performance of his professional duties, which ensures the overall development of the student's personality.

We took into account the structure of pedagogical skills worked up by I. Ziaziun. The scientist singled out a number of components. The key pedagogical mastery feature is the humanistic orientation. It implies the affirmation of the highest personal spiritual values by word and deed, observance of moral norms in behaviour, identification of the teacher's professional ideology and reflection of their valuable attitude to pedagogical reality wheresoever. The next component is professional competence (the teacher's awareness of the discipline they lecture, methods, techniques, and means, as well as age, psychological and individual characteristics of their students, etc.). Yet another component of pedagogical skills is abilities to carry out professional activities. They manifest due to the peculiarities of the course of the teacher's mental processes ensuring the success of pedagogical activities (Ziaziun, Kramushchenko, & Kryvonos, 1997).

The criteria of a teacher's pedagogical skills (according to I. Ziaziun et al., 1997) are expediency (by direction), dialogism (specifics of relationships with schoolchildren), optimality (specifics of the choice of means), productivity (by results), creativity (according to the content of the activity).

V. Kovalchuk (2012) considers the concept of pedagogical skills as a professional quality contributing to the self-organization of professional activity at a high level and on a reflective basis, enabling the achievement of planned results with minimal force and in the shortest possible time. According to the researcher, the structural components of this professional quality are technological culture, professional orientation, professional knowledge, pedagogical abilities and creativity, as well as a pedagogical technique.

Pedagogical skills are a means of expressing the teacher's professionalism characterising their capacity to organize professional and pedagogical activities and determining the effectiveness of the educational process (Androshchuk & Androshchuk, 2020).

From M. Kabysh's (2021) point of view, pedagogical skills are an integrative complex creation. The highly developed professional and pedagogical competence is its foundation that ensures a high level of individual self-organization in the process of pedagogical activity via the synthesis of values, qualities and knowledge, and individual experience reflecting in the original solution of professional tasks.

The researcher singles out such interconnecting and interrelation components in the pedagogical skills structure, among them motivational-value, cognitive, activity, personal-reflective, and creative-constructive ones (Kabysh, 2021).

Under the pedagogical skills of future teachers of labour education, we understand the professional quality that ensures the organization of professional activity at a high level and on a reflective basis (Androsenko, 2021).

In our study result, the components (*motivational, cognitive, activity, reflective* ones), and criteria (*motivational-value, cognitive, activity-technological, creative-reflexive* ones) of this quality development of future teachers of labour education and technologies have been singled out, as well as the levels of development (*low, medium and high*) have been described (Androsenko, 2022).

We believe the motivational component is key and fundamental in the pedagogical skills development context of future teachers of labour education and technologies. It is such personal formations as motives, values, and needs integrating into the motivational value system and acquiring dynamic potential, to increase the effectiveness of the process of pedagogical skills development and its effective realization in professional activity.

The concepts of "motive" and "motivation" are key to the analysis of personality and the structure of behaviour. In the scientific literature, motivation is most often understood as an urge to act, a set of psychological factors and reasons that determine and explain human behaviour, dynamic processes of physiological and psychological content that control human behaviour, determine its orientation, degree of organization, activity and stability. It is the individual's ability to satisfy actively their own needs.

Understanding the motive as an object in which a need is specified under certain conditions makes it possible to consider not only the dynamic but primarily the substantive aspect of motivation, clearly seeing in motivational phenomena the connections between the subject and the world, while the leading line of motivation involves the development of its subject content.

Over the past decades, both in the EU countries and Ukraine, the problem of values and value orientations of the individual has gained special relevance. The defined concepts are the object of research in the fields of Psychology, Philosophy, Sociology, and many others. This indicates their relevance, complexity, and versatility.

Within the scope of our research, we give credit to the scientific views of N. Zhigailo, who interpreted the phenomenon of values as "... what human feeling tells us to recognize as more important than anything else, and to which one can strive, treat with respect and recognition" (Zhigaylo, 2019).

Research by S. Schwartz proves that the basis for motivational processes is the system of individual values, which permeates human activity, consciousness, and the structure of the individual. S. Schwartz, revealing the motivational tendencies in the theory of dynamic relations between value types, concluded that values form an integrated motivational structure, they are connected in a general system with other variables such as attitude, behaviour, etc. (Schwartz, 1992).

L. Dolynska and N. Maksymchuk (2008) treat value orientations as a relatively stable, socially determined, selective individual attitude to a list of material and spiritual social goods and ideals, which are the goals and/or means of satisfying the individual's vital needs.

The content of value orientations makes it possible to characterize the meaningful side of an individual's direction. At that same time, the value orientations system determining the meaningful side of an individual's orientation acts as the basis of their attitude to the environment, themselves and other people and serve as a foundation for the formation of worldview and motivation (Dolynska & Maksymchuk, 2008).

Definitely, everything that is valuable to one person may be underestimated by another, and sometimes not considered valuable at all. Thus, it could be said that value is always subjective things.

We perceive the role of value orientations in the future teacher's formation in determining professional behaviour and ensuring the content and direction of their activities, and in filling professional actions with content.

Considering the fact that the motivational component is basic and fundamental in the development of pedagogical skills structure, the criterion for its formation should be considered the motivational and value readiness of future teachers of labour education and technologies to the pedagogical skills development. This criterion covers a set of motives, needs, value orientations and interests of future teachers and can measure by such indicators: persistent motivation and desire to master pedagogical skills; awareness of the necessity to enrich one's own experience including both modern educational methods, techniques, methodologies, technologies and the peculiarities of their use in future professional activity; valuable attitude to the teaching profession, recognition of its significance; the capacity to overcome stereotypes in pedagogical activity.

We are persuaded, these indicators are not manifested in isolation, but in various combinations and ratios. For instance, the requirement for innovation activates interest in modern knowledge in the labour training and technology area, from one's part the success of the teacher's innovative activity helps to overcome asperities, find new ways of solving tasks, and defend the importance of innovative approaches in actual pedagogical practice.

Consequently, the motivational component is the core around which the main qualities of the future teacher of labour education and technologies as a specialist are building up. After all, not only the success of their professional activity but also the students' educational results depend on how much the student is motivated to develop pedagogical skills.

Experimental Consideration

To reveal the formation of the motivational and value readiness of future teachers of labour training and technologies for the development of pedagogical skills, an empirical study was conducted among students of higher education in the specialty 014 Secondary education (Labour training and technologies) of full-time and part-time forms. The sample consisted of 65 Masters, 20 of them studying at Glukhiv National Pedagogical University named after Oleksandr Dovzhenko, 28 Masters were from Ternopil National Pedagogical University named after Volodymyr Hnatyuk and 17 Masters of Ternopil National University named after Yury Fedkovich. The average age of the survey participants is 24 years.

We chose the "Value orientations" (M. Rokeach) and "Pyramid of human needs" (A. Maslow) methods as diagnostic tools (Rokeach & Ball-Rokeach, 1989; Maslow, 1987).

According to the first method, respondents were offered two lists of values (18 in each), in which it is necessary to assign a rank number to each value and to arrange the cards in order of importance. Initially, participants of the experiment proposed a set of terminal values, and later – instrumental values.

Based on the results obtained with the use "Value orientations" method M. Rokeach, a rating of the most significant values of students was compiled.

The first place among students is given to values related to self-realization in future pedagogical activity: "interesting work" was rated as highly significant by 84% of respondents. The second and third places in the rating are occupied by the values "materially secure life" (75%) and "freedom as independence in deeds and actions" (73%). They have a relatively equally high value for the researched, i.e., material values and personal independence are equally important for students.

Values such as "having good and faithful friends" (70%), "health" (65%) and "love" (60%) have a fairly high rating among respondents. This choice reflects the peculiarities of youth, the urgency of the problem of intimate relationships

with the opposite sex. Separation from the parental family also plays its role here, many students come to study from other settlements.

Values such as "productive life" (55%), "active lifestyle" (50%), "cognition" (45%), "life wisdom" (40%) were ranked lower. Orientation to this group of values indicates that students are involved in the field of work, their views are directed to the future and everything that happens in the present is connected, first of all, with hopes for success.

In the ranking of unpopular areas, the first place is "beauty of nature and art", a minor number of students (12%) rate this value as attractive to them. Apparently, it can clarify by the fact that things giving benefits and convenience are now more valued, therefore aesthetic beauty and education are not given due to society's importance.

The value of "entertainment" (25%) is in the second place in terms of unpopularity. The third place among unpopular values is "happiness of others", 33% of students consider this sphere of life important.

In the hierarchy of instrumental values, ethical and communication values prevailed: "education" (80%), "high demands" (75%), "buoyance" (63%), "honesty" (61%). Such individualistic values as "strong will" (15%) and "intolerance to shortcomings in oneself and others" (12%), as well as "tolerance" (8%) turned out to be insignificant.

The obtained results determined the expediency of the creation and implementation of measures aimed at the motivational and value sphere development for future teachers of labour education and technologies, which were realised in the context of social-psychological training "Value Orientations of the Modern Teacher".

The purpose of the training is to expand and deepen the ideas of future teachers of labour education and technologies about the essence of the "motives", "values" and "value orientations" concepts, formation of motivational readiness for the development of pedagogical skills; development their critical thinking, attention, creative abilities, communication skills; the upbringing of a valuable attitude to the future profession.

The training program included:

- mini-lectures covering types of values and their significance in a person's life, the role of the teacher's value orientations in the student's personality formation, the structure of the individual motivational and value sphere, and something like that;

- group discussions on the topic "What qualities should a modern teacher possess?", "The role of the teacher in the formation of value orientations of modern schoolchildren", "The ideal teacher of labour training and technologies";

- pedagogical modelling which means playing out and further reconstructing the content of problem situations, modelling effective ways to solve them such as "Unfulfilled homework";

- role-playing games "I am a student", "One step forward who..." etc.;
- psychodramatic exercises, among them "My expectations", "Priorities and values", "Counterarguments", "Who am I?", "Life space", "5 steps to the goal";
- personal and group reflection of professional experience;
- independent activity in the creative homework form, e.g., writing essays, preparing messages, creating a mini-collage "My Values".

The completion of the design and approval of the author's program of work on the motivational and value sphere development of future teachers of labour education and technologies became a verification of its effectiveness.

All data that were obtained as a result of diagnostics of future teachers of labour education and technologies were processed and summarized in tabular form (see Table 1; Table 2).

Table 1 Rating of terminal values of future teachers of labour education and technologies (made by authors)

№	the name of the value	ascertaining stage		control stage	
		mean	rank	mean	rank
1.	active lifestyle	3,76	8	3,94	8
2.	life wisdom	3,38	11	3,46	12
3.	health	4,26	5	4,46	3
4.	interesting work	4,56	1	4,68	1
5.	the beauty of nature and art	2,31	18	2,63	17
6.	love	4,14	6	4,10	7
7.	materially secure life	4,54	2	4,36	4
8.	having good and faithful friends	4,36	4	4,32	5
9.	public vocation	3,04	15	2,96	15
10.	cognition	3,64	9	3,66	10
11.	productive life	3,98	7	4,26	6
12.	development	3,24	12	3,78	9
13.	entertainment	2,42	17	2,40	18
14.	freedom and independence in deeds and actions	4,52	3	4,56	2
15.	happy family life	3,52	10	3,56	11
16.	the happiness of others	2,90	16	2,82	16
17.	art	3,12	14	3,20	14
18.	self confidence	3,19	13	3,34	13

At the final stage of the empirical research, it was confirmed that in the process of purposeful work on the value orientations development via social and psychological training, positive changes in the motivational and value sphere of future teachers of labour education and technologies had occurred. Thus, among the terminal values, such as "interesting work" (85%), "freedom and independence in deeds and actions" (84%) and "health" (80%) were the most prioritized.

Table 2 Rating of instrumental values of future teachers of labour education and technologies (made by authors)

№	the name of the value	ascertaining stage		control stage	
		mean	rank	mean	rank
1.	neatness	3,52	14	2,98	16
2.	education	4,64	1	4,68	1
3.	high demands	4,60	2	4,52	3
4.	buoyancy	4,58	3	4,56	2
5.	diligence	4,26	6	4,28	7
6.	independence	4,32	5	4,46	4
7.	intolerance to shortcomings in oneself and others	2,86	17	2,88	17
8.	accomplishments	4,12	7	4,20	8
9.	rationalism	3,96	8	3,92	9
10.	responsibility	2,98	16	3,26	15
11.	self-control	3,34	15	3,56	14
12.	courage in defending one's own opinion, views	3,86	9	3,76	12
13.	strong will	3,68	13	3,70	13
14.	tolerance	2,44	18	2,50	18
15.	liberality	3,84	10	3,90	10
16.	honesty	4,42	4	4,40	5
17.	hard work	3,82	11	4,30	6
18.	keenness	3,74	12	3,78	11

The importance of "materially secure life" has decreased significantly; it had moved from the number of priority values to the list of values of medium importance (65%). Instead, the value of a "productive life" (55%) became a higher priority, as well as "development" (50%) and "life wisdom" (42%).

Among the instrumental values for future teachers of labour education and technologies, the most prioritized fell within "education" (82%), "buoyancy" (80%) and "high demands" (76%). Amongst the values of the average significance, such values as "independence" (65%), "hard work" (50%) and "responsibility" (40%) became more prioritized.

Foreshorten of our research has covered checking the priority of respondents' requirements by means of the A. Maslow's pyramid of needs. This method helps to explain the motivation of certain actions of a person, depending on their primary importance, since all actions that a person does are based on the importance of their needs.

In the classic version, the pyramid contains five levels: physical needs, safety and comfort, desire for community and participation in social life, personal values, respect and recognition in society, self-actualization and spiritual requirements.

We offered the research participants to rank the list of needs in order of their priority. The obtained results slightly modify the classical approach. Today, the following priorities for young people are safety and comfort (physical safety; economic safety; health; comfort) – 90%; personal values, respect and recognition in society (career; education, image; status in society) – 85%; participation in social life (communication; friendship; marriage and family; care for others; need for love and care) – 83%; physical needs (food; water; air; heat; rest; sleep) – 70%; self-actualization – 64%.

We assume that the key values identified by Masters according to the methodology of M. Rokeach (1986) and the pyramid of A. Maslow (1987) are the motives that determine readiness for the development of pedagogical skills.

Based on the research results that were received using the two mentioned methods, the motives that are a priority for future teachers at this stage of social development can single out, namely: safety and comfort, health, interesting work, freedom and independence, productive life, development, and communication.

Summarizing the set forth above, considering the distribution of terminal and instrumental values and their relation to the levels of Maslow's pyramid, it should conclude that Masters are motivated to the pedagogical skills development and possess a set of values necessary for the formation of this personal quality.

Conclusions

Having taken note of obtained data from conducted research, it should emphasize that the motivational component is key in the structure of the pedagogical skills development. The success of the development of this personal important quality for future teachers of labour education and technologies during their professional training process is largely determined by the motivation and awareness of the value of interesting work, cognition, development, and achievements.

The results of the empirical work confirmed that the development of the students' motivational and value sphere is a significant area of activity in higher pedagogical education institutions, and this fact supposes the create and implementation of a wide range of measures/

According to the results of the formative influence of the training course, among the terminal values, "interesting work" (85%), "freedom and independence in deeds and actions" (84%) and "health" (80%) were the most prioritized. The importance of "materially secure life" has decreased significantly, it has moved from the number of priority values to the list of values of medium importance (65%). Instead, the value of a "productive life" (55%) became a higher priority, as well as "development" (50%) and "life wisdom" (42%).

Among the instrumental values for future teachers of labour education and technologies, "education" (82%), "buoyancy" (80%) and "high demands" (76%)

were the most meaningful. Among the values of the average significance, such values as "independence" (65%), "hard work" (50%) and "responsibility" (40%) became more impact.

The priorities today in conformity with Maslow's pyramid for young people are security and comfort (physical security; economic security; health; comfort) – 90%; personal values, respect and recognition in society (career; education, image; status in society) – 85%; participation in social life (communication; friendship; marriage and family; care for others; need for love and care) – 83%; physical needs (food; water; air; heat; rest; sleep) – 70%; self-actualization – 64%.

Based on the research results that were received using the two methods, the motives that are a priority for future teachers at this stage of social development have been singled out. These are safety and comfort, health, interesting work, freedom and independence, productive life, development, and communication.

Realizing the goals of our research the socio-psychological training "Value orientations of the modern teacher" has been created and tested. Its content covers mini-lectures (types of values and their significance in human life, the role of the teacher's value orientations in the student's personality formation, the structure of the personality motivational and value sphere, etc.); group discussions: "What qualities should a modern teacher possess?", "The role of the teacher in the formation of value orientations of modern schoolchildren", "The ideal teacher of labour training and technologies"; pedagogical modelling (playing out and further reconstructing the content of problem situations, modelling effective ways to solve them, e.g. "Uncompleted homework"); role-playing games in following topics "I am a student", "One step forward who..." etc.; psychodramatic exercises: "My expectations", "Priorities and values", "Counterarguments", "Who am I?", "Life space", "5 steps to the goal"; personal and group reflection of professional experience; independent activity in the creative homework form, e.g., writing essays, preparing messages, creating a mini-collage "My Values". Proposed forming means to develop pedagogical skills proved their effectiveness, as evidenced by the results of a repeated survey of future teachers of labour education and technologies with the use of Rokeach's method and their comparison with the levels of Maslow's pyramid.

The prospects for further research we perceive in the study of the current state of formation of the cognitive component of the readiness of future teachers of labour education and technologies to the development of their pedagogical skills.

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COMPETENCE OF THE HEAD OF AN EDUCATIONAL INSTITUTION AND ITS MANAGEMENT POSSIBILITIES IN COVID-19 CONDITIONS

Inese Mikaskina

Rezekne Catholic Secondary School, Latvia

Iluta Arbidane

Rezekne Academy of Technologies, Latvia

Oleh Padalka

National Pedagogical Dragomanov University, Ukraine

Arvis Arbidans

Rezekne Academy of Technologies, Latvia

Abstract. *Competence of the head of an educational institution and its management During the Covid-19 pandemic, a large number of different legal acts and measures are required. They require a large amount of diligence and immediate action in the application of new regulations. All innovations require regular reporting on progress, thus adding to the workload of staff. The results of the research show that a modern school principal does not have enough only pedagogical competences, but at the same time must be both a leader who guides the team towards the goal, and a manager with a strategic vision, the ability to plan and implement these plans, in addition, one must be able to navigate legal acts and their application. The aim of the research: to study the competence of the head of an educational institution and its management possibilities in the conditions of COVID-19. Research tasks: to study the normative regulation of the education system; to perform the analysis of the competence of the head of the educational institution in the conditions of COVID-19; to study the impact of the measures and restrictions introduced by COVID-19 on the management context of the educational institution; summarization and analysis of the obtained survey data. Research methods: scientific literature, internet sources, documents and statistical data research, data processing and analysis of the results of the survey data.*

Keywords: *competence, Covid-19, educational institution, head.*

Introduction

At the time of the spread of Covid-19, the organisation of school work was affected by a large number of different pieces of legislation and conditions that required a great deal of quick understanding and action. All the innovations

involved regular reporting on progress, the need to acquire and apply new competences, which put extra pressure on both teachers and the head of the institution. The use of the competences and leadership skills of the head of the institution became an essential prerequisite for the successful organisation of work in the COVID-19 environment. The successful management of an educational institution in specific circumstances depends to a large extent on a set of managerial competences, which are most often not related to pedagogical competences. Looking at the ongoing processes in society, it can be concluded that the COVID-19 conditions are only one of the aspects that will influence the future organisation of managers' work, creating various special and exceptional circumstances in seemingly mundane processes. The head of the institution and his/her ability to apply different competences plays an important role in influencing the results to be achieved and possibly ensuring the quality of the educational institution.

The aim of the research: to study the competence of the head of an educational institution and its management possibilities in the conditions of COVID-19. Research tasks: to study the normative regulation of the education system; to perform the analysis of the head of the educational institution competence in the conditions of COVID-19; to study the impact of the measures and restrictions introduced by COVID-19 on the management context of the educational institution; summarization and analysis of the obtained survey data. Research methods: scientific literature, internet sources, documents and statistical data research, data processing and analysis of the results of the survey data.

Review of the Literature

The term "competence" has many different meanings, definitions, spellings and at least two main approaches to understanding it (Tilde dictionary). Boyatzis (2007) states that competencies are behavioural characteristics of an individual that are causally related to effective or excellent job performance. A study of the scholar's work reveals that the concept of competency-based HR has been known and practiced for more than 35 years, since McClelland (1965) first proposed them as a critical differentiator of performance. Today, almost every institution uses some form of competency-based HRM.

Danvila del Valle, Ángel Sastre and Marroquín (2013) research has shown that the ability to predict the performance of a leader, manager or professional depends on several competences, which can be divided into three categories:

1. Cognitive intelligence competences such as thinking systems.
2. Emotional intelligence competencies or internal skills such as adaptability.
3. Social intelligence competences or interpersonal skills such as, networking.

The concept of competence was originally defined as the ability of individuals to respond to the demands of their environment, and this ability gives a sense of satisfaction or effectiveness. The differences in the understanding of each concept are based on the aspects that are the focus of the respective approach, where the former focuses on the inputs that lead to effective job performance and the latter on the outputs, hence the former are referred to as behavioural competences and the latter as performance-based competences. In simple terms, the former are about the person doing the work, and the second about the work and its parameters. Different approaches, often considered to be the American and British approaches to developing competency models (Horton, 2002). In 1993, Dubois (2004) adapted interpretation of the concept of competence and defined competence as the core qualities that "lead to successful performance in one of life's roles". D. Dubois (2004) described competences as "the tools that employees use in different ways to get the job done". A variety of methods are used to identify competences, which are used to identify the most important requirements for a particular job group or unit. They can only be ascertained once the job components (e.g. duties, tasks, working conditions, means of work, etc.) have been identified. The choice of a specific method for competences is a strategic decision. Dubois (2004) in his study of the competency model, states that it is a collection of competencies for a particular job category that are required for successful or excellent performance in a team or institution. There are different types of competency models, such as competency models that describe the differences between excellent and successful employees, that identify the minimum requirements for success, and models that identify possible reasons for failure. The structure of the competency model, the way it is presented to staff and the way it is applied in practice can be said to reflect the values of the institution's decision-makers and managers. According to Horton (2002), in the 1930s, with the emergence of scientific management and human relations in schools, the question of how best for the manager to lead and motivate the institution's employees became a focus of interest for academics and practitioners.

Latvian researcher Upenieks (2008) believes that Latvia has not developed a unified approach to the issue of competences required of educational leaders. The head of an institution must be able to organise and manage staff. Currently, there are two different approaches - the traditional approach to personnel management and the competence approach to personnel management. Both approaches cover different areas such as rationale, main reasons for the approach, main challenges, HRM functions, HR planning, recruitment and selection, training, performance management, reward management, employee development, etc. Each area involves both a traditional approach and a competency approach.

A comparison of HRM approaches shows that there are some differences between the traditional approach and the competency-based approach, as traditional HRM is based on job analysis and job descriptions, while the

competency-based approach helps to identify the qualities that make an employee successful or excellent in their job.

Cabinet of Ministers' Regulations Nr.618 (Latvijas Republikas Ministru kabinets, 2020b) determine the procedure for the evaluation of the professional performance of the head of an educational institution. The national information system of the Electronic Evaluation Form (<http://www.ikvd.gov.lv>) is used as a tool for the evaluation of the head of an educational institution. The self-assessment form for the head of an educational establishment must be completed and approved no later than two weeks before the expert panel starts work in the educational establishment.

Table 1 Framework for the evaluation of the professional performance of the educational institution, the educational programme and the head of the educational institution (RD IKSD, 2019)

Field				
Alignment	with	Quality learning	Inclusive environment	Adequate management
Criteria				
Competence and achievements	and	Teaching and learning	Availability	Administrative efficiency
Further education and employment		Professional capacity of teachers	Safety and psychological well-being	Management professional activity
Equality and inclusion	and	Implementation of education programmes	Infrastructure and resources	Support and cooperation

Quality assessment in education should ensure regular, independent, objective and valid quality assessment in all areas of quality. The authors consider the objectives of evaluation to be important in providing objective information and data on the compliance of an educational institution's performance and curriculum delivery with legislation and best practice, in determining the level of quality of performance, in monitoring the quality of education, and in supporting innovation. The guiding principles of quality education evaluation are results orientation and efficiency, participation and ownership, accessibility and modernity, regularity and continuity, objectivity and human centredness.

The evaluation criteria are management professional activities, which assess the knowledge, skills and competences of the head of the educational institution required to ensure a high quality and effective management process, as evidenced by the quality domains of each educational institution. The evaluation criterion shall take into account indicators that assess the knowledge, skills and competences of the head of the educational institution in the areas of justice, leadership, management, effective and respectful communication, quality of

education, educational development and/or sector policy, as well as the ability of the head to provide and receive professional feedback, ensuring the transition of the educational institution to the core principles of the learning organisation in management. In line with the principles of the new School 2030 curriculum, the activities of educational institutions are decentralised and the founder's responsibility for the quality of education is increased. The responsibility of the school as a learning organisation for the achievement of objectives, quality education, an inclusive environment and effective governance increases significantly. The educational leader and his/her competences are a key factor in the management of an educational institution. LeFrevre and Robinson note that crisis management and basic management knowledge are important for managers of an institution (LeFrevre & Robinson, 2015). This determines the degree of leadership as a collective effectiveness. The Covid-19 circumstances created additional responsibilities and tension in educational institutions and the actions to be implemented by the heads of these institutions in accordance with the changes in legislation, which were not acceptable to some teachers.

On 12 March 2020, a state of emergency was declared by the Cabinet of Ministers by Order No 103 with the aim of limiting the spread of Covid-19 (Latvijas Republikas Ministru Kabinets, 2020a). The Cabinet of Ministers Regulation stated that a teacher should plan the development of his/her professional competence in cooperation with the head of the educational establishment where the person carries out his/her teaching activities. This means that the head of the educational establishment is responsible for the implementation of professional competence development in the educational establishment.

Research results

The research methodology is based on the work of A. Geske and A. Grinfeld (Geske & Grīnfelds, 2006), Dz. Albrehta (1998), P. Agliati, P. Barriga, A. Cifuentes et al. (2020) and other authors, as well as the theoretical framework developed by the working group of the subject standards component of the Education System Development Project of the Ministry of Education in planning, conducting, processing and interpreting the results of educational research.

The study involved a questionnaire survey of heads of 37 Latvian comprehensive schools. The survey was carried out in the period from May 2022. The questionnaires were completed by 37 heads of educational institutions from all regions of Latvia. 28 women and 9 men took part in the survey. The age and gender statistics of the respondents allow us to identify central tendency indicators of the empirical distributions. In Latvia, most educational institutions are headed by women, the arithmetic age of the respondents is 28 years, while the arithmetic age of men is 52 years. The high proportion of women among the staff also

determines the predominance of women among the heads of educational establishments. 34 heads of educational establishments were reported to have a Master's degree. 24 respondents indicated that their current job is in a secondary school or gymnasium. Accordingly, 8 respondents were supervisors in a secondary school and 5 respondents were in a primary school.

The survey shows that the majority of heads of authority have been in their post for more than 10 years. This in turn indicates that experience and best practices are acquired over time from other heads of institutions, which provides opportunities to improve the organisation and development of their institution. Nine respondents have been in the post of head of an institution for a period of 5-10 years, which is also noted as a relatively long-term and experience-determining factor. Thus, 31% of respondents are relatively new leaders of educational institutions, whose early years of leadership are still within living memory and whose experience of leading an educational institution is still developing. In terms of the time when an educational institution has been managed from 1-5 years, 5 respondents have checked the following. Most of the respondents started their career as educational institution managers when they had accumulated some experience in the field of teaching. It cannot be denied that those with more than 10 years of experience are working in different fields, not only in pedagogy.

In response to the question "What motivated you to become the head of an educational institution?" Trends in the motivation of educational institutions to take up the post of head can be observed. The author considers that the position is not correct for the observation that 17 respondents indicate that they accepted their current position because they were persuaded to accept it. This in turn suggests that it was not their own choice, but a method of persuasion at work. On the other hand, 11 respondents indicated that they wanted opportunities for personal career development, so they prepared early and applied for the vacancy and got it. In addition, 4 respondents had their career development opportunities affected by a change of residence. External motivation - persuasion, recommendation, promotion, election, as well as domestic - dominated the responses.

The questionnaire asked the heads of educational establishments to identify the solutions they consider to be the most important when taking up the role of head of an establishment. It can be concluded that the most important for the 34 respondents was the introduction of new solutions in the internal working procedures of the educational institution. However, 11 respondents indicated that new solutions were also needed in the recruitment of support and technical staff. Nine of the respondents pointed out the need for changes in the organisation of internal order, as well as in the image of the school. This suggests that the responsibilities are mostly related to the application of managerial competences rather than pedagogical competences. When analysing the competences required for the performance of duties, 67% of respondents indicated that an understanding

of financial management and dealing with economic issues (72% of respondents) were essential for carrying out day-to-day duties. The most important challenges are: preparation of development plans, planning repairs and reconstruction works, preparation of budgets.

Covid - 19 in a context where compulsory vaccination was required for teachers, some staff and school teachers refused. This was a major challenge for school managers to find and attract new staff in an emergency situation. The survey results show that 79% of respondents were faced with finding and recruiting staff to meet the curriculum.

School leaders identified a lack of legal and administrative knowledge as a major weakness in their performance appraisals. This was noted as important by 88% of respondents. Respondents identified the need to improve their knowledge of labour and occupational safety legislation. 76% of respondents identified the need to improve organisational skills in crisis and emergency situations as important, while 68% of respondents identified the need to improve presentation skills.

The results of the question "Where do school leaders seek help to resolve unclear issues?" showed that 89% of respondents learn by themselves or by consulting relatives, friends, acquaintances and only 5% said they consulted their previous head or colleagues and 6% sought support from the education authority.

The survey asked for the most problematic aspects of school management in the Covid-19 context that have required special attention from the Head. As a result, it can be concluded that in the performance of their duties, leaders need to be able to deal with a wide range of issues related to different areas. The most important are:

- Lack of information on the right way to go when introducing new solutions;
- Lack of support from senior management and colleagues;
- Teacher burnout syndrome;
- Increased workload and lack of time;
- Decision-making in a short time and with limited resources;
- Loss of motivation for teachers and pupils;
- For teachers, many of the activities are not explained, which makes them more time-consuming because they have to be self-taught;
- Lack of communication between different groups in society;
- Resource constraints, including human resources.

The results of the study show that in the Covid-19 context, the introduction of various conditions and constraints created additional workload for the school leader. 53% of respondents confirmed that on average 6-10 hours per week were spent on various Covid-19 related issues, while 42% of respondents spent as much as 11-15 hours per week on these activities.

Conclusions

Educational leaders have to take a number of decisions in different fields on a daily basis. Heads of schools are teachers who act as leaders. These functions require not only pedagogical competence, but also a range of other competences that need to be applied in their daily work. Every change and emergency situation requires quick, responsible action and the application of a wide range of knowledge in different areas, such as law enforcement, communication, record-keeping, etc.

In the Covid-19 environment, school leaders felt the extra strain of additional work on various issues. The introduction of the emergency conditions made it necessary for school leaders to put into practice various management competences which are not used in everyday life and which are not always acquired by school leaders during their education. According to the survey results, the acquisition of management competences is most often in the hands of the managers themselves, or can be acquired through self-learning.

Based on the results of the study, it can be concluded that school leaders, in order to perform their duties effectively and successfully, would need to acquire additional competences related to communication changes and crisis situations, organisational, resource management competences and legal competences. A comparison of the competences required from school leaders and what is needed in practice shows that management competences (including financial, legal and organisational) are important for school leaders to carry out their daily duties and especially to deal with emergency situations.

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Mikaskina et al., 2023. Competence of the Head of an Educational Institution and its Management Possibilities in Covid-19 Conditions

SKOLAS PEDAGOGIJA
School Pedagogy

HUMANITARIAN FOUNDATIONS OF THE CONTENT OF EDUCATION AT RIGA CLASSICAL GYMNASIUM IN THE CONTEXT OF THE “EUROPEAN DIMENSION IN EDUCATION”

Roman Aliyev

Riga State Classical Gymnasium, Latvia

Zoja Chehlova

University of Latvia, Latvia

Mikhail Chehlov

Riga Social Service, Latvia

Ingrida Kevisa

Latvian Academy of Culture, Latvia

Abstract. *In the 21st century, humankind has realised that the future of civilization is related to the development of education. A person capable of acquiring knowledge and applying it creatively, as well as being able to participate in the process of creating and using new knowledge, can only be prepared by an effective future-oriented system of education. Novelty of the research refers to the development of the structure of the content of education in the gymnasium as the relationship between didactics (knowledge and skills) and culture. Culture is viewed as the interconnection of three cultures: social experience (universal human values), the culture of a student, and the culture of a teacher. Research problem is the determination of the essence and structure of the content of education in the gymnasium in accordance with the new humanitarian paradigm of education as the relationship between didactics and culture, the basis for the development of student's personality. The aim of the research is to analyse the humanitarian foundations of the content of education in the gymnasium in the context of the “European dimension in education”. The research method is theoretical analysis. The results of the research are as follows: the humanitarian foundations of the content of education in the gymnasium have been determined; the essence and structure of the content of education have been elaborated. On this basis, an effective system of profile education has been created for the development of student's personality as a future professional and a European citizen having moral values. The present study leads to the conclusion that the humanitarian foundations in the content of education correspond to the “European dimension in education”.*

Keywords: *democratization, humanitarian approach, humanitarian model, humanization.*

Introduction

The topicality of the research is related to global trends in the development of human society in the field of education. In the 21st century, humankind has reached the conclusion that the future of civilization is related to the development of education. A person capable of acquiring knowledge and applying it creatively, as well as being able to participate in the process of creating and using new knowledge can only be prepared by an effective future-oriented system of education. New knowledge quickly becomes obsolete in a society characterized by mobility, multiculturalism, and multilingualism. Therefore, faster development of education becomes the main pre-condition for the transition of civilization to a new level of quality.

The research problem concerns the content of education in the gymnasium, developed in accordance with the new humanitarian paradigm of education, where the structure of the content of education is viewed as the relationship between didactics and culture, the principles for the creation of education content: humanization, humanitarian approach and democratization substantiated in contemporary didactic theories (Čehlovs, 2011; Neimatov, 2002), the interdisciplinary approach as the interrelationship of various school subjects (Alijevs, 2005), the creation of a system of profile education on this basis, the development of the personality of a gymnasium student in this process, and educating a European citizen, a person possessing high moral values.

The aim of the research is to analyze the humanitarian foundations of the content of education in the gymnasium in the context of the European dimension in Education.

The novelty of the research refers to the following: the structure of the content of education has been defined as the relationship between didactics (knowledge and skills) and culture. Culture is viewed as the inter-relationship of three cultures: social experience (universal values), the culture of a student and the culture of a teacher. The creation of a system of profile education is regarded as the basis for the development of a future professional and a citizen of Europe.

The research was based on the culturological approach and the personal activity approach. The research method is theoretical analysis.

European dimension in education: reorganization of the traditional educational system

The development processes in new Europe entrusted educators with the task of preparing people who will live in the expanding system of pan-European cooperation, intensive exchange of information and the products of human labor. The universal cultural values reflected in the legislative documents that underpin the educational policy in Europe constitute the basis for cross-cultural interaction.

Thus, Article 149 of the Treaty Establishing the European Community (European Union, 2002) and the Charter of Social Rights, amended by the Council of Europe in 1989 (Council of Europe, 1996) speak of a common policy in secondary and vocational education, of the centralization and decentralization of the system of education. The Treaty Establishing the European Community uses the term “European dimension in education”. The European dimension in education primarily refers to a new experience that stimulates new orientations in education and is implemented by all European partners. It is based on the values and methods of active and alternative pedagogy, research in social psychology, anthropology, and communication sciences.

General characteristics of the European dimension in education are openness (to other levels of education, social environment, contacts, and connections), expansion of partnerships (formation of an educational community), and improvement of the quality of education, considering international evaluation criteria, etc.

The key features of European education also include the development of individual’s moral values and qualities in the democratic society, the development of an active creative personality, the development of technological culture as part of individual’s general culture, the important role of child’s personality in education, and the spread of the ideology of homocentrism (Ross, 2003).

The content of the European Dimension in Education

The content of the European dimension in education manifests itself in three postulates adopted in the concept of European education.

The first postulate suggests that a student is an active subject with individual features, abilities, and aspirations inherent only to him/her. This is a person who discovers and creates culture in the society where he/she lives, independently shaping himself/herself and becoming a free citizen. The task of education and upbringing is to teach the young person to change the conditions of life, to improve them, not to accept them passively as a gift from the previous generations.

The second postulate proclaims that the socialization of the individual takes place in a multicultural society characterized by diversity and interdependence. The classical definition of culture as the totality of the social conditions of the environment transmitted from generation to generation in the form of beliefs and values, through language and other systems of symbols (Matsumoto, 2007; Ross, 2003) becomes insufficient. In the European concept, contemporary culture is a set of interacting cultures, a space of human coexistence.

The third postulate shifts the emphasis in the process of “learning-teaching” from the teacher to the learner and declares real life and direct experience to be the first sources of modern learning. Thus, learning should be closely connected with contemporary life; it should be an active and collaborative process. Human personality is total and is not limited to knowledge and erudition.

The existing system of education, however, is mainly focused on obtaining knowledge, on the formation of a specialist rather than on the development of personality. In this case, education is really reduced to learning without feedback. This leads to the conclusion that it is necessary to refute the postulates of traditional pedagogy like authority, discipline, and competition and accept new modern ones: freedom, activity, and collaboration.

Reorganization of the traditional system of education

Reorganization of the traditional system of education is associated with a crisis in education. According to the European concept (UNESCO, 1998), the characteristic features of the crisis in education are as follows:

- the crisis of education is rooted in its dehumanization, in isolation from human values;

- another reason for the crisis in education is the predominance of the traditional, i.e., informational approach in education, the main focus in which is the transfer of knowledge to students, which results in a passive audience alien to creativity;

- according to the European concept, the goal of education is the development of the individual and the stimulation of creativity, especially creative thinking, orientation towards education in the full sense of the word, while traditionally teaching comes first.

The way out of the crisis can only be based on the humanistic paradigm of education. Humanization is a socio-cultural position that proceeds from the priority of a human being as the highest value, which implies the restructuring of entire culture, and hence the education system, in the direction of homocentrism.

In this respect, the humanitarian approach to education is very important. The humanitarian approach to education is humanism in action, aimed at overcoming technocracy, the destructive impact of which on culture has become obvious. The essence of the humanitarian paradigm is in the organic combination of professional training and education. After all, education is the development and nurturing of personality, and teaching is a means to achieve this goal (Senko, 2000).

Changing the paradigm of education

A change in the paradigm of education is inevitable in the changed conditions of life. The essence of this change is the transition from a person as an object of education (a passive receiver of information) to a person being a subject of education, capable of self-education. The new paradigm of education involves the transition from the utilitarian pragmatic goals of education as a set of knowledge and skills necessary for successful participation in the production process to the humanistic goal – to the subject and his/her personal development.

The implementation of this goal involves other mechanisms – not just the acquisition of the socio-cultural experience of humankind, which is very important, but also the self-formation of personality and its self-actualization through the production of experience (knowledge), which has a dual nature: the individual-personal and socio-cultural experience of humankind (Ross, 2006; Chehlova, 2006). It is important that this reorientation inevitably leads to the humanization of pedagogy itself, which considered science as the main value of education for a long time. The new pedagogy should focus not only on science, i.e., the rational way of cognizing the world, but also on culture in its entirety. The focus on the synthesis of didactics and culture is seen as the essence of the new paradigm of education in the gymnasium.

The modern concept of education at Riga State Classical Gymnasium in the context of the European dimension in education

Riga State Classical Gymnasium is an institution of secondary education in the Republic of Latvia. It is an educational institution that provides an opportunity to obtain secondary education in accordance with student's creative abilities, the needs of society, the state of Latvia, and the European Union. The activities of Riga State Classical Gymnasium are conducted based on the principles of humanism, science, creativity, and democracy, in accordance with the General Education Law of the Republic of Latvia, and the concept of the European dimension in education

developed by joint efforts of experts from the European Union and the Council of Europe.

In accordance with the European dimension in education, the aim of education in the gymnasium is to develop a person who will become a European citizen and a professional: a person with high moral values, professing tolerance and pluralism, appreciating the cultural heritage of community, a participant in the process of European integration, a creative and cultural personality.

The objectives of education at Riga State Classical Gymnasium are as follows:

- education of universal moral values;
- acquisition of the Latvian national culture, its traditions and heritage;
- mastering the cultural heritage of Europe and world cultures;
- identification and development of the creative abilities, talents and spiritual interests of gymnasium students;
- the presence of an “I-image” which combines the European and national identities;
- education of democratic and moral ideals (tolerance, understanding, and solidarity), as well as the ideals of the European community;
- being active and creative;
- being able to adequately assess the situation and make a decision;
- collaboration, working in a team, exploring;
- being the subject of democratic relationships and conscious civic activity (having qualities of citizenship) (Alijevs, 2021).

The content of education in the context of the new humanitarian paradigm of education

The concept of education has been elaborated based on contemporary scientific ideas and in accordance with the European dimension in education. The development and upbringing of a personality in accordance with his/her potentialities is the main factor underpinning the content of education. The structure of the content of education is analogous to social experience and, apart from knowledge and skills, it also includes culture. According to the European concept, contemporary shared culture integrates humanistic, technological, and scientific components. Shared culture is characterized by openness and breadth. It includes moral values, the experience of creative activity, and the experience of emotional value relationships. The structure of the content of education in the gymnasium represents the relationship between didactics (knowledge and skills) and culture (Ross, 2003; Čehlovs, 2011).

The content of education as a relationship between didactics and culture is presented in the humanitarian model of education.

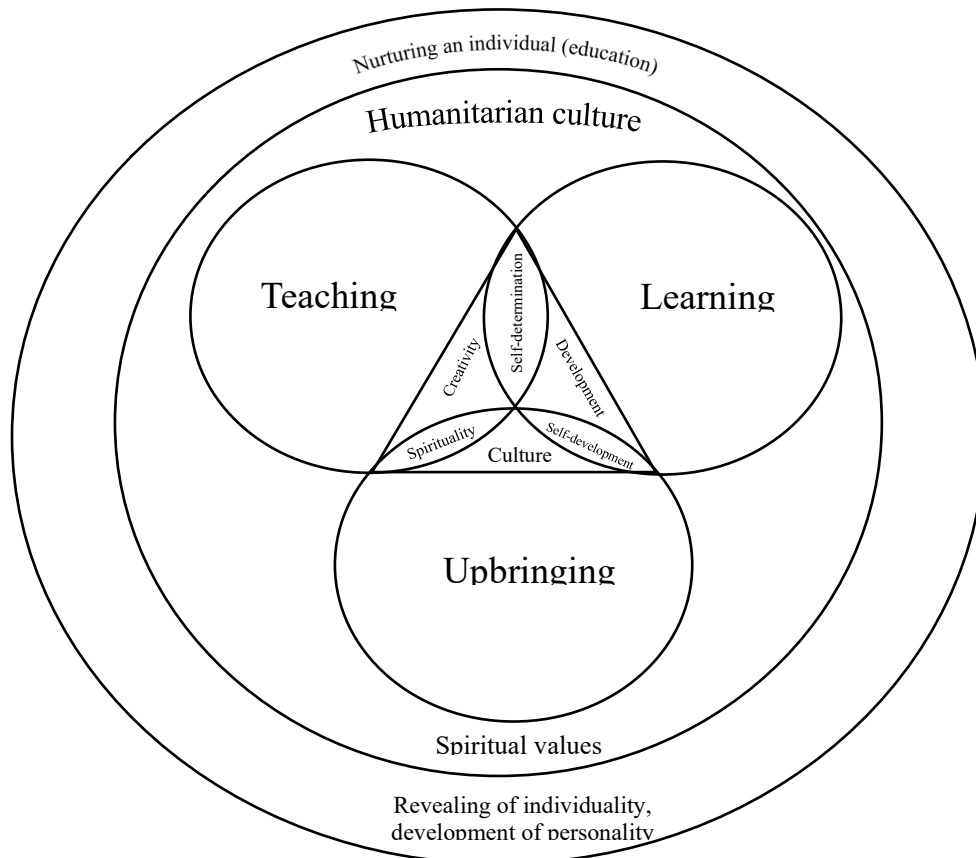


Figure 1 **Humanitarian model of education** (Čehlovs, 2011)

The humanitarian model of education reflects the key relationship of the educational process “teaching-learning”. Teaching and learning are two essential aspects of education that define its main didactic context. The connection between teaching and learning occurs in the field of humanitarian culture and is based on spiritual values. A dialogue is a necessary pre-condition for the joint creativity of a teacher and learner. In the dialogue, the rigidly fixed social roles of the teacher and learner disappear. It results in the revealing of individuality, the development of personality, and the upbringing of a person (Čehlovs, 2011).

The content of the educational process is presented as the relationship of three cultures: social experience (moral values), the culture of the student and the culture of the teacher.

The cycle of educational activity

The humanization of education as an approach to its construction requires the analysis of not only statistical, but also dynamic relationships between its components. The most important principle in creating the content of education is the unity of the content and procedural aspects of education. On this basis, the cycle of educational and cognitive activity was developed, representing the procedural interrelationship between teaching and learning (the activities of the teacher and the activities of the learner). Analysis of the cycle of educational activity helps both the teacher and the student to better understand their own activities and contributes to their effective implementation.

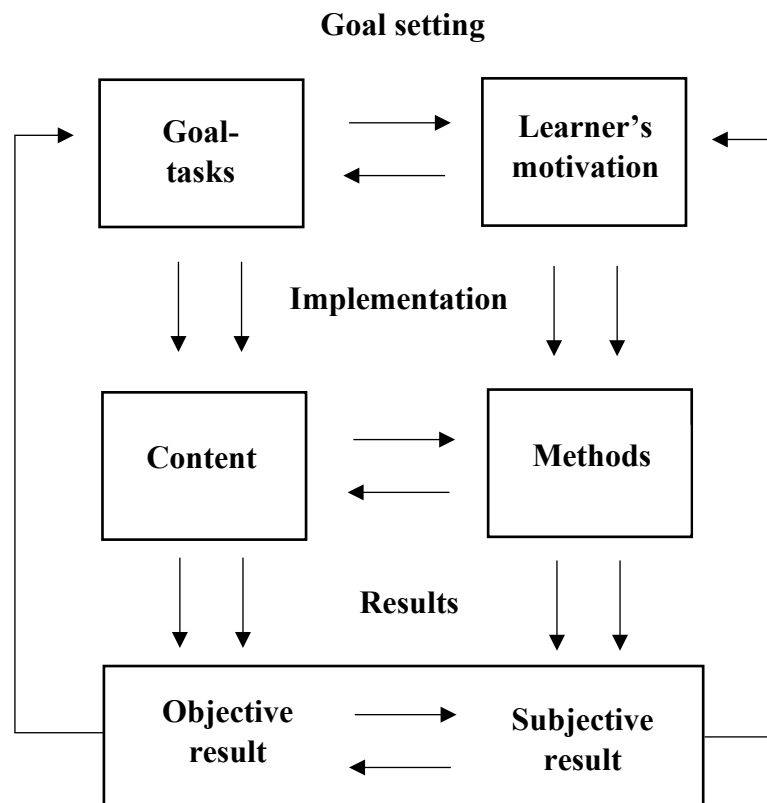


Figure 2 *The cycle of educational activity* (Čehlova, 2002)

Principles of designing the content of education in the gymnasium

Jan Amos Comenius proposed the general principle of the content of education - “the principle of the nature of conformity”, i.e., the content of education should correspond to the nature of the child. This allowed Comenius to determine the purpose of school “to be a workshop of people”, a “workshop of humanity, where

people become the people who are wise in mind, moral in their actions, and pious in their heart” (Komenskij et. al., 1988).

The leading principle is the correspondence of the content of education in all its elements and at all levels to the age characteristics of learners, their needs for self-development and the development of their individual potential. This principle means that the place and functions of each school subject are primarily determined by the principal goal – development of the personality of gymnasium students in all richness of their inner world, in accordance with their main self-determination tendencies.

The most important principles in constructing the content of education are the unity of the content and the procedural aspect of education, the principle of the correspondence of the content of general secondary education at all levels to the requirements of society, the modern principles of humanization and democratization.

The humanization of education in the gymnasium presupposes an emphasis on universal human values in the content of education, the facilitation of the acquisition of world culture, as well as the promotion of universal and national values. The humanization of education is a shift towards a person (a learner and a teacher) with the aim of developing personality as a whole rather than just knowledge and skills. This does not mean complementing the existing system of education but its radical transformation. In the gymnasium, humanization is implemented through the consistent individualization of the entire pedagogical process, considering the individual characteristics of the gymnasium students and individual characteristics of the personality of teachers.

The humanization of the educational process is underpinned by a number of conditions:

- ensuring the unity of emotional, creative, social and moral foundations in the content of education;
- free communication of the participants in the educational process;
- freedom to choose the content, methods and forms of activity;
- the subjective position of a gymnasium student in the process of learning;
- freedom of choice regarding the educational profile.

These conditions were implemented in the gymnasium through the organization of variable profile education based on the elaborated content of education in all departments.

The humanitarian approach to education involves a turn to humanitarian issues, to humanitarian culture with the person and his/her problems at the center. It implies the use of the humanitarian layer in the general scientific and technical disciplines (McCorkindale, 2018). The humanization of education makes it possible to overcome tendencies towards technocracy. The humanization and humanitarization of education in the gymnasium are ensured by focusing on contemporary European

culture and world culture, history, and spiritual values. The humanitarian approach to education is humanization in action (Neimatov, 2002; Senko, 1998).

Democratization involves mutually interested and creative collaboration between the teacher and learners, the development of their initiative and creative activity, and the involvement of parents in tackling issues concerning the development of the gymnasium. Democratization implies the emancipation of pedagogical processes, changing their very essence based on mutual understanding, trust, and collaboration. The gymnasium teachers are provided with the conditions for creative planning and organization of work, free choice of forms, methods and means of pedagogical activity, as well as the involvement of the gymnasium students and parents in this activity. Democratization involves the creation of the most favorable conditions for the identification and development of the abilities of each gymnasium student and for their self-determination, proceeding from the need for deeply humane relationships between teachers and students based on mutual respect. It implies teacher's concern for the development of the personality of each gymnasium student, for satisfying their interests and needs.

The principle of democratization is based on collaborative pedagogy. Only in the process of collaboration are gymnasium students able to reveal their potential and abilities and develop their desire for self-education. In the conditions of collaborative pedagogy, the most common forms of work and methods used in the gymnasium are those that develop critical thinking, introspection, and a creative approach to learning. The process of learning involves the formulation of problems, their creative solution, finding ways to overcome contradictions, the formulation of judgments and evidence, as well as the use of various research methods.

To implement the content of education in the gymnasium, three types of pedagogical strategies were identified:

- the first type of strategy is characterized by an orientation towards the development of the integral qualities of the personality of gymnasium students as modern citizens of united Europe;
- the second type of strategy is focused on expanding, improving and enriching the social experience of gymnasium students (mobility, tolerance, multiculturalism, multilingualism);
- the third type of strategy is characterized by an orientation towards the interests of gymnasium students, elevating them to the level of value orientations and simultaneously enriching the experience of self-knowledge, self-determination, and self-actualization. The professional orientation of gymnasium students is also important.

The elaborated curricula involve such forms and methods of learning as disputes and discussions, seminars, lectures, practical classes, study tours, dialogue lessons, interviews, and internship.

An innovation in the Latvian system of education is the development and implementation of a system of profile education in a gymnasium. The education profiles correspond to the socio-economic development of Latvia, as well as the interests of students, their abilities and aspirations. The education profiles offered in the gymnasium are the following: International Relations, Economics and Finance, Media and Production, Design and Technologies, General Medicine, Engineering, Computers and Technologies (Alijevs, 2021).

The specific feature of profile education, which determines its exceptional status in the educational process of Latvia, is the relationship between theory and practice. This is what distinguishes the educational program of Riga State Classical Gymnasium from the programs of Latvian secondary schools. In our opinion, an increase in the number of hours allocated for the study of separate subjects alone cannot be called profile education.

Experience has shown that the effective development of the personality of gymnasium students is possible in the conditions of profile education. This type of education in a gymnasium makes it possible to eliminate students' overload and to expand the scope of application of the abilities of gymnasium students in a particular field of knowledge at the same time. Profile education enables gymnasium students to objectively assess the correspondence of their abilities to the requirements of the chosen profession. Therefore, an important component of profile education is practical training. The cooperation of the gymnasium with the Latvian institutions of higher education like the University of Latvia, Riga Stradins University, and Riga Technical University is important. Practical training contributes to the development of personality, increases motivation, and stimulates desire to work in the chosen profession. Profile education also provides opportunities for research activities of gymnasium students and elaboration of their research projects.

The gymnasium uses innovative methods and forms of organizing its educational work based on the inter-disciplinary approach. This approach is at the heart of creative projects. This is a new approach to the study of problems and subjects. It implies active participation in real socially significant activities, getting to know new trends in the development of society through research and reflection activities, and through practice. The use of creative forms of learning like debates, discussions, seminars, lectures, as well as the combination of individual and group

activities, are important and relevant to profile education. A research society has been established, where the problems of scientific research and its results are discussed.

Conclusions

The process of education at Riga State Classical Gymnasium is based on a new humanitarian paradigm of education focusing on the development of student's personality. The structure of the content of education in the gymnasium represents the relationship between didactics (knowledge and skills) and culture. Culture in the content of education represents the relationship of three cultures: social experience (universal cultural values), the culture of a student and the culture of a teacher.

The humanitarian paradigm of education is presented in the humanitarian model of education. Its content and procedural aspects have been determined. The basic principles for developing the content of education are humanization, humanitarian approach, and democratization.

The development and implementation of a system of profile education in the gymnasium is an innovation in the Latvian system of education. The specific feature of the content of profile education, which determines its exceptional place in the educational process of Latvia, is the relationship between theory and professional practice. The study leads to the conclusion that the humanitarian foundations of the content of education correspond to the European dimension in education.

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RECOGNISING EMOTIONAL ABUSE AND MOBBING IN ADOLESCENTS: CAUSES AND IMPACTS

Pāvels Jurs

Liepaja University, Latvia

Maija Ročāne

Liepaja University, Latvia

Inta Kulberga

Liepaja University, Latvia

Santa Striguna

Liepaja University, Latvia

Osman Titrek

Sakarya University, Turkey

Abstract. *Emotional abuse can cause severe effects on person`s emotional development, e.g., sense of worthlessness, wearing away confidence and self-esteem, anxiety, depression, etc. Psycho-emotional wellbeing becomes essential for the adolescent to become successful at school, which can be reached through emotional support, understanding and self-discovery. Emotional abuse quite often is not recognized, because of possible judgement from family, friends, teachers and community members. Silence about emotional and physical abuse can be the result of fears and emotional abuse situations which can seem as normal for the victim. Therefore, the first step to solve mental problems is becoming aware of a problem and reducing stigma about mental health. Survey results highlight the need for parents to improve their knowledge, attitudes and skills about emotional abuse and understanding of how to communicate with their children about possible emotional abuse situations at schools. Survey results also highlight that one of the main reasons why mobbing occurs is students` attitude towards difference of others e.g. different interests, lifestyle, appearance, clothes, way of communication, sexual orientation, etc.). Using theoretical and empirical research (survey) methods, the aim of the article is: to describe forms of emotional abuse, highlighting the link between emotional abuse and physical abuse and the impact of it on the emotional well-being of adolescent at school. The authors of the article have identified the main problems faced by students, teachers and parents in cases of emotional abuse.*

Keywords: *emotional abuse, emotional well-being, mobbing, students, teachers, parents.*

Introduction

Mental health is an integral and essential part of health that is closely linked to the other components of health: physical and social well-being. Good mental health is a prerequisite for stable, secure, mutually supportive wellbeing, leading to the fulfilment one's potential and development, coping with everyday stresses, working productively and contributing to the common good (Slimību profilakses un kontroles centrs, 2016, 8). Nowadays society's attention to the issues of mental health has increased as well as the necessity of promoting and maintaining it at different ages. The article focuses on the mental health issues of adolescents as during this period of time, not only the intensive development occurs, but emotional crisis for the individual becomes quite common as well. The adolescents struggle through the search for identity and ideals. They have unconscious desire not to separate from childhood, and at the same time they have a conscious desire to become an adult; they are in the search for life teachers and quite often experience a denial of previous values. Therefore, their psycho-emotional wellbeing becomes essential to be successful at school, which can be reached through emotional support, understanding and self-discovery. Adolescence developmental challenges include: (I) acceptance of oneself; (II) establishing new relationships; (III) developing emotional independence from parents; (IV) building the foundations for economic independence; (V) building the foundations for a profession choice; (VI) acquiring socially accepted patterns of behaviour; (VII) developing values that harmonise with the environment (Ancāne, Ancāns, Miksons, & Remese, 2014, 9). It must be admitted that emotional wellbeing can be threatened by school violence, which can be characterised as "a multifaceted and multi-layered problem". School violence can affect administrators, teachers, students, parents and all the society as well. Unfortunately, nowadays school violence (including mobbing and emotional abuse) is on the rise and has become an integral part of school life (Bozkus, 2022, 77). At the same time "emotional abuse towards children can be committed by parents as well, using power that renders the child vulnerable. Such acts damage immediately or ultimately the behavioral, cognitive and psychological functioning of the child" (Doyle, 1997, 330-342). Emotionally unhealthy, e.g., disrespectful, manipulative, controlling, oppressive, isolating, apathetic, frightening, relationships in the family can cause psychosomatic illnesses. Silence about mental health problems can be the result of these fears (UNICEF, 2021, 53).

Using theoretical and empirical research (data collection and survey) methods (Martinsons, Pipere, & Kamerāde, 2016), the aim of the article is: to describe forms of emotional abuse, highlighting the link between emotional abuse and physical abuse and the impact of it on the emotional well-being of adolescent at school. The authors of the article have identified the main problems faced by students, teachers and parents in cases of emotional abuse.

Theoretical aspects of emotional abuse and mobbing

The Article 19 of United Nations Convention on the Rights of the Child emphasizes that “children have the right to be protected from being hurt and mistreated, physically or mentally. Governments should ensure that children are properly cared for and protect them from violence, abuse and neglect by their parents, or anyone else who looks after them” (United Nations, 1989). Jantz and McMurray states “all of us need relationships with people who love us; who build us up and who support us as we learn and grow” (Jantz & McMurray, 2013, 11). Mathews (2016) emphasizes that it is also important to understand what is not emotionally abusive, e.g. ending friendship, expressing opposing opinion with a respect towards the different opinion, raising voice to “higher and louder octaves in order to express emotions and once the emotion has expressed, it probably would be a good idea to sit down and talk it out to find a solution to the problem” (Mathews, 2016). Elliot-Wright (2016) highlights that “emotional abuse occurs when one person persistently causes another to experience severe fear and distress. And the aim of abuser is always the same to dominate and control the victim”. She describes emotionally abusive behaviour as controlling, wearing away confidence and self-esteem and verbally abusive. Emotional abuse has different forms of expression, e.g., telling a person that he has no choice to any decision; destructive criticism; verbal abuse, including shouting, mocking, accusing, name calling, threatening; disrespect, including not listening or responding, silent treatment, interrupting; breaking trust, including lying, withholding information, breaking agreements; isolation; harassment; denial: being only publicly gentle and patient (Elliot-Wright, 2016, 1-2), silencing or making fun of a person and imposing inappropriate expectations and serious bullying (including cyber bullying) (National Institute for Health and care excellence, 2017). Garbarino and Garbarino (1994) describes emotional abuse as maltreatment, which “involves words, actions, and indifference separately or in different combinations. (..) Abusers constantly reject, ignore, belittle, dominate, and criticize the victims” (Garbarino & Garbarino, 1994). Jantz & McMurray (2013) states that emotional abuse almost always accompanies physical abuse and it can be present on its own as well. In most of the cases when people suspect they were abused, they were (Jantz & McMurray, 2013, 11-16). Sometimes oppressor may feel abused being not successful in gaining domination, then abuser can accuse a person who does not obey commands (Evans, 2010, 227).

Mobbing was first defined by Lorenz (1963) as harmfully targeting a single group member. Leymann (1990) defines mobbing as the combination of hostile actions, which repeat systematically and intentionally and are directed to the victim. Leymann (1990) and Cornoiu & Gyorgy (2013) highlight the repetitive character of mobbing (Cornoiu & Gyorgy, 2013). Mobbing can include both:

verbal and physical aggression, as well as bullying, unethical communication, etc. Quite common results of mobbing are victim's psychic, psychosomatic and social misery (Leymann, 1990). One of the negative effects of mobbing at school is a low performance (Josipovic-Jelic, Stoini, & Celic-Bunikie, 2005), as well as absenteeism and burnout, which quite often is mental exhaustion and tension caused by high workload (Maslach, 2003). Garbarino & Garbarino (1994) points out that emotional abuse is difficult to be spotted, while Jantz & McMurray (2013) emphasizes that emotional abuse "has a bizarre sense of normalcy" (Jantz & McMurray, 2013, 13). Evans (2010) argues: "some people recognize that they have been emotionally abused only when they get away from abusers" and most often "abusers are not motivated to change" (Evans, 2010, 24).

Centre for Disease Prevention and Control of Latvia (2016) in the research paper "*Mental health in Latvia in 2016*" points out that mental health cannot be achieved in a society where there is a stigma against mental illness, which include myths, prejudices, fear of seeking help and mental health services. These factors often discourage people from seeking help to receive modern and effective treatment before the illness has put a significant impact on a person's ability to function socially (Slimību profilakses un kontroles centrs, 2016, 8). These stigmas about mental health in the society might block children and young people from finding treatment and limit "their opportunities to grow, learn and thrive" (UNICEF, 2021, 51).

Emotional abuse is linked to a range of negative psychosocial outcomes (Freyd & Goldsmith, 2005, 98). Tough highlights that the stress and trauma affect a child's brain development (Tough, 2012). Lipinski (2001) argues that the emotional abuse coping mechanisms can be classified as "active" or "passive": "active" coping strategies involving attempts to change the stressful environment, whereas "passive" coping strategies involve changing the victim's own emotional response to the stress (Lipinski, 2001). Emotional abuse can cause severe effects on person's emotional development, e.g., sense of worthlessness and lack of opportunities to express own views (National Institute for Health and care excellence, 2017). Depression is one of the effects of emotional abuse as well and is one of the major causes of suicide. Jantz & Murray emphasize that depression for a child can be the result of authoritative and narcissistic parenting style as well. In their book "*Hope and Healing from Emotional Abuse*" a life of David, who had to achieve his father's dream- to become a very successful football player, has described. And "there was always another level to reach for David, more he still had to do" (Jantz & McMurray, 2013, 11). David chose to commit a suicide, thus, he "had never been beaten or molested, but David died of abuse – emotional abuse" (Jantz & McMurray, 2013, 11). This case reveals a situation when real interests and needs of a child became "invisible". Emotional abuse has been described in the literature as well, e.g., English novelist Jane Austen (1775-1817) in her novel "*Mansfield Park*" describes maltreatment towards Fanny Price. Jane

Austen was aware of things related to emotional abuse “long before researchers started studying them. Mansfield Park is about the stress of a disadvantaged childhood and the hope of recovery through resilience” (Tough, 2012, 122). Evans (2010) analyses the feelings of a victim of emotional abuse, which are: (I) feeling temporarily thrown off balance; (II) feeling lost; (III) feeling disconnected, confused, disoriented; (IV) feeling off balance; (V) feeling generally “bugged” by the simple presence of a person; (VI) feeling of emptiness; (VII) feeling a strong wish to get away, sometimes “unable to move, as if frozen” (Evans, 2010, 24).

UNICEF (2021) report “*On my mind the state of the world’s children 2021: Promoting, protecting and caring for children’s mental health*” focuses on top causes of death among adolescents aged 15 – 19. It is dreadful that suicide is the first cause of death in Eastern Europe while in the Western Europe it is the second most prevalent cause of death after road injuries. Interpersonal violence, which can also be the result of bullying, is the third most prevalent cause in the Western Europe (UNICEF, 2021). World Health Organization focuses on the necessity to find solutions for the problem of mental health as “suicide mortality rates are highest in the European Region (14.1 per 100000 of population) (World Health Organization, 2017, 32).

Empirical research: The impact of Emotional and physical abuse on the physical and social well-being

In order to achieve the goal of the article: to analyse the impact of emotional and physical abuse on the emotional well-being of adolescent at school, the survey was carried out. The survey was organized in one general educational institution in October – November 2022 using the *Google Survey* platform. The survey was chosen as the empirical research method as “surveys gather data at a particular point in time with the intention of describing the nature of existing conditions” (Cohen, Manion, & Morrison, 2006, 169). The survey was designed in order to capture data from multiple choice, closed questions and open-ended questions. Convenience sample was chosen as sampling strategy for all the target population (there are 431 students from grades 5-12 in the school where research had been carried out). All 431 students were asked to complete the survey. However, only 298 students did it. It must also be admitted that the topic of emotional abuse might be unpleasant for particular students and this could be the reason for some students not to get involved in the survey. There were also parents` (N=125) and teachers` (N=37) surveys carried out.

The results of parents` survey (N=125)

Answering the question: *Do you know what mobbing is?*, the vast majority of the respondents (84%) answered positively. Less respondents (76%) could

recognize the manifestations of mobbing in their child and even less respondents (61.6%) would find out if their child became abuser. Less than a half of the respondents have received information about mobbing from school authorities. Only half of the respondents (50,4%) would know about the best support to their child in the case of mobbing, but even less parents (44,8%) would know how to react if their child became abuser. Results highlight the necessity for parents to talk about the issues of mobbing with their children as only 42,4% of respondents have talked to their children about mobbing, its consequences and overcoming it during the last 12 months, but 33,6% of parents do talk with their children only when they see a necessity. The results also show that more than 1/3 of the respondents admit that their child has been an eyewitness of a mobbing situation or been involved as a victim or abuser in mobbing. Parents were asked to remember their school life as well and almost a half of the respondents (46,4%) admitted that had experienced (as an eyewitness of a mobbing situation or been involved as a victim or abuser) mobbing situation at school when they were students. They were also asked to assess their understanding of solving mobbing situations amongst adults and more than a half of them admitted that they do not know how to do it.

The results of teachers' survey (N=37)

The analysis of teachers' survey results (N=37) show that more teachers in comparison with parents answered positively (91.9%) to the question: *Do you know what mobbing is?* and more than a half of them (62,2%) have improved their understanding in study courses about mobbing during the last 12 months. All the respondents agreed that they can recognise mobbing situations. Even though almost all the respondents (97,3%) are certain about their abilities to solve mobbing problems, only 32,4% of them admitted that they would have the necessary skills and abilities to solve severe mobbing problems.

Results also show that teachers speak with students about mobbing problems more often (96,7% of teachers have spoken with their students about mobbing situations during the last 12 month) than their parents. At most of the respondents (64,9%) have observed mobbing situations among their students during the last 12 months and 82,8% of the respondents have been actively involved in the solving process of particular mobbing situation. Teachers were asked to remember their school experience and more than a half of the respondents (64,9%) have experienced (as an eyewitness of a mobbing situation or been involved as a victim or abuser). They were also asked to assess their understanding of solving mobbing situations amongst adults and more than a half (56,1%) of them admitted that they do not know how to do it. It can be concluded that in comparison with parents' answers, more teachers have experienced mobbing situations when they were students and their self-assessment of mobbing solving skills is higher as well. The

reason for the difference in their answers can be the fact that teachers are more informed and knowledgeable than parents about mobbing and its expressions.

The results of students' survey (N=298)

The analysis of 12-19-year-old students' survey results show that most of them (77,2%) know about mobbing and half of them (51,4%) have had a lesson or lessons about mobbing in the last 12 months, while 15,1% of them would like to know more about mobbing. Empirical research results (Fig. 1) point to a worrying trend: out of 125 respondents, 115 students (92%) are hurt – respondents note in their answers that mostly people (88%) are hurt by their own peers.

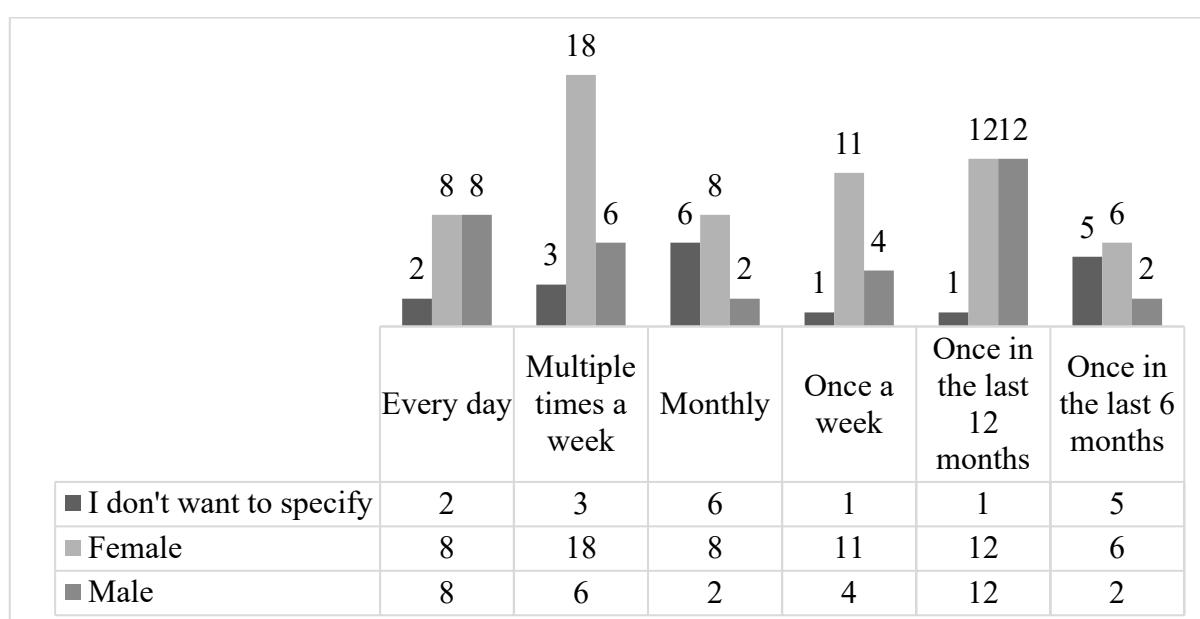


Figure 1 Students' self-assessment: "How often did you get hurt?" (made by authors)

The questionnaire results show that most often respondents experience bullying from their classmates (65,5%); 26,7% from other students at school; 24,1% from students of other schools; 15,5% from teachers; 23% from parents and 25% from other adults. 53,1% of the respondents have experienced mobbing quite often: 15,7% have experienced mobbing every day; 23, 5% several times a week and 13,9% once a week.

Only 35, 9% of the respondents in the last 12 months have been talking to their parents about mobbing they have experienced at school. The vast majority of the respondents have experienced (as an eyewitness of a mobbing situation or been involved as a victim or abuser) a mobbing situation. 58 respondents admitted that they have become a victim in mobbing situation, 109 respondents have become an eyewitness and 26 respondents became abusers. Students were also asked to characterise particular mobbing/emotional abuse situation they have

experienced at school: 76 respondents have experienced humiliation and belittling, 38 have experienced physical abuse (e.g., they have been tugged by the hair, punched, kicked), 50 respondents have experienced silent treatment and ignoring and 52 respondents have experienced cyber bullying. Respondents mentioned different reasons why mobbing occurs and one of the main reasons is a difference in many aspects, e.g., interest, lifestyle, appearance, clothes, way of communication, sexual orientation, etc. Also respondents admitted that they have been bullied because of better/worse grades, family incomes, bigger or smaller size of family and other reasons. The most shocking for the authors of the publication was the finding that less than a half of respondents (32,5%) have been looking for a help after the situation of emotional or physical abuse. Respondents admitted that after experiencing emotional or physical abuse they were asking help to their parents (54,9%); friends (64,9%); teacher (21,6%); psychologists (2,7%); helpline (8,1%). While those respondents who were not looking for a help as reason for this admitted: shame (26%); readiness to solve own problems himself/herself (52,1%) and the belief that the violence did not have consequences (38.3%). It must be admitted that the vast majority of the respondents (94,1%) who were an eyewitnesses of emotional abuse felt sad or very sad for what was happening in this situation and 14,5% felt guilty for the situation. While students who have been abusive admitted that while being emotionally or physically abusive they felt guilty (37,5%); angry (31,8%); sad (18,2%); powerful (14,8%); ignorant (20,5%); jealous (8%); excited (5,7%). As the reasons for being abusive they mentioned the willingness to get attention (25,9%); not accepting the difference in others – different interests, clothes, appearance, behaviour, sexual orientation, etc., (74,4%).

Conclusions

1. Mobbing can include both: verbal and physical aggression, as well as bullying, unethical communication, etc. While emotional abuse almost always accompanies physical abuse and it can be present on its own as well. Emotional abuse can have different forms of expression, e.g. humiliation; destructive criticism; verbal abuse, threatening; disrespect, silent treatment, breaking trust, isolation; harassment, denial, bullying and cyber bullying. Emotional abuse can cause severe effects on person`s emotional development, e.g., sense of worthlessness, lack of opportunities to express own views, wearing away confidence and self-esteem, anxiety, depression, etc. The adolescents, struggling through the search for identity and ideals, often experience a denial of previous values. Psycho-emotional wellbeing becomes essential for the adolescent to become successful at school, which can be reached through emotional support, understanding and self-discovery. Emotional abuse quite often is not recognized by adults, because teenagers can be afraid of possible

judgement from family, friends, teachers and community members if they disclosed their mental health problems. Silence about emotional abuse can be the result of these fears and sometimes these situations can seem as normal for the victim and can be spotted only when victim gets away from abusers. Therefore, first step to solve mental problems is becoming aware of a problem and reducing stigma about mental health.

2. Schools and education policy makers should put emphases on informing and educating parents about mobbing, including manifestations of mobbing in person`s behaviour (both: victim`s and abuser`s); actions in the case of mobbing (both: if their child is suffering from mobbing or if the child has become an abuser). There is a need not only for *parents* to improve their knowledge, attitudes and skills about mobbing, especially solving mobbing situations, but also to improve their understanding *of* how to communicate with their children about emotional abuse situations at schools.
3. Teachers` survey highlighted that even though almost all the respondents are certain about their abilities to solve mobbing problems, only 1/3 of them admitted that they would have the necessary skills and abilities severe mobbing problems.
4. Students` survey results show that most often respondents experience bullying from their classmates, from other students at school, from students of other schools, from teachers, from parents and from other adults. Respondents mentioned different reasons why mobbing occurs and one of the main reasons is difference in many aspects, e.g. interest, lifestyle, appearance, clothes, way of communication, sexual orientation, etc. Also respondents admit that they have been bullied because of better/worse grades, family incomes, bigger or smaller size of family and other reasons. The most shocking for the authors of the publications was the finding that less than a half of respondents have been looking for help after the situation of emotional or physical abuse.
5. Assistance in cases of mobbing and violence must be dealt with immediately. By withholding it, further development of the conflict is reinforced. It cannot be solved, involvement of adults is imperative, for successful and constructive resolution and prevention of the situation. Teachers are advised to pay heightened attention to the psychoemotional environment in the classroom, to raise issues about diversity among the public, about acceptance and mutual respect, as well as empathy. It is recommended to raise the issue of the seriousness of mobbing and the necessary support for student among parents, to maintain contact with the educational institution.

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PIEMĒRU UN PRETPIEMĒRU KONSTRUĒŠANA PAMATSKOLĀ APGALVOJUMA PATIESUMA PĀRBAUDEI

Construction of Examples and Counterexamples in Primary School to Verify the Truth of Statements

Anita Sondore

Daugavpils University, Latvia

Valentīna Beinaroviča

Daugavpils University, Latvia

Pēteris Daugulis

Daugavpils University, Latvia

Abstract. *In the modern mathematics learning process in school, the skill of creating examples and counterexamples in both familiar and new situations is emphasized. In the context of critical thinking, the construction of examples and counterexamples is an effective technique for evaluating statements and justifying arguments. This technique is suitable for students before other methods of proving general statements in mathematics are introduced.*

The aim of the study is to highlight the topics of the study course "Elements of Mathematical Logic and Set Theory" for the Professional Bachelor's degree in Teacher Education, which are relevant for constructing examples and counterexamples. In the study, the qualitative and quantitative analysis of the answers of the students in teacher programs to the questions of the questionnaire about the student experience related to the ability to formulate examples and counterexamples was carried out. The research shows that the creation of examples and counterexamples to the given statements does not cause great difficulties. It is much more difficult to create statements with mathematical content for grades 1-6, the truth verification of which, using the technique of constructing examples and counterexamples, would activate the formation of understanding of mathematical concepts and relationships. In order to connect the topics of the "Elements of Mathematical Logic and Set Theory" course with the planned results of primary education, a qualitative content analysis of the Latvian primary education standard and the primary education program was carried out.

Based on the results obtained in the study, the authors identified several topics that are relevant in the course "Elements of Mathematical Logic and Set Theory".

Keywords: *counterexample, critical thinking, logic, negation, statement, truth value.*

Ievads Introduction

Daugavpils Universitātes (DU) Profesionālās augstākās izglītības bakalaura studiju programmā “Sākumizglītības skolotājs” ir iekļauts jauns kurss “Matemātiskās loģikas un kopu teorijas elementi” (MLKT). Tā mērķis ir iepazīstināt studējošos ar matemātiskās loģikas un kopu teorijas pamatjēdzieniem, to savstarpējo sakaru, kā arī ar to lietojumiem matemātisku apgalvojumu formulēšanā un pamatošanā. Tāpēc docētājiem aktuāls jautājums, ar kādu saturu-aktivitātēm nodarbībās, patstāvīgā darba un starppārbaudījumu uzdevumiem, piepildīt paredzētās tēmas.

Pētījuma mērķis ir iezīmēt Profesionālās augstākās izglītības bakalaura “Sākumizglītības skolotājs” studiju kursa “Matemātiskās loģikas un kopu teorijas elementi” tēmas, kuras ir aktuālas topošajiem sākumizglītības skolotājiem tādu valoddarbības prasmju, kā piemēru un pretpiemēru konstruēšanai, apgalvojuma patiesuma pamatošanai.

Sākumizglītības pedagogs ir atbildīgs, lai skolēni, beidzot 6. klasi, apgūtu prasmi veidot piemērus un pretpiemērus gan pazīstamās situācijās, gan jaunās situācijās, saistot to ar zināmo (MK noteikumi Nr. 747 [MK747], 2018). Šī prasme palīdz realizēt pamatskolā matemātikas mācību priekšmeta standarta prasību– veidot izpratni par jauniem objektiem un darbībām, atšķirt objektu būtiskās īpašības, palīdz skolēnam noteikt apgalvojuma patiesumvērtību un pamatot savus spriedumus (Ministru Kabinets, 2018).

Tika veidots gadījuma pētījumu dizains. Iesaistītie DU skolotāju programmās studējošie, ar tiesībām mācīt matemātiku 1.-6. klasei (n=25, pētījums veikts 2022. gadā), rakstiski atbildēja uz aptaujas jautājumiem. Lai arī pilotpētījuma rezultāti apliecina, ka prasme veidot piemērus un pretpiemērus dotajiem izteikumiem nesagādā lielas grūtības topošajiem sākumizglītības skolotājiem, taču studentiem ir grūti pašiem izveidot izteikumus ar matemātisku saturu 1.-6. klasei.

Tāpēc MLKT kursā jāvelta liela uzmanība teksta pareizai konstrukcijai un jēdzienu izpratnei. Pārlicinājāties, ka piemēru un pretpiemēru konstruēšanas prasmes apgūšanai aktuālas MLKT kursa tēmas- izteikuma jēdziens un tā patiesumvērtība, nolieguma konstrukcija saliktiem izteikumiem, izteikumu loģikas formulu izmantošana izteikuma struktūras analīzei. Kā arī ieteicams ieviest atsevišķu tēmu- piemēri un pretpiemēri apgalvojuma patiesuma pamatošanai. Lai sasaistītu MLKT kursa tēmas ar pamatizglītības sasniedzamajiem rezultātiem, tika veikta pamatizglītības standarta un pamatizglītības programmas (Ministru Kabinets, 2018) kvalitatīvā kontentanalīze.

Literatūras apskats **Literature Review**

Loģika ir „zinātne, kas pēta likumības, kurām seko organizēta un pareiza domāšana” (Cīrulis, 2007). Domāšanu nevar atdalīt no valodas. Valoddarbība ir viens no matemātikas jomas uzdevumiem (Mencis & Kumerdanka, 2021). Svarīga ir pakāpeniska pāreja no ikdienā lietotās valodas uz matemātikas valodu, kas nepieciešama gan problēmu analīzei, gan spriedumu izteikšanai, gan jaunu jēdzienu apgūšanai. Sevišķi sākumskolā ir aktuāla pamatjēdzienu apgūšana ar izpratni, lai nepareizība nenostiprinātos apziņā, kuru vēlāk grūti labot (Sondore, Krastiņa, Daugulis, & Drelinga, 2016a). Lai noskaidrotu, vai skolēns ir izpratis konkrēta matemātikas jēdziena, parādības, sakarības būtību, skolēnam jāspēj to paskaidrot ar saviem vārdiem, sasaistīt ar citiem jēdzieniem, sakarībām un atbilstošiem piemēriem un pretpiemēriem (Mencis & Kumerdanka, 2021).

Viens no pamatjēdzieniem matemātiskajā loģikā ir izteikums. Izteikumam ir divas patiesumvērtības: patiess vai aplams. Ar pretpiemēru saprot atsevišķo izteikumu, kas pierāda, ka vispārīgais izteikums nav patiess, tāpēc pretpiemēri palīdz labāk izprast gan definīcijās, gan teorēmās dotos nosacījumus (NMS, 2022; Nodelman, 2018). Parasti saka, ka piemēri tiek izmantoti ilustrācijai, bet pretpiemēri demonstrē kādas hipotēzes aplamību vai nepamatotību.

Pilotpētījumā 2017. - 2018. gadā pārliecinājāmies, ka pretpiemēra jēdzienu neizprot ne tikai pamatskolēni, bet arī daļa topošo un esošo skolotāju (Sondore, Krastiņa, Daugulis, & Drelinga, 2018). Tas apliecināja, ka ir jāpastiprina matemātiskās loģikas apguve skolotāju studiju programmās. Jo tiek uzsvērts, ka matemātikas izglītībā pretpiemērus var un vajag pielietot jau agrīnos posmos, sākot ar jēdzienu apguvi, vēl ilgi pirms skolēni iepazīstas ar teorēmām un to pierādīšanu (Nodelman, 2018), pie tam paradoksu un pretpiemēru lietošana jēdzienu izpratnei, ir efektīva (Gruenwald & Klymchuk, 2003; Kachapova, Black, Klymchuk, & Kachapov, 2007). Konfrontācija ar pretpiemēru skolēniem darbojas kā dzinējspēks, lai izlabotu vai uzlabotu pierādījumu. Pētījumā par saistību starp taisnstūra laukumu un perimetru, kurā piedalījās 4.- 6. klašu skolēni, tiek izcelta pretpiemēru loma kognitīvā konflikta radīšanā, kā arī nepieciešamība attīstīt skolēnu spēju konstruēt pretpiemērus un nostiprināt izpratni, ka pietiek piedāvāt tikai vienu pretpiemēru, lai konstatētu apgalvojuma aplamību (Widjaja & Vale, 2021). Skolēniem neliekas acīmredzami, ka viena pretpiemēra pietiek. Autori (Zaskis & Chernoff, 2008) pat iesaka pretpiemērus iedalīt- pārejas un izšķirošais, jo tika konstatēts, ka viens pretpiemērs ne vienmēr pārliecina pat topošo sākumskolas skolotāju.

Skolēnu deduktīvās domāšanas spējas, veidojot pretpiemērus matemātikā, tiek iedalītas piecos līmeņos. Pirmais līmenis atbilst situācijai, ka skolēns nevar sasaistīt apgalvojumu ar piemēru izmantošanas nepieciešamību, ceturtais līmenis- skolēns secina, ka izteikums ir nepatiess, konstruējot vienu vai dažus

pretpiemērus, bet augstākais piektais līmenis ir skolēniem, kuri izveido pretpiemēra eksistences aprakstu, izmantojot matemātiskos simbolus (Amirudin, Fuad, & Wijayanti, 2018). Sākumskolas skolēniem ir grūti spriest deduktīvi, izmantojot tikai vārdus un simbolus, šādi bērni spēj labāk veikt deduktīvo spriešanu ar manipulatīviem objektiem vai veidojot "darbības pierādījumus" (Semadeni, 1984). Tādējādi piekto līmeni sākumskolas skolēniem varētu interpretēt kā prasmi aprakstīt vispārēju iemeslu vai veidot "darbības pierādījumus", kāpēc apgalvojums ir aplams.

Piemēru un pretpiemēru konstrukcijas prasmes pamatā ir apgalvojuma teksta un tā struktūras izpratne, tāpēc MLKT kursā pievēršama sevišķa uzmanība kvantoriem un loģiskajām operācijām, kurus satur vispārīgi izteikumi, kā arī izteikuma nolieguma konstrukcijai (Kurdyumova, 2001; Ryzhik, 2007; Buchbinder & Zaslavsky, 2014). Pretpiemēra jēdziens ieviešams pakāpeniski. Sākumā skolotāji dod gatavus paradoksus vai pretpiemērus, tad lūdz skolēniem izveidot savus pretpiemērus; visbeidzot, piedāvā noteikt, vai dotais matemātiskais apgalvojums ir patiess (Kachapova et al., 2007). Apgalvojuma patiesuma pārbaude pamatskolēniem padodas slikti (Sondore, Krastiņa, Daugulis, & Drelinga, 2016b; Sondore et al., 2018; Doruk & Doruk, 2022), jo ir jāizdomā pierādījums tam, ka apgalvojums ir patiess, vai arī jāizdomā pretpiemērs, lai pierādītu, ka apgalvojums ir aplams. Pretpiemēru meklēšana varētu kļūt par pirmo soli, uzsākot risinājuma pareizības pārbaudi (Komatsu, 2010; Horiguchi, & Hirashima, 2001). Ir svarīgi veidot paradumu savlaicīgi analizēt gan savas, gan skolēnu kļūdas (Sondore et al., 2016a). Skolotājiem tiek ieteikts radināt skolēnus kritiski izvērtēt informāciju, un izmēģināt taktiku- pašiem tīši pieļaut kļūdas nodarbībās, lai skolēni tās uzietu (Gruenwald & Klymchuk, 2003). Tas stimulētu skolēnus nepārtraukti sekot līdz apgalvojumiem, novērtējot iegūto rezultātu ticamību.

Metodoloģija

Methodology

Tika veidots gadījuma pētījumu dizains (Mārtinsons & Pipere, 2011; Geske & Grīnfelds, 2006). Iesaistītie DU skolotāju programmās studējošie, ar tiesībām mācīt matemātiku 1.-6. klasei (N=25, pētījums veikts 2022. gada decembrī), rakstiski atbildēja uz aptaujas daļēji atvērtajiem jautājumiem, kas paredz izvēlei atbilžu variantus vai savas atbildes veidošanas iespēju (Mārtinsons & Pipere, 2011, 161). Nelielais respondentu skaits saistīts ar mazo sākumizglītības skolotāju programmās studējošo skaitu DU. Iegūto empīrisko datu analīzei un interpretācijai tika izmantotas gan kvalitatīvās, gan kvantitatīvās metodes.

Aptaujas daļēji atvērtajiem jautājumiem varēja izvēlēties atbilžu variantus (patiess vai aplams apgalvojums) ar papildus iespēju dot savu atbildi. Aptaujā bija trīs jautājumu bloki. Blokā A tika piedāvāti četri vispārīgi izteikumi, kuriem

jāizvēlas patiesumvērtība, papildus- aplamam izteikumam jāuzraksta vai jāuzzīmē pretpiemērs. Blokā B bija jānorāda piemērs un pretpiemērs sešiem vispārīgiem izteikumiem. Kopumā no desmit izteikumiem puse bija par sadzīves situācijām, bet pārējie no pamatskolas matemātikas kursa (4 no algebras un viens no ģeometrijas). Abos jautājumu blokos tieši viens izteikums bija patiess. Doto izteikumu struktūra nebija pārāk sarežģīta, tika izmantoti kvantori “daži” un “visi”, loģiskās operācijas- disjunktija un konjunktija. Blokā C bija prasība uzrakstīt desmit matemātiskus apgalvojumus, kurus varētu piedāvāt 1. - 6. klases skolēniem, lai viņi noteiktu apgalvojuma patiesumu.

Tika veikta kvalitatīvā kontentanalīze Latvijas Ministru kabineta noteikumiem Nr. 747 par valsts pamatizglītības standartu un pamatizglītības programmu paraugiem (Ministru kabinets, 2018), ar kuriem skolu pedagogi uzsāka darbu 2020. gada septembrī, un Skola2030 (2019) materiāliem, lai konstatētu, kādas zināšanas un prasmes nepieciešams iekļaut MLKT kursā.

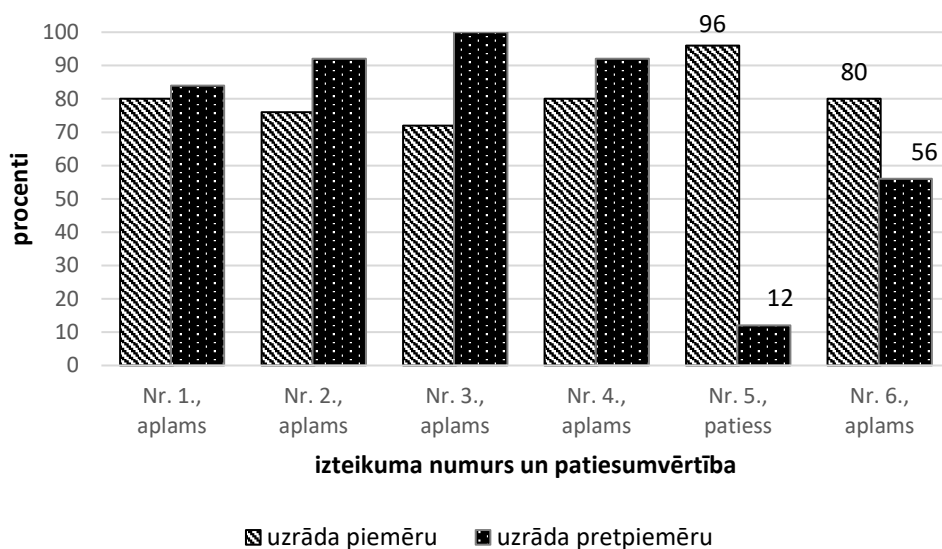
Pētījuma rezultātu analīze **Analysis of research results**

Piemēru un pretpiemēru konstruēšana dotajiem apgalvojumiem nesagādā lielas grūtības topošajiem sākumizglītības skolotājiem. Tomēr termina “pretpiemērs” nosaukums rada problēmas to lietot, jo tika konstatēts kuriozs gadījums- pretpiemērs vietā izmanto vārdu perimetrs. Vispārīgam aplamam izteikumam bieži tika piedāvāti vairāki pretpiemēri, kas liecina, ka studējošajiem ir sajūta, ka viena pretpiemēra nepietiek. Tika nosaukti pat visi iespējamie pretpiemēri, ja to skaits bija galīgs, piemēram, izteikumam “Visu mēnešu nosaukumos ir burts i”. Tāpat konstatējām tendenci, ka aplamam izteikumam pretpiemēra vietā lieto šī izteikuma noliegumu, kas nav atsevišķs izteikums. Tāpēc MLKT kursā iekļaujami vispārīgs un atsevišķs izteikums, izteikuma noliegums. Paskaidrosim, kā pretpiemēra konstatēšanai var izmantot izteikuma noliegumu. Apskatīsim vispārīgu izteikumu- jebkurai daudzskaitlīgai datu kopai tās vidējais aritmētiskais ir mazāks par maksimālo vērtību šajā datu kopā. Daudzi tam uzreiz piekrīt un nemeklē pretpiemērus. Apskatīsim šī izteikuma noliegumu- eksistē daudzskaitlīga datu kopa, kurai vidējais aritmētiskais ir lielāks vai vienāds par maksimālo vērtību datu kopā, un noteiksim tā patiesumvērtību. Acīmredzams ir fakts, ka vidējais nevar būt lielāks par maksimālo vērtību. Paliek jautājums, vai abi statistiskie rādītāji var būt vienādi. Diskusiju ceļā, uzrādot konkrētu piemēru, tiek konstatēts, ka noliegums ir patiess izteikums. Rodas konfliktsituācija, ka izteikumam un tā noliegumam ir vienādas patiesumvērtības. Tas palīdz saskatīt, ka piemērs, kas apstiprina nolieguma patiesumu der par pretpiemēru dotajam izteikumam.

Atbildēs uz bloka A un B jautājumiem vērojamas problēmas formulēt piemērus un pretpiemērus. Izteikumiem no bloka A ar vienkāršu teksta loģisko

struktūru (izmantoti atslēgas vārdi- tikai, vai, daži) visi respondenti pareizi noteica patiesumvērtību. Bet sarežģītākas struktūras izteikumam no matemātikas “Jebkurš vesels skaitlis, kurš dala 10 bez atlikuma, ir pāra skaitlis” tikai 56% studentu pareizi noteica, ka tas ir aplams. No pretpiemēru atbildēm izriet, ka daudzi studenti neizprata terminus “dala” un “dalās”, “pāra skaitlis”. Piemēram, tika minēts pretpiemērs “ $10:2=5$ (nepāra skaitlis un nav atlikuma)”.

Bloka B aplamajiem izteikumiem (Nr.1.– 4.) biežāk tika rakstīti pretpiemēri nekā piemēri (1.att.). Tikai aplamam izteikumam Nr.6 - no trim sloksnītēm vienmēr var izveidot trijstūri, vairāk respondentu (80%) uzrādīja piemēru (biežāk minot vienādmalu trijstūri) nekā pretpiemēru (56% respondentu) (1.att.). Atzīmēsim, ka viens respondents deva vispārīgu piemēru un pretpiemēru (atbilst deduktīvo domāšanas spēju 5. līmenim, veidojot pretpiemērus matemātikā), rakstot, ka trijstūri varēs izveidot, ja jebkuru divu malu garumu summa ir lielāka nekā trešās malas garums.



1.attēls. Piemēra un pretpiemēra uzrādīšanas rezultāti bloka B izteikumiem (autoru veidots)
 Figure 1 Example and counterexample recognition results for statements of block B
 (made by the Authors)

Kā redzams 1. attēlā, vienīgajam patiesam izteikumam Nr.5 no bloka B - saskaitot divus pāra skaitļus vienmēr iegūst pāra skaitli, 12% respondentu nenorādīja, ka nav pretpiemēru, vai piedāvāja savu pretpiemēru. Pretpiemērs “ $3+3=6$ ” izteikumam Nr.5 no bloka B liecina, ka tiek mainīts dotais nosacījums, ka pretpiemērs jāmeklē starp pāra skaitļu summām. Pētījumā ir savākts kļūdaino pretpiemēru komplekts, kas būs noderīgs materiāls MLKT tēmai “Piemēri un pretpiemēri apgalvojuma patiesuma pamatošanai”, jo kļūdaino atbilžu analīze var tikt izmantota stratēģijai mācāmajos no kļūdām.

Blokā C ne visi iesniedza 10 apgalvojumus. Studējošiem grūti pašiem izveidot apgalvojumus dažādām klasēm (1. – 6.kl.) par matemātikas jēdzieniem,

sakarībām, parādībām. Raksturīgākās kļūdas saistītas gan ar izteikuma jēdziena izpratni (jautājuma teikumi apgalvojuma teikumu vietā; apgalvojuma teikumi, kuros lieto vārdus “patīk”, “skaists” u.tml., kas nav izteikumi, jo tiem nevar noteikt patiesumvērtību; definīcijas, kas nav izteikumi), gan ar pareizrakstību un apgalvojumu teksta pareizu konstrukciju.

No Latvijas izglītības sistēmas pilnveidei izstrādātajiem materiāliem izriet, ka piemēri un pretpiemēri ir aktuāli ne tikai matemātikā. Skolēni ir jāiedrošina analizēt notiekošos procesus, nepiekrītot kādam viedoklim un izsakoties kritiski, viņiem būtu jāargumentē, veidojot strukturētu tekstu, atsaucoties uz faktiem un likumiem, tātad uzrādot piemērus vai pretpiemērus (MK747, 2018; Skola 2030, 2019). Matemātikas mācīšanās kā primārā tiek izvirzīta prasmju apguve, kas jāstiprina ar izpratni par veikto darbību, lietoto simbolu, jēdzienu jēgu/nozīmi (Skola2030, 2019). Piemēru un pretpiemēru konstruēšana skolas matemātikas saturā parādās jau 1. – 3. klases posmā, taču nepieciešami ilgi priekšdarbi līdz skolēni nonāk pie apgalvojuma patiesuma pārbaudes. Sākumā tiek sasniegta prasme formulēt apgalvojumu pēc novērotā, praktiskām darbībām, aprēķiniem un spriedumiem, tad objektu salīdzināšanas un grupēšanas prasme, nosakot objektu kopīgās un atšķirīgās īpašības, pierakstīšanai izmantojot Eilera-Venna diagrammas. Sasniedzamo rezultātu aprakstā (skat. M.3.2.1.2.; M.3.2.1.4.; M.3.2.3.1.; M.3.2.3.2.) tiek uzsvērtā prasme paskaidrot, kāpēc tā domā, noteikt atsevišķa apgalvojuma patiesumu, sakot “pareizi/nepareizi, uzrādot piemērus (arī tos, kas parāda, ka apgalvojums ir aplams) (MK747, 2018). Sasniedzamie rezultāti, beidzot 6.klasi (M.6.2.1.3.; M.6.2.3.1.; M.6.2.3.3.) - veido un pārbauda vispārinājumus, aplūkojot atsevišķus gadījumus, vai spriež vispārīgi, nosaka objektu ar noteiktām īpašībām (ne vairāk kā divām) eksistenci, skaitu, demonstrējot izpratni par nolieguma, vārdu "eksistē", "katrs", saikļu "un", "vai", "vai nu, vai" lietojumu. Uzsvērtā pretpiemēru konstrukcija jaunā situācijā, saistot to ar zināmo, kā arī apgalvojuma patiesuma izvērtēšana, piemēram, “taisnstūriem ar vienādiem perimetriem arī laukumi ir vienādi” (MK747, 2018).

Svarīgi studējošiem akcentēt pakāpenisku pāreju uz citādu skolēnu mācību pieredzi un citādu metodisko paņēmienu izmantošanu pilnveidotā mācību satura apguvei, kas ir atšķirīga no pašu studējošo skolas mācību pieredzes. Lai nodrošinātu mūsdienīgas lietpratības izglītību, būtiski nodrošināt topošajiem skolotājiem iespēju plānot un vadīt mācīšanos, izvirzīt skaidrus sasniedzamos rezultātus, izvēlēties atbilstošus uzdevumus, veikt pašvērtējumu.

Secinājumi Conclusions

Pilnveidotais Latvijas pamatzglītības matemātikas standarts liecina, ka jau 1.klasē tiek ieviesta piemēru un pretpiemēru konstruēšana. Šī valoddarbības prasme noder izpratnes veidošanai par jēdzieniem, sakarībām, to būtiskākajām

īpašībām, apgalvojuma patiesuma noteikšanai. Nepieciešami ilgi priekšdarbi līdz skolēni nonāk pie apgalvojuma patiesuma izvērtēšanas prasmes apgūšanas, beidzot 6.klasi.

Pilotpētījums rāda, ka prasme veidot piemērus un pretpiemērus dotajiem izteikumiem nesagādā lielas grūtības topošajiem sākumizglītības skolotājiem, taču studentiem daudz grūtāk pašiem izveidot izteikumus ar matemātisku saturu 1.-6. klasei. Analizējot respondentu atbildes, pārliecinājāmies, ka piemēru un pretpiemēru konstruēšanas prasmes apgūšanai aktuālas vairākas “Matemātiskās loģikas un kopu teorijas elementi” kursa tēmas:

- izteikuma jēdziens un tā patiesumvērtība, akcentējot izteikumu ar matemātisku saturu veidošanu,
- nolieguma konstrukcija saliktiem izteikumiem ar kvantoriem,
- izteikumu loģikas formulu izmantošana izteikuma struktūras analīzei.

Pētījuma gaitā apkopojām studējošo atbildes un ieteikumus no citiem pētījumiem par piemēru un pretpiemēru izmantošanu mācību procesā. Tas deva ierosmi “Matemātiskās loģikas un kopu teorijas elementi” kursā pievienot atsevišķu tēmu “Piemēri un pretpiemēri apgalvojuma patiesuma pamatošanai”. Svarīgi piedāvāt uzdevumus, kas saistīti ar pamatizglītības sasniedzamajiem rezultātiem noteiktos posmos (1. – 3.kl, 4. – 6.kl.), un papildus skaidrot, ka pietiek ar vienu pretpiemēru, kas pamato izteikuma aplamību. Savāktie materiāli ar kļūdainiem pretpiemēriem tiks izmantoti stratēģijai mācāmiešiem no kļūdām.

Summary

The improved Latvian primary education mathematics standard, with which teachers started work in September 2020, shows that already in grades 1-6 the construction of examples and counterexamples is introduced. This linguistic skill is useful for creating an understanding of concepts, relationships, their most essential properties, and determining the truth value of a statement. Many authors have addressed the role of mathematical logic in the formation of students' thinking skills (classify, analyze, concretize, conclude, etc.) already at an early school age. A counterexample is understood as a separate statement that proves that the general statement is not true, so counterexamples help to better understand both definitions and conditions given in theorems. The construction of examples and counterexamples is based on understanding the structure of the statement text.

A new study course "Elements of Mathematical Logic and Set Theory" is included in the content of the Professional Bachelor's degree in Teacher Education (with the right to teach mathematics in grades 1-6). In order to outline what content questions should be included in this course, a case study design was created. Students in DU teacher programs, (N=25, the study was conducted in 2022), answered questions from three blocks (A, B, C) with multiple-choice

answers, and also created mathematical statements themselves, which could be offered to 1st-6th graders to determine the truth value of the statement.

The pilot study shows that the ability to create examples and counterexamples to the given statements does not cause great difficulties for the future primary education teachers, but it is much more difficult for students to create statements with mathematical content on their own in grades 1-6. for the class. Analyzing the respondents' answers, we certified that several topics of the "Elements of Mathematical Logic and Set Theory" course are relevant for learning the skill of constructing examples and counterexamples:

- the concept of a statement and its truth value, emphasizing the creation of statements with mathematical content,
- negation construction for compound statements with quantifiers,
- use of logic formulas for analysis of statement structure.

In the research, we collected student responses and recommendations from other studies on the use of examples and counterexamples in the learning process. This prompted the addition of a separate topic "Examples and counterexamples for verifying the truth of a statement" in the course "Elements of Mathematical Logic and Set Theory". It is important to offer tasks related to the planned results of primary education in certain stages (grades 1 - 3, 4 - 6), and to additionally explain that one counterexample is sufficient to justify the incorrectness of the statement. The collected materials with erroneous counterexamples will be used for the strategy of learning from mistakes.

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PERSPECTIVES ON MUSIC EDUCATION IN ESTONIAN SCHOOLS

Kadi Kaja

Estonian Academy of Music and Theatre, Tallinn, Estonia

Urve Läänemets

Estonian Academy of Music and Theatre, Tallinn, Estonia

Kristi Kiilu

Estonian Academy of Music and Theatre, Tallinn, Estonia

Katrin Kalamees-Ruubel

Estonian Academy of Music and Theatre, Tallinn, Estonia

Abstract. *The content of education at schools meeting the demand for culturally, socially and politically relevant knowledge, skills and competencies for a particular society has remained an issue of debate in all times. Estonia started development of a new national curriculum (NC) in 2020/2021 and both – the content of learning as well as its organization from kindergartens up to the end of gymnasia became a serious issue. The main topic for debates were the proportions of compulsory and optional subjects, especially at the final level (grades 10–12). Music and other art subjects must prove their positions during recent pandemia and military conflicts. The aim of the study is to map expectations of different target groups concerning the future of music education creating the basis for development of music culture in society.*

The students (n=203) were asked to write essays, analyzing why learning music at high school level is meaningful or not for their personal development. The people responsible for pan-Estonia cultural organizations were interviewed (n=10) and the data were analyzed qualitatively. The results of the study can be used for development of music syllabi in NC of all levels of general education under the present conditions and for teacher training.

Keywords: *compulsory subjects, music education, national curriculum, optional /elective subjects, syllabus.*

Introduction and background to the study

Including music education in the compulsory school curriculum has been a topic of political debate in many countries for various reasons. The content of universal education is a type of social contract to meet the demand for culturally, socially and

politically relevant knowledge, skills and competencies for members of a particular society. This means that National Curricula (NC) are formulated for a specific context and period of time, and are influenced by various factors ranging from local school traditions to contemporary global issues and regional circumstances. Understandably, the social demand for the aforementioned objectives, often described as competencies, results in their being selected, specified and organized in different ways. There are core curriculum documents, subject-based encyclopedic curricula, or the content can be presented in another form suitable for its intended audience. Curricula for different age groups and students with diverse abilities (from those who are gifted to those who have special educational needs) require different approaches, and are therefore designed and structured accordingly (Befring, 1997; Unt, 2005; Janson, 2020; Läänemets, 2021).

It is difficult for professional educators to decide what type of education is best and most meaningful for the population in rapidly changing times and conditions. Thomas Popkewitz has compared this process to alchemy, and drew attention to the shift in principles for their specification over time. The subject content must also assist those with differing levels of literacy (Popkewitz, 2015; Popkewitz, 2018) and ability to become members of the society (Autio, 2022; Läänemets, 2017). The NC must be based on value-related philosophical foundations, and an ideology/set of ideas understood and accepted as cultural norms and historical roots (Tröhler, 2016) have to be determined in advance. David Tyack and William Tobin created the term “grammar of schooling” (Tyack & Tobin, 1994) to refer to “standardized organizational practices in dividing time and space, classifying students and allocating to classrooms, and splintering knowledge into subjects”. However, following discussions about innovative changes to curricula, the question was asked “why certain features of schooling persist and how they might be understood” (Courtney & Mann, 2020). They also highlight global influences on schooling, such as industrialism, welfarism, neoliberalism and neo-conservatism (*ibid.*), of which neoliberalism in particular has put forward autonomy, choice and freedom as new ideals, especially in post-socialist countries.

International organizations (the OECD and European Commission) have also offered their recommendations (e.g. “shrinking smartly” for optimizing school networks in Estonia), and at meetings of national leaders/ministers of education (e.g. the annual World Education Forum) new aspirations and experience gained so far are presented. The forthcoming World Education Forum, with 118 countries participating, will take place 7–10 May 2023 on the topic of “Education: Building forward together; stronger, bolder, better”. Among other goals, a concluding statement is made: “In all, we hope that we will each have been helped to develop our own picture, for our own contexts, of how we should build a stronger, bolder and

better future. The program will inform us about planning and developing education to support individual and collective resilience, economic progress and the contribution education can or should make.” Accordingly, learning from shared ideas about the improvement of education, decision-making at the national level remains the responsibility of local educational leaders and stakeholders.

The development of NC as well as the meaning and potential of school subjects has been a hotly debated issue for educational policy-making in Estonia since 1991. Freedom of choice has been declared to be of the utmost value, especially concerning the proportion of compulsory and elective courses at the high school level. In addition to 63 compulsory subjects, some high schools offer more than 100 optional/elective courses from which students can choose 33 to comprise the 96 courses required for graduation. Implementing school curricula is also related to economic issues and necessary resources (time, money, professional competencies) and has a price tag. Music education is costly as it requires special learning environments (including instruments), lengthier training for the teachers, and is often declared elitist as not everyone is interested in or able to perform music. However, music education has been compulsory in Estonian schools from the 19th century, and is closely related historically to secular Lutheranism, cultural traditions and ethnic identity building.

Estonia began the development of a new national curriculum (NC) in 2020/2021, and strongly conflicting opinions have been expressed with regard to both the content and its organization from kindergarten to the end of gymnasium/high school. The main topic of debate has been the proportion of compulsory and optional subjects, especially at the final levels (Grades 10–12). Music and art have had to prove their worth during the recent pandemic and military conflicts, when conditions and environments greatly changed and new forms of learning, mainly supported by ICT, were implemented. However, remote learning of any type and school subject, and even hybrid models, have less to offer than contact lessons with an experienced professional music teacher. The most efficient and supportive learning environments contain different elements: functional classrooms, study aids, ICT, and human communication, as post-pandemic feedback has shown.

This study is part of a research program that began in 2015, and which is dedicated to different aspects of mapping and analyzing music education in Estonian schools. The issue of offering free access to music education for all children and young people from kindergarten to the end of high school has to be decided at the national level. Our research has also gained support from the results of recent brain research, which have identified the special potential of music education with respect to many aspects of human development (Tervaniemi, 2017; Huotilainen, 2021), including the mental wellbeing of young people in digitalized daily environments.

Purpose of the study. Considering the longitudinal program, started in 2015 the main research question in this study is to specify how different target groups envisage the future of learning music in high schools. This study is mapping how learning music can create a basis for the development of music culture in society as well as for students' individual development.

Research methods

The study is based on qualitative approach. The data were collected from November 2021 to February 2022. Students (n=203) were asked to write essays, in which they explained why they do or do not consider learning music at the high school level meaningful for their personal development. The essays were collected from 2 high schools (one located in the capital Tallinn and the other in a rural district). The students at high school level grades (10–12, aged 16–19) were asked to express their ideas by writing essays and discussing the topic “My opinion about the music education as a compulsory subject at school”. The content of the collected essays was analyzed according to three basic criteria: opinions/arguments explaining why compulsory music education at Estonian schools could be considered necessary; why it is not necessary as part of an obligatory curriculum and ideas/recommendations how music education could be organized so that it would meet students' expectations, intellectual and social needs in the best possible way. Supportive arguments explaining the needs for music education for everybody were analyzed in depth by the following subcategories considering: widening of student's cultural awareness and world outlook, its potential for socialization, development of emotional literacy and national/ethnic identity.

Interviews with a new target group – representatives of pan-Estonian cultural organizations (n=10), which are responsible for specific activities at the national level, were used as another instrument for data collection. The aim was to describe how official/national organizations perceive the role of school music education in sustaining and developing a music culture in Estonia. The following organizations were consulted: the Estonian Society for Music Education (R1), whose members are general comprehensive school teachers; the Association of Estonian Professional Musicians (R7); the Music Estonia Centre (R4), which is occupied with developing music management; the Estonian Song Celebration Centre (R3, R10), which plans and organizes these festivals; the Estonian Choral Society (R2), which is comprised of professional and semi-professional choirs, and the Estonian Concert organization (R5). The Estonian representative and research coordinator for the European Music Exporters Exchange (R6), and consultants with the Parliamentary Commission for Education and Culture (R8, R9) were also interviewed.

The data collected by interviews were analyzed by means of the web-based software QCAMap, and the following two main categories and subcategories were specified: 1) music education, with subcategories for music education in general comprehensive schools (concerning the role and necessity of school music education), and at informal hobby schools (with respect to the inclusion of choral singing in the curricula, and challenges related to organizing choirs), and 2) music in society, (with a subcategory for Song Celebrations, which distinguished between the significance of traditional Youth Song Celebrations and the challenges the tradition is encountering). The students' essays were analyzed using qualitative content analysis with following categories 1) cultural and historical horizons (shared knowledge, values); 2) socialization, identity, wellbeing (social skills, shared repertoire, national identity, creating cohesive society); 3) individual musical literacy (basic musical skills, creativity development).

Results and discussion

According to the design of the study the target groups were chosen and linked considering how the results of music education at schools can be used for developing music culture in society at large, using its full potential. It also means contribution for enhancement of cohesive society and students' musical literacy and identity building.

Target group 1: students. The majority of students recognized the role and high potential of music education for widening their mental horizons by offering knowledge in different fields of life. Music education at schools enables students to understand and value different styles of music as well as music of other countries through which they can increase their cultural awareness. Comprehension of one's own music culture as well as that of different countries helps to understand the role of music in development of their ethnic characteristics, common values, their statehoods and contemporary values. Students have perceived and recognized the great contribution music education has provided them with for development of their own ethnic roots, traditions and cultural identity.

The task of music education is to transfer traditions. It is most important from the point of our ethnical belonging, because without culture we would cease to exist as a nation/ethnic group. In addition to widening our cultural awareness and outlook, we also learn in music lessons some history and develop our creativity/creative skills (S15; S= student, 15- participant's number)

The ideas expressed by students also showed that when learning some history of our state in music lessons, it also helps them to understand older generations and all society as well as to discover and identify oneself. Shared values, shared

repertoire (mostly for singing) and knowledge about our culture can unite different generations, diminish controversies and avoid social conflicts.

Song Celebrations have united our people and preserved cohesion in society throughout times. In music lessons we have learned the repertoire of those celebrations, their history, and discussed the values shared by this particular tradition. (S122) Music has a significant role in preserving our history and culture. Music, especially folksongs are those, which describe our life and beliefs in those days when there was no literary language or fixed texts. These songs have been transferred as an oral tradition from parents and grandparents to offspring up to the present days and we have to teach them to coming generations. We learn about these traditions and there are some, which we will observe presently and definitely carry on. (S26)

Music education has a great potential for development of students' social skills and becoming a member of society. Joint singing, often in choirs and ensembles, means teamwork, discussions of different topics, individual explanations and expressing oneself musically – all this makes students more self-confident and aware of their own social roles and potential. *Music can overcome language barriers. It is something that brings people together despite their belonging or background. Music teaches equality and the importance of belonging together. (S118)*

There is also a great potential of music education for development of creativity and fantasy in activities. Joint singing in music lessons makes students perceive their class as a united team/group in which they learn to understand and use contributions of their peers for the sake of common achievement. In addition, when listening and analyzing different styles, timbers and pieces of music, students develop their musical taste and acquire skills to understand and value music, belonging to the educated concert audience and informed and aware consumer of culture.

Although I do not feel the great need to identify myself every day as Estonian, I feel something very special, when I happen to come across songs, performed at Song Celebrations; it is a kind of feeling pride of being Estonian by birth, which one cannot describe. (S26) We all have our favorite songs, which we know by heart and there are specific songs which we bear in mind for a long time, and we often remember them related to a particular event or situation (S32)

The students, participating in this study have also considered important to offer some generalizations, according to which they expect to acquire at school wider and stronger foundations for informed decision making concerning their future professions and opportunities at the labor market. So they also expect to have a chance to learn about the activities of professional musicians and find out about their own potential interests in music and music related professional activities. There are some interesting views characterizing students' thinking and planning.

I have sometimes heard from my peers that they do not consider music education at school necessary at all, or if, then only for children in primary grades, when small kids can just enjoy singing. I think that the knowledge and skills acquired in music lessons do not offer much for future jobs. However, young people do not know at such an early age, what life could offer them as options or new fields of interests. I think it is important to find out and try different things, even if it tends to be boring or meaningless. (S12)

Is it really necessary to learn subjects, which the majority of students can never use in their future jobs and/or everyday lives? This statement could be questioned with a new question, and namely – how can a person know what he/she will need in future or not? (S21)

Still, there is a small number of students (18 out of 203), who consider music education not much related to their future lives. They are of the opinion that music as a school subject could be among the electives at high school level and explain that by that age they have already found out the specific fields they are really interested in and probably could use as supportive for their future activities.

My experience so far has shown that if you know math formulae and physics, then you can live all anything else or new. My dad, for instance, who works in IT field, always likes to say that he is more willing to solve ten math tasks than write one essay. It makes me think that life is probably not only math and we might need other skills as well, in addition to those. May be when looking for a job. (S15)

The majority of respondents have also mentioned that music lessons offer them a sense of feeling well, which helps them better focus on learning during schooldays, often filled with stress and anxiety. It is also perceived as a nice alternative and therapeutic activity, which helps to switch over from problems to some pleasant self-expression by means of music; it can reduce anxiety and increase self-awareness. *Let's imagine the situation: you have just received back your test in some other school subject with a poor mark or negative feedback. But if your next lesson is music, where you sing with your class something nice, you can get rid of your worries. (S121)*

Listening to music supports learning languages; it helps to acquire phonetics and also vocabulary. It is also possible to develop your language skills by singing (and think about lyrics). Learning to play instruments and notes trains our memory. Better memory, in turn helps to remember important facts and concepts in any school subject. Without listening to music and remembering lyrics my foreign language skills would be considerably worse. Music education helps and develops our thinking in other school subjects as well, often we do not even notice it. (S15)

It can be concluded that nobody of high school students has questioned the importance of music education at lower levels of general education, everybody has

considered it meaningful and relevant for kids in kindergartens and compulsory schools (9 grade schools in Estonia). The majority of respondents have perceived music education as something positive and supportive for development of an intelligent, ethical, emotionally stable, emphatic, tolerant and cooperative personality, able to manage one's life. So they expect music education to be preserved as a necessary and needed component of high school education. However, there was a small group of respondents, who proposed to offer music education as an elective at high school level. The reasons for that can be various and need specifications by a specific research of changing values. One can speculate perhaps considering technology and money-oriented new social values, willingness to change one's approaches and attitudes as new opportunities arise and aspirations towards focusing on individual wellbeing.

Target group 2: representatives of cultural organizations. The views expressed in interviews indicated that *wide and many-sided music education* (R6; R= respondent, 6=interviewee's number) should function in *ideal symbiosis*, (R1) including compulsory music education as well as the types of activities offered in informal hobby schools – music groups of various kinds: school choirs, vocal and instrumental ensembles, folk groups, school bands, etc. None of the respondents questioned the need for music education, or its positive impact on young people's development, but questions and doubts arose with regard to implementation and decision-making about the required financial resources.

We are facing real challenges when we have to create conditions, mainly environments. Music activities require extra expenses (money), rooms/places and technical equipment..., also instruments to play... (R6)

School music lessons can lead to specialized music instruction. Teachers are usually aware of students' talents and interests and can recommend in-depth studies for them. *Studies at hobby schools and ordinary schools should support each other, they cannot replace each other. Ideal would be, if music teachers can detect talents in first music lessons already and recommend them additional music activities at music schools, in professional choirs and use them as much as possible at their own school events. (R1)*

Cooperation and integrated music learning at schools with extracurricular activities create special environments for functioning cultural communities. Sound arguments were made in support of music education as an important school subject. The majority of respondents highlighted the value of introducing music culture to students to promote its further transmission.

Music culture is a part of Estonian culture, it must be preserved and valued. (R5)

There are many aspects of music culture and musical literacy. Respondents considered the development of educated concert audiences to be meaningful, and therefore felt that high quality music experiences (often classical music concerts) must be made available/accessible. The frequency with which students attend concerts greatly depends on teachers and their values, as concert attendance requires extra time and money for tickets. Several organizations that arrange concerts also contribute to this kind of education by offering lectures with concerts and even concert cycles that are especially designed for young people.

Respondents expressed their dissatisfaction with school education in general. They were of the opinion that *it does not support development of young people's multisided abilities for orientation in contemporary/modern cultural spaces.* (R8) This might refer to prevailing values and young people's fields of interest, as well as their orientation toward finding and processing information mainly through social networks and websites, which have diminished the role of traditional information channels (school textbooks, radio, television, newspapers), and direct human communication. These respondents see a role for music education to play in the development of critical thinking and fostering an awareness of different areas of human activity.

Music education can also support development of skills and abilities of those students who are more interested in sciences and hope to acquire some technical qualifications at vocational schools or become an engineer. The real task of engineering education is to train creative engineers, able to design technical and technological solutions. (R9)

Hobby schools support music education by working toward common goals. It is important to include choral singing in the NC, but this is currently left for schools and local communities to decide, which creates problems with designing school timetables and paying choir conductors.

Choir singing must be a part of NC. Music is a school subject for being and becoming a human – it gives skills, which cannot be obtained elsewhere – empathy, feelings/emotions etc. (R3) All respondents expressed a need to preserve music education from kindergarten through high school. In addition to developing creativity and sustaining music culture, they also saw the potential of music activities to develop students' social skills.

Music education develops creativity, but it also contributes to development of highly needed social approaches and skills, which are important for future specialists in all fields and jobs where they have to communicate with other people. (R9)

There are challenges associated with music education. Teachers often have to explain why music education is a meaningful school subject and that their job should be more highly valued and respected.

...we [music teachers] must fight and prove that music is a school subject as any other ... music is ... a real thing. ... We have constantly explain to colleagues and general public the role of music education. It is not a piece of small entertainment between other more important school subjects. (R1) Music education has to be culturally wide and students should have the right to decide about it themselves. The way, how we think about music education could be changed as well. 'Classical' music education means 'learning notes, singing in choirs.' At music school [learning again notes again and then we play instruments. But there are also other opportunities... All people, also those who cannot learn notes, should have some access/way to music and make it in different ways. There are technologies, etc. (R6)

The respondents were also concerned about the diminishing role of classical music. Some teachers no longer consider it important and do not try to motivate students to appreciate it, as young people's focusing skills have decreased considerably.

We have to take great pains to translate [music] when introducing this material [classical music] to them. (R5). The ability to concentrate is the first prerequisite for listening to music, especially classical music. The history of music is also closely related to the development of listening skills, and when teaching music, ways must be found to present classical and modern music as a meaningful whole and rather than treating them as opposites.

Several respondents highlighted the need to develop musical literacy, which is necessary for participation in ensembles and semi-professional choirs as adults. Musical activities such as singing in choirs or playing in orchestras provide opportunities to have a more meaningful and interesting life by forming friendships and discovering new identities, which are associated with belonging to a group.

Access to musical activities should be offered to all children ... as it is rewarding for everybody in our society. If music education at schools could address and help those young people who would like to make music in different ways. Nobody, interested in music should not be left without help ... if possible, support and encourage them, offer them some knowledge as well, so that they would not be busy with new apps only today. (R6)

There are also issues concerning web-based and other study aids. *Development of good materials is a complicated task, it is not a short-time hobby of some teachers. (R6).* The development of study aids, both traditional and web-based, requires special professional competency and money.

Another challenge is music teacher training, as today's student candidates often have inferior musical skills to those possessed by previous generations, and decisions with regard to education policy and the implementation of inclusive education have complicated teachers' work immensely. One of the forthcoming tasks must be the revision of music teacher training curricula to include increasing professional skills in different fields of music.

The tradition of Baltic Song Celebrations has been accorded UNESCO world heritage status. It is not simply a choral, or joint singing tradition, but one which is both polyphonic (multiple voices) and *a cappella* (without accompaniment). Various types of choirs perform at Song Celebrations, and they promote the development of musical skills among different age groups and also encourage individual musical activities.

If there were no music education at schools and choirs of different kind from primary grade students' choirs [children's choirs] until the end of high schools [mixed choirs], this tradition would not exist. ...music education is of utmost importance for Estonian choral singing culture. Of utmost importance. (R3)

Song Celebrations for young people are considered even more important than those for adults as the former pave the way for participation in the latter. School choirs create the foundations of the tradition and guarantee the sustainability of the celebrations. Still, there is a lack of young conductors and teachers, and they often do not continue working in schools.

For Song Celebrations (social) movement existence of school choirs is crucial. In ideal cases children would move on and continue step-by step to a following type of choir until they become members of adult choirs. (R1)

In the context of Song Celebrations it is important for children to get the emotion of singing in a huge choir of thousands that would 'carry them on' for long. Such an experience cannot be gained at school events. Participation in Song Celebration makes all singers 'stretch mentally out' in a different way. (R3)

However, it requires hard and smartly planned work from music teachers and choir conductors as well as from students to learn the repertoire, which is quite demanding. Sometimes they find the effort unmanageable, and quit. Also, there are not enough teachers and conductors, and many of them are old. (R3, R1, R10). Considering the gained results in this study they largely indicate to similar tendencies expressed in earlier researches (Huutilainen 2021, Popkewitz 2018).

Conclusions

This study has shown that music education has a special role in NC in many respects. The target groups expectations and ideas expressed allow to make more

informed decisions concerning development of music syllabi in NC of all levels of general education under the present conditions and for teacher training at the Estonian Academy of Music and Theatre. However, there are certain limitations related to qualitative analyzes. Both, interviews and essays always remain subjective and all respondents could have been somewhat influenced by forthcoming Song Celebrations in 2023. Still, only music education at schools creates the basis for preserving the traditions and development of music culture in society. The proportions of compulsory and optional/elective school subjects require wider further studies and the future of learning music at schools as well as that of other school subjects. The *complicated conversation* about school curricula and the content of learning must go on.

Hilda Taba has said: “If education is to be a countervailing power in a technological culture, it needs to cultivate a conscious commitment to democratic values and a sense of personal and collective goals that lends new meaning to individual effort and achievement. Education must help people think collectively about social ends, since we no longer can count on collective goals, emerging from an “accidental coincidences of individual goals” (Taba, 1962).

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THE CONCEPT OF LEARNING TO LEARN IN THE CONTEXT OF MUSIC EDUCATION

Asta Rauduvaitė

Vytautas Magnus University, Lithuania

Bo Sun

Vytautas Magnus University, Lithuania

Abstract. *In the context of lifelong learning, the importance of learning to learn is increasingly emphasised. There have been different views on defining the concept of learning to learn and the final definition has not been available yet. Researchers have made attempts to define and explore this concept in different areas. Sometimes they come from quite different epistemological and logical backgrounds. Learning to learn has been extensively analysed in the scientific literature and has been described in various ways. Using a literature review approach, this article presents a theoretical analysis on how the concept of learning to learn is understood in general music education, with the aim of discovering the specifics of learning to learn in this context. The role of planning, collaboration, reflection, and self-assessment in music education has also been identified in the study.*

Keywords: *learning to learn, music education.*

Introduction

The significance of learning to learn is increasingly stressed in the context of lifelong learning. Activity, the desire to improve, and the ability to manage their own learning are key to the overall development of learners. Learning to learn is an essential factor for success in education, work, personal, and social life, as we live in an unpredictable, diverse, and challenging world (Crick, Broadfoot, & Claxton, 2004; Stringher et al., 2021; Pollard, 2007).

Researchers perceive learning to learn as an open, non-authoritarian atmosphere that promotes creativity, initiative and learning through self-confidence, self-reliance, originality, independence and resourcefulness (Higgins et al., 2007; Caena & Stringher, 2020). Learners must make efficient use of their previous knowledge and past experiences and innovatively create new knowledge and ideas in response to novel problems.

In the contemporary educational system, the ability of learners to independently manage and regulate their own learning process occupies a high

place in the hierarchy of educational goals and key competencies needed by learners to successfully cope with situations and problems of daily life. Due to a central role it has in achieving the quality of learning and learner performance in and out of school, self-regulated learning or learning to learn has become one of the key constructs in education (Boekaerts & Cascallar, 2006).

Music teaching is a multidimensional phenomenon. It contributes to nurturance of a cultured person as well as develops learners' abilities, improves their social skills and expands their horizons. Comprehensive, developmental and systematic music education should be the core of every child's formal education within the state education system (Woody & McPherson, 2010). Involvement in music making together with others results in significant improvements in the ability to associate with a community, to access a wide range of culture and succeed in education. Commitment, respect, responsibility, and trust are all developed as key skills through regular and structured music lessons.

This article analyses the complexity of the concept of learning to learn through a literature review and explores the implications of this concept in music education.

The aim of the research is to present a theoretical analysis on how the concept of learning to learn is understood in general music education, with the aim of discovering the specifics of learning to learn in this context.

The method of the research – scientific literature analysis.

Different perspectives on learning to learn

X. Zhen et al. (2020) proposes using the term "learning ability" to refer to outcomes and the term "learning capacity development" to refer to the learning process. The term learning capacity refers to learning as a goal, i.e., having a competency, while the term learning capacity development refers to learning as a process, i.e., acquiring a competency. C. Stringher et al. (2021), F. Caena & C. Stringher (2020) state that learning to learn means persisting in knowing one's learning preferences, planning one's learning and/or being aware of what has been learnt, developing confidence and self-assessment skills, viewing learning as a goal and a process, being ready to begin learning with others, and taking ownership. According to L. Chisholm, H. Fennes, A. Karsten & K. Reich (2009), the phenomenon of learning to learn is attributed to both a process and an outcome. Learning to learn should be seen as a process and learning to learn as an outcome. If learning to learn is understood as a skill, learning to learn is perceived as a lifelong process.

Nevertheless, learning to learn is a complex phenomenon and it has been defined in different ways in the scientific literature.

Table 1 Definitions of learning to learn (made by the Authors)

Definitions of learning to learn	
F. Caena (2019)	Learning to learn is a complex of preparation, experience, social relationships, values, attitudes and beliefs.
G. Stonkuvienė (2018)	Learning to learn is the ability to set learning objectives, to plan how to achieve them, to choose appropriate learning methods, to reflect on the learning process, to evaluate the outcomes, and to set a further objective in the light of them
A. Letina (2020)	Learning to learn is a process which focuses on an individual's self-awareness as a learner, which includes one's motivation to learn, one's learning goals, preferred learning strategies, and cooperation with other learners.
D. Roberts (2010)	Learning to learn is about understanding yourself as a learner and taking responsibility for your learning.
M. Rowson (2000)	Learning to learn is a set of skills such as critical analysis, time management, planning, goal setting and others.

According to P. Hofmann (2008), learning to learn starts with a conscious decision to develop the capacity to learn, proceeds slowly and becomes an integral part of a person's lifelong learning – whatever a person learns or will continue to learn, either as a major or as a minor subject. Learning to learn involves the development of learning competence, which consists of knowledge, skills, and attitudes and values necessary for successful and effective learning activities, as well as the ability to apply them in practice (Chisholm, Fennes, Karsten & Reich, 2009; Hoffman, 2008).

D. R. Crick (2006) argues that the long-term development of an individual's capacity to learn, responsibility for learning, change and the application of learning outcomes in practice. He states that the learners themselves need to want to learn, to become aware of themselves as learners and to be able to assume responsibility for their own learning trajectories whether in or out of school and over a lifespan. Learning to learn involves the person who is learning, and requires motivation, a sense of direction and desire, and a sense of agency and self-regulation. This implies a sense of time and direction: a person chooses a particular goal or a desired outcome which is achieved over time (Crick, 2006).

Learning to learn is one of the key competences which are vital for personal fulfilment, for people to be included in society, for employability and active citizenship (Hoffman, 2008). This competence encompasses both the cognitive and affective dimensions and indicates its transversal nature and its lifelong and continuous dimension (Letina, 2020).

Learning to learn gained increased attention from policy makers, researchers and practitioners. Scholars tend to agree that learning to learn is composed by cognitive, metacognitive and socio-affective-motivational components (Crick,

Stringher & Ren, 2014; Chernyshenko, Kankaraš & Drasgow, 2018). F. Caena & C. Stringher (2020) attempt to make these distinctions explicit. According to their definition, learning to learn is a complex hyper-competence orchestrating cognitive, metacognitive and socio-affective-motivational assets of the individual, in a voluntary effort to produce knowledge upon and improvement of own learning. Learning knowledge and learning improvement, from this perspective, are key outcomes of learning to learn, as are learning strategies which can be mastered only with metacognitive recognition of how they function and how they benefit the individual, according to own and social learning needs (Stringher et al., 2021).

Research on learning to learn, its basic characteristics and key elements, as well as development among learners has become more frequent in the last decade. The University of Bristol launched a project (Pollard, 2007), which aimed to define and examine the personal orientation of respondents towards lifelong learning. They used “learning power” as a new term that implies a complex mix of disposition, experience, social relationships, values, attitudes, and beliefs that influence a person’s individual engagement in different learning opportunities (Crick, Broadfoot & Claxton, 2004).

There are other attempts to define learning to learn, such as the British Learning Campaign, which defines learning to learn as a process of discovering the learning itself that enables individuals to learn more effectively (Higgins et al., 2007). Metacognition is an important component of learning to learn, and the perspective of metalearning is an essential feature, where metalearning refers to learning how to learn. Furthermore, P. Black, R. McCormick, M. James & D. Pedder (2007) define the learning to learn as a combination of knowledge of cognition (knowledge of what a person knows and does not know) and self-regulatory mechanisms in learning (such as planning the learning process, checking outcomes resulting from the application of a particular learning strategy, assessment of these outcomes, and revisions of the strategy to improve the learning process).

The authors (Hoffman, 2008; Watkins, Carnell, Lodge, Wahner & Whalley, 2000) emphasise that self-awareness for learners is at the centre of learning to learn and that it is necessary to encourage learners to take responsibility for their own learning, as this is important for further learning success in a variety of learning environments. Critical thinking is the foundation of learning as it encompasses a wide range of different skills that are important for learners in different settings of their life. Researchers (Watkins, Carnell, Lodge, Wahner & Whalley, 2000) have highlighted the following necessary attributes of learners: motivation to learn, a positive attitude towards learning, confidence, and reflection. A. Moreno & E. Martin (2007) argue that competence in learning encompasses a range of cognitive and affective domains: thinking skills, learning

strategies, metacognition, self-confidence and motivation. P. Hoffman (2008) describes learning to learn as a process of competence development and identifies at its centre learning motivation, learning goals, preferred learning methods, strategies, cooperation with other learners, etc. The author also stresses the importance of attitudes, values, and beliefs in order to become more effective in organising one's own learning in different contexts.

M. Rowson (2000) reflects on the fact that learning to learn can certainly be described as a skill or, more likely, as a set of skills, including learning skills, critical analysis, time management, planning, goal setting, etc. Even if this term is understood as a set of skills, it is clear that it ranges from learning skills and self-discipline, which are necessary for learners to undertake a fairly structured learning programme, to a set of skills that help learners to manage themselves. The authors (Watkins, Carnell, Lodge, Wahner, & Whalley, 2000) point out that in reflecting on our learning experiences we need to focus on the following key elements: learning goal, strategy, feelings, and context. M. L. Hoffman (2008) stresses that learning to learn has strong communicative and collaborative dimensions, as the social aspect is particularly important in learning environments. Learning, as D. Mackeracher (2004) argues, is a natural social process in which we are involved with others. Watching others learn, reflection, challenge, team-teaching all support the process of knowing and create opportunities for the further development of learning to learn.

According to B. Smith, G. Kenely, M. A. Tonna & G. Bugeja (2015), learning to learn is the ability to learn in a social environment; to concentrate on both the process and the outcome; to manage own learning according to the individuality; and to apply the acquired knowledge in practice.

Motivation is vital for starting, continuing, completing, and applying what an individual has learnt in life. Learning usually takes quite a long time, requires an effort to overcome obstacles, sacrifices other interests, and makes the brain and/or muscles work hard. The absence of motivation would make learning impossible. *Reflecting on learning* is the second key part of learning to learn. Reflection on learning is the ability to learn from previous learning situations and life experiences. Reflection requires stopping, looking back, and rethinking. *Time management* refers to the ability to organise activities so that what we need to do when we need to do is done. To learn something, time is needed and there are simple things that can be learnt quite quickly, but there are things that require a lot of time, sometimes years. *Information management* is perceived as the ability to find and select useful or necessary information, to understand and to organise it in a way that makes it easily accessible when needed, and to use and disseminate information appropriately. Today, the information is excessive and diverse. Thus, the search for information can lead to unreliable sources and to information that is not appropriate for a particular learning goal. Information may be provided in

a way that is not in line with the personal learning style (e.g., too much text and few illustrative diagrams, or conversely too many diagrams and little explanation). The use of such information for learning may not be efficient. *Learning in groups*. The debates about whether it is more effective to learn individually or with someone else in a group are intensive. In general, learning is perceived as a social phenomenon. From the very first days, an individual is taught by parents, grandparents, tutors, teachers, lecturers, neighbours, friends, even strangers who show them, for example, how to use the self-service checkout at the petrol station or supermarket.

Learning to learn is a process which focuses on an individual's self-awareness as a learner. It includes motivation to learn, learning goals, preferred learning strategies, and cooperation with others. During life, especially during the intensive process of education, people, mostly unconsciously, develop knowledge of themselves as learners and, on the basis of that awareness, develop or gain their learning strategies. Learning to learn implies awareness of the concept of learning and the process that takes place in its essence, as well as the ability to adapt that process if some limitations occur. It involves entering into the deeper meaning of the structure of a particular material during the learning process and can lead to critical awareness of the assumptions, rules, and social expectations that affect human cognitive experience, as well as their way of thinking, feeling, and behaving during learning. Learning to learn relates to motivation for learning, learning goals, preferred ways of learning, learning strategies, and cooperation with others (Hofmann, 2008) and allows learners to become more effective, flexible, and self-organized learners in a variety of contexts.

Learning to learn and development of learner abilities

Different types of abilities and skills are bidirectionally related during human development as a consequence of mutually beneficial interactions of originally uncorrelated cognitive processes (Maas et al., 2006). Therefore, cognitive abilities and academic achievements should influence each other through development, and 1) the relationship between academic achievement and relevant important cognitive abilities (executive function, working memory, reasoning) should strengthen with age, 2) academic achievement together with these cognitive abilities should predict each other from a longitudinal perspective, and 3) interventions aimed at these cognitive abilities should result in enhanced academic performance and vice versa (Peng & Kievit, 2020).

R. Žukauskienė (2012) states that formal operational thinking, which is characterised by the ability to think abstractly independently of concrete facts, emerges at school age. From the age of eleven, a child develops the ability to solve problems logically and rationally. Learners pay more attention to the overview of

possibilities than to reality. This sequence of thinking manifests itself in the search for a strategy to solve a problem or for new, alternative solutions. The author argues that adolescence is the time when hypothetical thinking develops to plan for the future, to predict the consequences of behaviour or events, and to provide alternative explanations for events. New ways of thinking allow learners to discuss more freely with adults or peers and to better argue their ideas (Žukauskienė, 2012). At school age, forms of thinking that are particularly conducive to learning begin to develop, enabling the learner to select information, to discuss and argue, to understand and evaluate situations objectively.

One of the key factors for successful learning is the ability of a learner to understand and analyse his or her own thinking process. According to R. Žukauskienė (2012), a new cognitive ability - metacognition - begins to emerge at the beginning of adolescence. It involves monitoring and controlling of own cognitive activity while thinking about something. A better understanding of their own thinking patterns helps learners to know their potential and to learn effectively. The author stresses that adolescents, unlike children, begin to understand how one person's thoughts or actions can influence those of another person.

Learning to learn in the contexts of music education

Learning to learn is essential for any learning, and learning to learn is integrated into all subjects, including music lessons. When integrating learning to learn into music education, it is important to note that learning skills are developed continuously: for any content or for any activity, learners should be encouraged to reflect on their learning styles (How do we learn? What strategies do we use?) and experiences (What did we realise about our own learning after performing the activity?). The music teacher should plan teaching activities in a way that pupils try out as many different strategies as possible to learn the subject and choose the ones that are suitable for them. The aim of the integrative programme for learning to learn is to enable a pupil to learn himself/herself as a learner; to develop the attitudes necessary for successful learning; to acquire learning skills; and obtain the knowledge of the learning process, methods, strategies, opportunities and resources necessary for learning activities. To acquire competence in learning to learn during music lessons, pupils should understand the value of learning; feel the need to learn and develop; strive to know themselves as learners; seek to achieve the set goals independently, purposefully and perseveringly; have self-confidence and belief in the success of their learning; take responsibility for their own learning activities, the process and the results; and share their knowledge, experiences and experiences with others (Ministry of Education, Science and Sport, 2008). As a music teacher, it is important to create a learning process that

stimulates pupils' learning and gives them the prospect of lifelong learning.

During music lessons pupils develop all their learning skills: to understand that learning is a meaningful and purposeful activity; seek to find out what they are already good at and what they still need to learn; understand which personal qualities contribute to successful learning and which do not; be able to set realistic learning goals; plan and select time suitable for learning; choose appropriate learning strategies; select appropriate learning aids; learn by relating new learning material or experiences to what is already known and experienced; to identify misconceptions and change and correct them; apply strategies appropriate to learning style and assignments; stay focused on and attentive to the learning task; work with determination and perseverance when faced with difficulties or setbacks; learn as an individual, in a group, in a class; to learn from different sources of information; organise information; evaluate their own learning activities and results, identify reasons for successes and failures; predict what they would do differently in a similar task next time; set new learning objectives based on what they have learned (Ministry of Education, Science and Sport, 2008). Therefore, music teachers could consider encouraging active mastery experiences by providing opportunities for learners to exercise autonomy and control over their own learning. This could include providing learners with opportunities for self-expression and self-selection of activities and repertoires to promote a sense of contribution, achievement, and subsequent development of self-efficacy.

In the field of music education six stages of a learning model that are related to musical learning experiences in the classroom can be distinguished: immersion, demonstration, engagement, expectations, responsibility, approximation and response. Aspects such as characteristics of pupils, learning environment, teacher-pupil interaction and relationship, educational goals and processes to learn music are stressed because of the diversity and complexity of learning in music. Important factors about class management are considered by music teachers, including content choices, sequence of presentation, transitions, and pace of instruction (Mateiro, Russell, & Westvall, 2012). Music teachers have a great opportunity to address learning to learn through the choice of the relevant repertoire, but also through discussing the content of musical works or solving learning problems arising in the process of musical activities. The teachers' role in music education is extremely broad and requires responsibility. It combines into a whole of their unique personality traits, musical skills and artistic and pedagogical qualities (Barton & Riddle, 2022). In music lessons, the role of the teacher is highlighted in enabling all pupils to be active, to accumulate individual experience, and for all to participate in group activities together.

The General Curricular for Primary and Secondary Education (Ministry of Education, Science and Sport, 2008) stipulate that listening to music involves the development of pupils' acoustic experience and musical vocabulary, based on

examples of musical works from different cultures and periods, the development of musical perception and artistic experience, the development of aesthetic impressions through verbal expression, the development of analytical and evaluative skills, and the acquisition of musical concepts. Observation, interpretation and evaluation are also frequently used during music lessons. In the General Curricula, these activities are described as observation of own creative works and those of friends and artists, as expression of emotions and perceived meaning that arise. Pupils are encouraged to explore how and what thoughts, ideas and attitudes are conveyed, focusing on issues of human relationships, conflicts and the meaning of existence.

Artistic expression is defined in the General Curricular as an activity in which pupils come up with ideas and solve questions of artistic expression on the basis of their own experience and imagination, using a variety of artistic tools, methods, and techniques. Through performing or composing music and cultural events, learners learn to apply the necessary knowledge of the musical language in practice. Learning about music in a socio-cultural environment involves exploring different musical phenomena, traditions, the significance of music in the life of society, and personal musical experiences (Ministry of Education, Science and Sport, 2008). Music education evokes positive emotions, helps to overcome tension, and facilitates communication, thus creating conditions conducive to mental activity. The Curricular report that learning in a musical environment is more engaging, faster-paced and longer-lasting. The music classroom provides an environment conducive to the joy of learning, the experience of moral satisfaction and the development of self-confidence (Varadi, 2022). The cooperation and relationship between the pupil and the music teacher in musical activities shapes the pupil's values, engagement and activity in the classroom.

B. A. Broh's (2002) research reveals that involvement in music making with others leads to significant improvements in the ability to feel part of a community, access a wide variety of cultures and succeed educationally. The research conducted by J. Davidson & J. Good (2002) shows how commitment, responsibility, respect, and trust can all be built as underlying skills in young people through structured and regular group music making activities. At its heart, music making is a social activity. Whether as a young child or a teenager, to play an instrument or sing on your own has many benefits, but why not be proactive about making music together with others as an integral part of a school's daily shared life? Beyond the general benefits, active participation in group music-making activities improves pupils' physical and mental health as well as builds a stronger sense of community cohesion. As the role of the music teacher is undergoing a transition from the role of a transmitter of knowledge to that of a counsellor and facilitator, it is expected that the use of active learning methods

and the involvement of learners in the organisation of the educational process will support learners' learning.

Music is a vital part of every learner's education and it contributes to deep and enduring engagement that leads to learning success. According to researchers (Woody & McPherson, 2010; Román-Caballero, Vadillo, Trainor, & Lupiáñez, 2021), music education develops unique, powerful and multiple ways of perceiving, interpreting, knowing, representing and communicating understandings about the self and the world. Through music experiences, learners have opportunities to think creatively; explore ideas and feelings; and develop emerging personal, cultural and social identities. The social act of music-making generates synergy and provides unique opportunities for learners to become part of collaborative and diverse knowledge building. Learning music enables learners to explore ambiguity; to think imaginatively, innovatively, with flexibility and empathy; and to feel confident with uncertainty and risk. Music education promotes open-ended, critical and divergent thinking; and encourages understanding and feeling mediated through body, mind and senses. Thus, the ultimate goal of music education is to organise the educational process in such a way that every pupil has the opportunity to invent and discover.

Music education is considered to be a stimulant to the human intellect. Psychologists note that a musical pupil has fewer problems with underachievement. Music is the best educator, changing ways of thinking and teaching how to think. According to the author, the brain trained by music knows how to gain everything it needs. Metacognition appears to be an essential factor for musicians, since the application of metacognitive strategies (e.g., planning, monitoring, and evaluation) during practice improves the performance of both experts and novices (Radovan, 2019). Musicians spontaneously apply strategies that improve their performance (Antonietti, Cocomazzi, & Iannello, 2009) and in this way they appear to be capable of self-regulating their own behaviour. The first one concerns planning, and this is where an individual devises a plan before approaching a learning or teaching assignment. This planning phase is preceded by a monitoring phase, closely linked to metacognitive control, where individuals constantly observe their understanding and progress and apply reconstructed strategies as needed. The final phase is an evaluation phase when individuals evaluate their thinking process and their performance. For teachers, the evaluation can be both self-directed (to evaluate the effectiveness of their teaching) or directed to learners, to support their learning process (Colombo & Antonietti, 2017). The potential of every pupil is the ability to organise, control and manage his or her own learning, and the task of teachers is to recognise, nurture and encourage the dissemination and development of this ability. The music teacher should provide opportunities for pupils to set and discuss individual learning tasks with others, talk about their new experiences and knowledge, and use a variety of

learning strategies and methods to clarify their appropriateness for the music learning process.

For learners to be motivated to participate in an activity, they must understand its value and believe that they can succeed with it in their future. This expectancy, that is, value theory, explains why many learners both pursue and persist in music, whereas others do not (Mannion & McAllister, 2020; O'Neill & McPherson, 2002). Such information helps teachers predict their learners' participation choices and interests (Lehmann, Sloboda, & Woody, 2007). Learners must also truly enjoy the music activity to continue with it (Evans & Liu, 2019). This motivational framework consists of four parts of both intrinsic and extrinsic motivation in how much a learner will a) value being successful in a music activity, b) predict that it will be an enjoyable or rewarding experience, c) foresee that the music activity will be valuable in meeting future results, and d) value the music activity so as to make that the amount of time spent practicing and participating worthwhile (Lehmann, Sloboda, & Woody, 2007). Thus, it is important for the music teacher to encourage learners to talk about the relevance and meaningfulness of the learning tasks, the possibility of applying their learning in other contexts, and to create opportunities for learners to experience success.

Learner assessment is integral to music teaching and learning. Music teachers are responsible for providing valid and reliable information of their learners' performances in relation to a wide variety of learning outcomes. When this information serves a summative role, such as the assignment of grades, it is denoted as assessment of learning. Teachers are also responsible for providing feedback to help learners extend their understanding of musical concepts and to assist all learners in improving their musical proficiencies. When assessment assumes this formative role, it is denoted as assessment for learning. Learners are encouraged to reflect on assessment information as a way to gain personal insights into how they are performing and to enhance their perceptions of what they need to do in order to comprehend music with greater understanding and to improve their technical expertise in musical performance. When assessment takes on a role of self-reflection, it becomes assessment as learning (Stringher et al., 2021; Crick, Broadfoot, & Claxton, 2004; Black, McCormick, James, & Pedder, 2007). In music lessons, it is important to provide opportunities for pupils to reflect on and evaluate learning activities of their own, those of others and results in a variety of ways, to discuss and correct misconceptions.

In the words of researchers P. Black & D. Wiliam (2006), assessment in education must, first and foremost, serve the purpose of supporting learning. Current reforms in education influence how music teachers view the curriculum and how they plan musical experiences for their learners. The development of learning environments built on the principles of constructivism is central to these reforms. Within this context, learning is learner-centred. A constructivist

perspective for learning requires multiple roles for learner assessment. Assessment extends beyond the summative function of assessment of learning to the formative functions of assessment for and as learning. In so doing, assessment moves beyond procedures “done to” the learners to actions “done with” and “done by” learners to enhance learning. Both assessment for and assessment as learning see learners actively involved in their education. A key attribute to assessment for and assessment as learning is the learners’ implementation of new understanding through feedback acquired from others and from self.

E. Concina (2019) points out that performing in music activities requires constant practice, which needs to be accurately prepared. Consequently, to do this, learners must develop their planning competence in advance by self-regulating and assessing their learning activity. From this perspective, learning to learn is a core component of musical practice and should be addressed more specifically in music tuition. Different aspects (age, previous learning and experiences, self-guided learning to learn, leaning to learn teaching approach, models) influence the development of learning to learn in musical education and they all have to be considered in music lessons. It may be useful for teachers to assess their pupils’ learning to learn abilities and implement approaches to improve those skills.

Conclusions

As knowledge now progresses rapidly, setting educational standards means that at school pupils need not only to learn but also, as the phrase “lifelong learning” implies, to develop those capacities and habits that will enable them to continue learning throughout their adult life. Educators work hard to ensure that their lessons are interesting, culturally relevant to their learners, and involving. They also want to help learners recognize the role they have in their own learning. While teachers can promote active mental engagement that is required for learning, learners cannot be forced to learn, as this is a question of motivation. Goal orientation influences motivation. As such, educators attempt to help learners shift from external motivation toward an internal and personal purpose to learning. Educators also want their learners to recognize learning as a social process. Social interaction is a powerful mechanism for learning. Much of the understanding and meaning of concepts we develop occurs through our interaction with peers as we attempt to articulate our own understanding in words and negotiate our ideas with the contributions of others. Unsurprisingly, cooperative learning has repeatedly demonstrated greater learning gains compared to individual or competitive structures.

Education systems can use different tools to mobilize the elements mentioned above. These include guidance through the curriculum, teaching assessments, teacher initial training, and professional development. If the

profession believes in music for every learner, then it must be ready to take into account all the factors that shape the learner. Perhaps more focus could be placed on the learner when learning music, an element that should be a large component of music teacher training programs everywhere. Only with this awareness of these greater dimensions of learners can teachers truly successfully motivate learners to persist and engage in music activities throughout their lifetime.

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THE ROLE OF EMOTIONS IN MUSIC EDUCATION: THEORETICAL INSIGHTS

Asta Rauduvaitė

Vytautas Magnus University, Lithuania

Zhiyu Yao

Vytautas Magnus University, Lithuania

Abstract: Emotional expression has been the focus of teachers and educational researchers, as it can result in an improvement in cognitive performance. In specific settings, personal and emotional experiences can provide a steppingstone to developmental and learning processes. Emotions significantly influence learner learning and play a crucial role in quality teaching, educational reform, and learner-teacher interaction. The inherent social and communicative nature of music would make group training an excellent tool for increasing the coordination of behaviour, affect, and mental states among children. This paper aims to explore the literature on various aspects of the concept of emotions in the context of music education with the main focus on opportunities for experiencing and expressing emotion in music education, learners' positive emotion experiences in music education, teaching to generate positive emotion outcomes, and the benefits of a greater emphasis on the emotions in music education. The results of theoretical analysis indicate that music education has a particularly positive effect on identifying emotions, emotion regulation, emotion recognition, improved learning, and self-expression.

Keywords: emotion, music education.

Introduction

“Emotion” is a term that was introduced in the English language in the seventeenth and eighteenth centuries. It was translated from the French word “émotion” but started referring to “a category of mental states that might be systematically studied” only in the mid-nineteenth century (Dixon, 2012, p. 338). According to V. Shuman & K. R. Scherer (2014), emotions are generally perceived as multifaceted phenomena that include a number of interrelated psychological processes. These processes involve subjective feelings (affective component of emotion), physiological processes (physiological component), cognitions (cognitive component), motivational tendencies (motivational component), and expressive behaviour (expressive component) (Quinlan, 2016). In the educational literature, emotion is frequently used to define a broad variety of noncognitive constructs that embrace emotion, but also include self-concept, beliefs, motivation, etc. (Pekrun, 2017).

Music is one of the most universal means of human expression and communication, and it can be found in the daily lives of people of all ages and different cultures all over the world (Varadi, 2022). Listening to music, singing, playing music, and creating it (exploring, composing, and improvising) are very popular pastimes for a huge number of people, but its influence is much broader. Empirical and experimental research on the broader benefits of musical activity is available, and research in music sciences suggests that successful musical engagement can positively affect many aspects of human life, including physical, social, educational, and psychological (cognitive and emotional) dimensions (Schellenberg & Mankarious, 2012; Varadi, 2022).

Various aspects of music, such as melody, pitch, and harmony are employed to generate a range of emotional responses in listeners. Music is processed in the limbic system of the brain after going through the auditory cortex, which evokes an emotional reaction (Nieminen, Istók, Brattico, & Tervaniemi, 2012; Juslin, Liljestrom, Vastfjall, Barradas, & Silva, 2008). With the help of music education, learners can build up their creative identities and experience a sense of self-efficacy and self-worth that enable them to cope with the multiple personality flaws resulted in by numerous negative factors in the current cultural settings.

The aim of the article is to explore scientific literature sources that focus on aspects of the concept of emotions in the context of music education.

Analysis of scientific literature was used to define the concept and the role of emotions in music education.

Methodology

The substantial volume, continued growth, and resulting complexity of the scientific literature not only increase the need for systematic, replicable, and rigorous literature reviews, but also highlight the natural limits of human capabilities of information processing of researchers. A literature review is employed to achieve the following: 1) to identify what has been written on a subject or topic; 2) to determine the extent to which a specific research area discloses any interpretable patterns or trends; 3) to aggregate empirical findings linked to a narrow research question to support evidence-based practice (Pare, Trudel, Jaana & Kitsiou, 2015).

The method of research: analysis of scientific literature.

Literature review

Understanding the concept of emotion. The concept *emotion*, deriving from the Latin word *emovere* (to move out or agitate), broadly means those affective upheavals in experience that are targeted at events or objects in the world and that often prompt us to act in specific ways when facing these events or objects.

W. James (1948) holds that emotions are, first and foremost, a specific class of feelings to be distinguished from such related concepts as mood, sensation, and sentiment. From this perspective, emotions are perceived as subjective feelings associated with bodily changes and expressive behaviours. J. M. Jasper (2011) suggests the following typology of emotions: bodily urges; reflex emotions, that is, short-term reactions to our immediate setting, such as anger, fear or joy; moods, or lasting affective states, that are not very intense and lack a specific object; and reflexive emotions, like affective loyalties, such as love, respect and trust, or moral emotions, embracing feelings of approval and disapproval. The concept of emotions defined by a number of authors is presented in Table 1.

Table 1 Definitions of emotions (created by Authors)

Definitions of emotions	
J. C. Richards (2022)	Emotions are perceived as a sociocultural experience primarily defined not only by individual characteristics but also by social contexts and relationships. They merely refer not to something we “have” but rather to something we “do.”
A. C. Frenzel, L. Daniels & I. Burić (2021)	Emotions are the interface between individuals and their environment, continually mediating between social contexts and events and the responses and experience of an individual.
Y. Wang (2021)	Emotions consist of three components: subjective feelings, behavioural responses, and physiological responses. Emotions are to a large extent triggered by external stimuli.
V. Shuman & K.R. Scherer (2014)	Emotions are multifaceted phenomena that include several interrelated psychological processes.
N. K. Denzin (2009)	Emotion is a lived, believed-in, situated, temporally embodied experience that radiates through a person’s stream of consciousness, is felt in and runs through his/her body, and, in the process of being lived, plunges the person and his/her associates into a totally new and transformed reality – the reality of a world that is being constituted by the emotional experience.
K. M. Quinlan (2016)	Emotions include subjective feelings (affective component of emotion), cognitions (cognitive component), physiological processes (physiological component), motivational tendencies (motivational component), and expressive behaviour (expressive component).
R. Pekrun, S. Lichtenfeld, H. W. Marsh, K. Murayama, T. Goetz (2017)	Emotions denote a broad variety of non-cognitive constructs including self-concept, beliefs, motivation, etc.

The current research situation shows that emotions have the following three characteristics (Brandstatter & Otto, 2009): 1) an emotion is an affective reaction

which can be defined and described relatively accurately (for example, enjoyment, anger, pride, sadness); and can be attributed to a cause or an incident. Thus, emotions are mentioned when referring to a learner's enjoyment in learning or a teacher's anger about learners' misbehaviour; 2) the experience of an emotion is related to situations that are of importance to an individual. If a situation, an event, or a context is significant to us or if we are touched by something, emotions are likely to be evoked. Learners will only go through joy, frustration, anxiety, pride, or satisfaction if the learning topic or the learning process is relevant to them; 3) after an emotion is experienced, it becomes the centre of awareness of a person, also leading to increased self-awareness. Emotions can hardly be denied. They can be disguised towards others, but rarely towards oneself.

The apparent simplicity of emotions experienced by people hides abundant problems, complexities, and paradoxes. Since the human emotional domain is so broad and fragile, classifying emotional phenomena is a challenge. Researchers on emotion suggest different classifications, based on different theoretical frameworks (causes of emotions, links to needs, duration, nature of interaction with objects, etc.). This suggests that a universal classification of emotions that can be used to assess any type of task, situation, or phenomenon can hardly be created. P. Ekman & D. Cordaro (2011) state that emotions are discrete, measurable, and physiologically distinct. The following six basic human emotions can be listed: happiness, anger, sadness, fear, disgust, surprise, and contempt. The expression of emotions can be revealed by analysing facial expressions. A. S. Cowen & D. Keltner (2017) identify 27 varieties of emotional experience and they include admiration, adoration, aesthetic appreciation, amusement, anger, anxiety, awe, awkwardness, boredom, calmness, confusion, craving, disgust, empathic pain, entrancement, excitement, fear, horror, interest, joy, nostalgia, relief, romance, sadness, satisfaction, desire and surprise.

Emotional experiences and emotional expression. The question what the experience of emotion is really the question what people go through when they feel an emotion? This is the question of content. What are the correct concepts for capturing or describing the psychological features of the system (Lambie & Marcel, 2002). Emotional experience is a conceptual structure stored in memory whose conditions include current perceptions, cognitions, actions, and core affect, then producing an intentional state where the affect is experienced as having been caused by some object or situation. Experience of emotions is not only awareness and recognition of one's own emotions, but also effective regulation of one's emotional expression in the context of an ongoing social interaction.

At present many researchers on emotion theory take a functionalist view of expressiveness and raise the following question: what, specifically, does the expression of emotions do for a child and his/her social group? Most importantly, the expression of emotion signals whether the child or other people need to modify or continue their goal-directed behaviour (Campos, Mumme, Kermoian, &

Campos, 1994). Hence, such information can shape the child's personal behaviour. Few investigators have examined it, but theory suggests that emotional expressivity is related to academic development, in part by affecting engagement in learning assignments (Valiente, Swanson, & Eisenberg, 2012). According to the broaden-and-build theory, positive emotions (e.g., happiness, excitement) encourage approach behaviours that contribute to learning, such as exploration and creativity (Fredrickson, 2001). In particular, children who express more positive emotions and moderately intense emotions over all are perceived by their teachers as more teachable, and they achieve more in school. Positive emotion is conducive to task engagement and persistence, and these are skills that serve the young school age child very well. On the contrary, neurological processes associated with the expression of negative emotions, particularly fear, interfere with cognition.

Thus, emotions are about triggering action and changing the probabilities of future actions (Frijda, 1986). Emotions enable people to react to significant stimuli, with complex patterns of behaviour involving multiple modalities, such as facial muscle movements, vocal cues, bodily movements, gesture, posture, and so on. According to G. Collier (2014), emotional expression is often treated as an aspect of verbal and nonverbal communication. People can use words to tell others how they feel, but they can also convey emotions through their tone of voice and through nonverbal channels such as facial expressions, touch, posture, and body movements.

Emotional expressions (facial / body expressions) communicate four kinds of information: 1) the current feeling (the expressive function of expression); 2) what is happening in the present context (the declarative function of expression); 3) desired courses of action of other people who perceive the expression (the imperative function of expression); and 4) intention and plans about what a person might do (the commissive function of expression). Early studies of emotional expression largely focused on whether perceivers could infer emotions from static portrayals of prototypical configurations of facial muscles believed to convey anger, disgust, fear, sadness, surprise, and happiness (Russell, 1994). In current time, scientific studies have moved significantly beyond static facial portrayals of these six emotions, revealing that emotional expressions are multimodal, dynamic patterns of behaviour, involving facial action, vocalization, bodily movement, head movements, touch, gaze, gesture, autonomic response, and even scent (Keltner, Sauter, Tracy, & Cowen, 2019).

Studies of emotional expressions associated with experiences of embarrassment, shame, pride, and love have discerned distinct expressions of these emotions by incorporating measurements of gaze activity (e.g., the gaze aversion of shame and embarrassment), body movements (e.g., the chest expansion of pride and the open posture of love), hand activity (e.g., the face touch of embarrassment and open handed gesture of love), and movements of the head,

such as the head tilt back during expressions of pride (Collier, 2014). These findings have initiated studies to systematically characterize how emotions are communicated with the help of body movements and gaze (Dael, Mortillaro, & Scherer, 2012).

To take one example of a major stream of research, the human voice has consistently been documented to contain a rich modality of emotional expression (Barrett, Adolphs, Marsella, Martinez, & Pollak, 2019). To investigate whether individuals can express emotions with the voice, researchers have relied on two methods. In one, people, frequently trained actors, attempt to express different emotions in prosody, the tone and rhythm of our speech, while reading neutral passages of text or nonsense syllables (Juslin & Laukka, 2003). These samples of emotion-related prosody are then presented to listeners, who select from a series of options the term that best matches the emotion conveyed in the speech output. Researchers found that listeners can judge five different emotions in the prosody accompanying speech: anger, fear, happiness, sadness, and tenderness, with accuracy rates that are close to 70 %. In a second line of study of vocal expression, participants communicate emotions through vocal bursts, which are brief, non-word utterances that arise between speech incidents. Vocal bursts include laughs, shrieks, growls, sighs, oohs, and ahhs. In studies of vocal bursts, people are typically given a situation that produces an emotion and asked to communicate that emotion with a brief vocal burst but no words (Laukka, Eerola, Thingujam, Yamasaki, & Beller, 2013). These sounds are then played to listeners, who attempt to label the sound with one of many emotion terms, or to match the sound to the appropriate emotion eliciting situation. As with emotional prosody, people are quite skilled at communicating emotions through vocal bursts.

Following L. F. Barrett et al. (2019), it can be considered that emotional meaning is constructed from the context in which they are embedded and that people infer emotional meaning from facial movement and other social information. In line with this, D. Keltner, D. Sauter, J. Tracy & A. Cowen (2019) hold that people's interpretation of a target's emotional expression is affected by the subject who expresses the emotion; the mental states attributed to that person; the context (the action taken by the person expressing the emotion); and the emotional expressions of people around them.

The importance of emotions in music education. Every child is treated in the same way and the goal is observed to foster and improve children's intellectual, emotional, social, creative, and aesthetic development. The aim of art education is to focus on experience, knowledge acquisition, skill development, and understanding of various aspects of arts and works of art, ultimately aimed at their competent evaluation. Music is inherently related to socio-emotional behaviour. It is a forum for emotions, embodiment, and interaction (Cross, 2014). Music education supports cognitive, lingual, social, psychomotor, emotional, communication, and awareness skills, aesthetic aspect, and creativity of children.

Researchers report that music has an impact on social and emotional maturation of a person, auto-control, work sharing, and self-expression skills (Jacobi, 2012). Music education and emotional expression naturally complement each other. Common features of the music training and emotional expression areas are followed. Positive emotions and learning states that they encourage have a two-way influence on the motivation of the learner, which is considered to be the driving force and energy behind the learning.

L. Vygotsky (1930/1997) defines education as “the artificial mastery of natural processes of development” that restructures all mental functions of a child (p.88) and is essential to the development of thinking. During the primary school years, the qualitative change in the child’s thinking is that, through instruction, he or she can construct precepts. Briefly, a precept is a limited comprehension of a true concept or a special case of a true concept (Vygotsky, 1934/1987). Artistic education is treated as complementary to the intellectual development of children. Its main purpose is to develop interests and musical capabilities, but it also uses artistic and aesthetic values to raise children’s awareness and direct their daily activities.

The link between music and emotion has contributed to the value of music as a study subject that can be implemented in formal education to develop emotional competence (Blasco & Calatrava, 2020). One of the advantages of musical activities is that they mostly call for collective participation, which requires cooperation and coordination on the part of the members of a society, making them useful tools for the advancement of socio-emotional development. In addition, the social interactions required for music-making offer a number of opportunities for learners to develop their abilities to evaluate their own feelings and at the same time try to relate constructively to the feelings of others (Pellitteri, 2006). According to J. S. Pellitteri (2006), there are five ways in which music education and emotions are complementary: music can be used as an emotional stimulus; it can be an aesthetic experience; it can be used for relaxation and imagery; music-making is a form of self-expression; and music-making can be a form of group experience. Music education has a strong impact on the intellectual, social, and personal development of learners, and this also influences their psychological well-being. Emotions can improve or disturb learning depending on which ones evoke or colour the experience. Emotions can also be infectious and have strong positive or negative emotional states that infect others in the learning environment.

Musical emotions are processed at three different levels: biological, psychosocial, and cultural (Eerola, Vuoskoski, Peltola, Putkinen, & Schafer, 2018). Studies exploring the relationship between social-emotional abilities and music have focused on the recognition of emotions, the understanding of emotions, and alexithymia, the difficulty of identifying emotions and describing them to others (Schellenberg & Mankarious, 2012). Emotions are systematically

related to cognition, motivation, physiological changes, and interaction patterns. Important component processes of musical task-related enjoyment can include feeling excited when completing the task, evaluating the task as challenging, experiencing physiological arousal, and being motivated to work on the task.

Numerous activities provided for general music curricular reinforce and help learners understand the concepts of self-awareness, self-management, responsible decision-making, social awareness, and relationship skills. Activities such as ensemble singing and playing, improvisation, and defining emotions with music can be applied to develop social and emotional skills in the music classroom (Varner, 2020). Music can be used as emotional stimuli, as an aesthetic experience, for relaxation and inspiring creativity and imagination, as a form of self-expression and as a form of group experience. Activities such as improvisation, ensemble playing, group singing, and defining emotions within music listening examples can be applied. Positive learning emotions activate the brain's reward system, make the experience desirable, and contribute to focus and attention. Positive emotional states can enable students to broaden their perspectives, see alternative perspectives, persist in challenges, and effectively respond to criticism and failure.

Improving emotional skills can improve the results of music practice. E. Campayo-Munoz, A. Cabedo-Mas & D. Hargreaves (2020) address the relationship between emotional skills and music practice and present several results. Firstly, identifying emotions helps learners integrate emotional expression into their music playing and play more fluently. Secondly, the most effective activities in addressing emotional competence are improvisation and association of music pieces with personal experiences. Thirdly, emotional control allows for greater organisation of the study, minimising moments of impatience, of playing fast and skipping steps, of not being aware of the music, and of not facing difficulties. Finally, considering that public performance is conditioned by concerns about judgments of others, as well as one's own level of self-esteem, it is claimed that the variable under study could be improved by sharing feelings, collaborating and helping peers, or achieving a goal through effort. Positive emotions can generally improve the sophisticated processing, even of negative information, when the topic aims to solve a problem, rather than simply maintain a positive mood.

Studies address the role of music in relation to emotional perception and assessment. S. Nieminen, E. Istók, E. Brattico & M. S. Tervaniemi (2012) observe that learners in the first two years of primary school have the ability to identify greater happiness in pieces composed in the major mode than in the minor mode. This relationship is stronger in those with musical training, especially among younger people. Similarly, E. G. Schellenberg & M. Mankarious (2012) measure perceptual differences between a group of learners with and without musical

training, finding that the former score higher in identifying emotions in images and/or texts.

Among learners, the practice of actively listening to music enhances positive feelings, decreases negative emotions, and regulates arousal levels (Juslin, Liljestrom, Vastfjall, Barradas, & Silva, 2008). According to J. Varadi (2022), one of the most important effects of music lies in the development of emotional self-regulation, which exerts its effects on all ages. There are adaptive links between listening to music and the well-being of listeners. Similarly, B. A. Broh (2002) suggests that learners who participated in musical activities are more open, better and more willing to communicate with their parents and teachers and that their parents are more likely to communicate with friends' parents. She concludes that the social benefits of music education are likely to lead to higher self-esteem in learners, resulting in increased motivation and self-efficacy. Positive emotions can promote divergent thinking and creative and flexible thinking, thus helping to solve problems in many situations efficiently instead of compromising them.

Previous research studies state that the use of music enhances some socio-emotional benefits in diverse areas such as social skills, empathy, and reducing emotional problems. E. G. Schellenberg & M. Mankarious (2012) state that learners with a musical background score higher in sympathy and prosocial skills. Another study concludes that singing with a strong emotional component leads learners to improve attitudes and social skills such as teamwork.

When individuals are in a joyful mood, they may be better disposed to creative solving of a complex assignment than when they are in an anxious or angry mood. Similarly, a learner in a good mood may be ready to attend to classroom instruction; a learner in a negative mood may have difficulty focusing on the task at hand, thus limiting engagement (Pekrun, Muis, Frenzel, & Goetz, 2018). A school is a central arena for experiencing emotions that further affect learners' daily lives both in school and outside it. Previous studies have shown that emotions play a significant role in learning, social relationships, and school attendance (Pekrun & Linnenbrink-Garcia, 2014). Emotions are a permanent accompaniment to learning, experienced before, during, and after attending lessons, studying, or taking tests.

Conclusions

The scientific literature review focuses on the relationship between music education and emotions. The role of emotions in music education is particularly important in encouraging learners to experience the joy and creative satisfaction of making music; to participate in the processes of creating, performing, and appreciating music; to foster communication and collaboration skills; to experience a growth in self-esteem; and to develop their own musical experience. The emotions experienced in musical activities are particularly important when

overcoming musical challenges appropriate to the learner's strengths, influencing the learner's self-knowledge, personal growth, decision-making, and self-esteem development. Music education and emotional expression complement each other in the education process with the following properties: music education can be used as an emotional stimulus; as an aesthetic experience; for relaxation and imagination; making music can be a form of self-expression and a form of group experience.

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PECULIARITIES OF EDUCATION OF GIFTED STUDENTS IN GYMNASIUM: VIEWS OF LITHUANIAN AND UKRAINIAN TEACHERS

Rasa Braslauskienė

Klaipėda University, Lithuania

Reda Jacynė

Klaipėda University, Lithuania

Laima Kuprienė

Klaipėda University, Lithuania

Marina Ponomarenko

Klaipėda University, Lithuania

Abstract. *Identifying gifted children and teenagers and their educational needs is one of the most relevant psychological and pedagogical problems, which is currently of great interest worldwide. Recognizing person's talents in education does not create added value by itself, the design of the educational process and the progress of the person's maturity related to diagnostics is much more valuable. The article analyzes how to educate gifted children, how different trends in the education of gifted children are developed, and what means are used to achieve affordable, high quality, modern education that meets the needs of a free civil society. The aim of the qualitative research was to reveal the views of Lithuanian and Ukrainian teachers about the peculiarities of the education of gifted students in gymnasiums. The data obtained during the research in identifying gifted students, the peculiarities of the education of these students and the effectiveness of educational tools revealed the educational difficulties faced by teachers and the opportunities for improving the education of gifted students in gymnasium. A qualitative study of teachers' views revealed that the identification of gifted students in the gymnasiums of both countries takes place when teachers pay attention to such student traits as creativity, critical thinking, etc.; teachers of both countries apply additional and individualized teaching methods when working with gifted students. The findings of the study revealed teachers' views about the effectiveness of educational methods of gifted students, the difficulties of educating gifted students, and provided practice-based suggestions for pedagogues who educate gifted students.*

Keywords: *gifted education, gifted students, gymnasium, Lithuania, teachers, Ukraine.*

Introduction

Now more than ever, education of gifted students is receiving worldwide attention, because it contributes to the development of human capital as well as promotes and facilitates economic development in many societies. Inclusive

education is the guiding principle of the European Schools, which serve a diverse and mobile pupil population and offers diverse/flexible teaching and learning approaches adapted to children with different learning profiles (Tallinn European School, 2021). The following document discusses different forms and levels of support that is provided in European schools and is intended for the proper provision of equal opportunities to all students, including those with special educational needs or learning difficulties, and gifted students, so that they can develop to their full potential.

Education of gifted students encompasses all kinds of programmes, relies upon various educational strategies that are based on the results of international competitions and rankings, and addresses solutions to the social challenges of the future. Whatever the objective for educating gifted students, it remains a complex and open-ended issue that must be broken down into manageable parts (Neber, 2020). Moreover, the current state of teacher education for the gifted in many European countries was reviewed and it was unexpectedly found that teacher training on gifted education has been largely neglected, although great attention is paid to the education of the gifted (Cheung et al., 2022).

The aim of the article is to reveal the opinion of gymnasium teachers about the peculiarities of the education of gifted students in Lithuania and Ukraine. Research design was constructed on the basis of problematic questions: what are the criteria for identifying gifted students? What are the methods of educating gifted students? What are the difficulties in education of gifted students? The following research methods were used: analysis of scientific literature and documents, qualitative research (standardized interview), content analysis of research findings.

Theoretical Insights

Conceptualization of the concept of gifted children is interpreted very differently not only in the countries of the Organization for Economic Co-operation and Development, but also in individual member countries. To date, there is no international consensus on the definition of gifted (Rutigliano & Quarshie, 2021). The identification of a gifted student is difficult not only because of the variety of talents, but also because of the expensive methodology available only to professionals. Cognition and evaluation are related to complex research that requires a lot of investment and the conclusions of which are not stable and long-term (Survutaitė, 2022), cognition and evaluation are associated with various and different manifestations of talents, the field of research is constantly expanding (Belska, 2022; Voloshhuk & Gal'chenko, 2022; Dinichenko, 2000). When using the concept of a gifted child, the emphasis is not on the level of existing knowledge, but on a higher potential to acquire knowledge, understand and use it. The following term makes it possible to compare children's potential

to learn and master one or more activities and become proficient in them. The number of peers that a child has to surpass in order to be classified as gifted depends on the attitude. Comparative study among the 30 member countries of the Eurydice Network shows that according to the assessments and criteria applied in different European countries, gifted children make up 3–10% (Survutaitė, 2022). Nevertheless, each child should have access to quality education regardless of his or her origin and residence, in order to maximize their potential and thus improve the quality of the society in which they live. The following approach is based on the provision that every child should be expected to reach maximum achievements regardless of their abilities, emphasizing thereby the greater importance of the school's professional autonomy and leadership (Papak et al., 2018).

The concepts of giftedness define the variety of theoretical models of the education of gifted. Currently, there are several conceptions of giftedness that gained international recognition: J. Renzulli's Three Ring Conception, A. Tannenbaum's Psychosocial Classification, and F. Gagne's Differentiated Model of Giftedness and Talent (Survutaitė, 2022). The latter conception consists of a person's natural areas of ability and internal as well as external catalysts that cause the transformation of abilities into talents. Giftedness is usually perceived as a relatively fixed and innate characteristic of a student, an essential ability or potential to learn. Therefore, the following potential must first be identified and then adapted to appropriate levels of achievement through appropriate educational programs (Neber, 2020). Often teachers' beliefs involve subjective theories of teaching and learning as well as subjective theories about students' characteristics, which play an important role for the interaction with students in the school context. Research carried out by S. Matheis et al. (2017) revealed that both in-service and pre-service teachers can hold incorrect beliefs about gifted students combining positive attributes of high intellectual ability with social, emotional, or behavioural difficulties. These beliefs can negatively affect the identification of gifted students and determine the peculiarities of education.

Educational practice analysed by K. Valiušytė and V. Lamanaukas (2021) showed that general education schools usually apply differentiation according to students' abilities, inclinations, and interests. The second strategy used by teachers is the enrichment of the educational content, which allows the teacher to easily involve all students, including the gifted ones. It also allows to respond directly to the needs of students at the highest level and accordingly maintain their activity. The third strategy, acceleration of education, is one of the most effective means of impact, but requires additional school resources and, therefore, is rarely used. A qualitative study of the opinions of 10 teachers of general education schools conducted in 2021 (Valiušytė & Lamanaukas, 2021) shows that "there are certain differences between the analysed schools. Some schools systematically and qualitatively educate the gifted, while others have no common agreements on

the education of the gifted, there is a lack of system, support for teachers and students”.

Over the past ten years, there was an increase in the attention to the study of various aspects of children's giftedness in the system of education and science of Ukraine. During the following period, the international experience of working with gifted children was analysed, and various opinions of teachers towards peculiarities of interaction with gifted children of different ages were formulated (Holod, 2014; Janlin', 2018); innovative approaches to solving issues of support and assistance of gifted students in the modern informational and educational spaces were proposed (Androsovich, 2018).

H. Neber (2020) claims that students' talents can be perceived as a variable characteristic, a potential that can be improved through teaching, and not only transformed into academic achievements or results. In this approach, teaching should aim to raise the level of abilities of all students. When giftedness is recognized, it only indicates the current level, but not absolute or permanent. E. Reid and H. Boettger (2015) distinguish the most important aspects of the qualitative education of gifted students: highly qualified teachers who work to the highest standards; managers who provide necessary support to teachers; high level of school community; qualitative education programs; assessment of individuality; honest, responsible, flexible education of each child; purposeful investment of funds to achieve the best results. Equally important in working with gifted students are: teachers' self-efficacy; teachers' enthusiasm; teachers' beliefs about gifted students (Matheis, et al., 2017). Working with gifted students requires teachers to have a set of necessary skills, desire to improve skills, knowledge of creative thinking and to be always ready for self-development (Khalikova & Khalikov, 2020). Many gifted children need comprehensive development of their talents, and the teacher needs to identify the natural talent of the child as soon as possible in order to further develop his abilities in the future. The following requires professional and personal preparation of teachers to work on identifying, educating and guiding gifted children towards further development.

A. Ch. Cheung et al. (2022) research reveals that gifted and talented students often do not receive adequate attention in the education system because most teachers believe that these learners can do well on their own, without special or additional support. Such students, however, should be challenged and supported in order to reach their highest potential. Accordingly, teachers must have professional knowledge that would allow to adopt specialized instructional practices such as differentiation and flexible grouping. In order to fully promote the development of gifted students, teachers must embrace changes in knowledge, attitudes, and teaching practices as well as fully engage in their own professional development. The study of educational practice (Cheung et al., 2022) shows that teachers still hold myths about gifted students. The following stops teachers from using effective teaching strategies, such as accelerating high-ability learners, and

subsequently prevents them from developing their potential. E. Reid and H. Boettger's (2015) studies of the system of educating gifted students in Europe showed that most programmes for gifted are aimed at ambiguous and high-achieving individuals, leaving underachievers behind. The vast majority of the gifted are hidden from the view. The responsibility for recognising the gifted lies with schools, teachers and parents. Teachers do not get enough knowledge about gifted children during teacher training; accordingly, they are not always able to recognize the talents of their students. Therefore, it should be done not only by teachers, but also by other professionals (e.g., psychologists). E. Reid and H. Boettger (2015) believe that, above all, gifted children should be recognized. They need professionals who understand the problems of talent, their aspirations, their search for meaning, their desire for connection, and their complexity, sensitivity and intensity. Without deliberate search for the gifted and sensitive school programmes for all the gifted (including underachievers), there will not be successful and fair education for all gifted individuals.

H. Neber (2020) studied initiatives aimed at transforming the awareness for gifted education into concrete solutions and points out that such initiatives usually are bottom-up. Highly motivated and engaged teachers want to establish gifted programmes in their classrooms. Such activities have a positive effect on the professional development of teacher and are an effective means to gain experience in the application of innovative educational methods. Research has also shown that if such innovations are strictly prescribed from the top down (e.g., by the school district or principal), the results are often negative and ineffective. H. Neber (2020) believes that integrating education of gifted students into traditional schools would help improve the quality of not only specific schools, but also the whole educational system. In order to achieve this ambitious goal, it is especially important to focus on programmes that develop giftedness at the classroom level. Classroom-level integration is more authentic than offering an add-on, extracurricular program, which often neglects the details for developing the required teaching strategies. Research by S. Matheis et al. (2017) showed the need for educational provision on giftedness and gifted education within teacher education courses, because teacher's knowledge, attitude, and motivation are very significant for actual classroom behaviour, students' motivation, and their desire to know and do more, and spread their talents.

Methodology

The authors of the following research comply with the methodological approach of the paradigm of differentiation, which addresses the diverse needs of the child, goes beyond the compulsory school curriculum, and seeks progress (Dai, Chen, 2013). The qualitative research was chosen to reveal the attitudes of teachers towards the peculiarities of education of gifted students in Lithuanian

and Ukrainian gymnasiums. The research used a structured interview: during the research, informants were asked pre-defined questions, the questions were asked in the same order with the same wording of the questions. The themes of the interview questions were formulated on the basis of problematic questions: What are the criteria for identifying gifted students? What are the methods of educating gifted students? What are effective means of educating gifted students? What are the difficulties in education of gifted students? The data obtained during the research were analysed using the method of qualitative content analysis. The qualitative content analysis was carried out in accordance with the inductive logic of categorization that is based on research data. When performing the qualitative content analysis, the following consistency was ensured (Creswell, 2014): multiple reading and rethinking of the transcribed interview texts, data coding by distinguishing meaningful units in the text, grouping codes into subcategories, forming categories from subcategories, integrating categories/subcategories into the context of the analysed phenomenon, interpreting research data. Research data were analysed by four researchers. According to Žydzūnaitė and Sabaliauskas (2017), “it is difficult to ensure the relevance and reliability of the results when analysis is carried out by one researcher” (p. 324). Before starting to analyse data, the researchers agreed on the data analysis. The researchers performed primary data analysis individually by coding data and forming primary subcategories and categories. Afterwards, the researchers compared the primary subcategories and categories, discussed and finally formed them by mutual agreement.

The research used a targeted criterion selection of research participants. Research participants were selected according to the main criterion: teachers, who work with high school students aged 16 to 18 years. A total of 23 participants took part in the research: 15 teachers from four gymnasiums in the city of Klaipėda (Lithuania; hereinafter: LT) and 8 teachers from general education schools in 6 cities (Kramatorsk, Odessa, Poltava, Sarata, Barvenkovo, Kharkiv) of three regions of Ukraine (hereinafter: UA). Research with the Klaipėda city gymnasium teachers was conducted in April–May 2022, with Ukrainian teachers in September–October 2022. Demographic characteristics of research participants: all research participants were female. The average age of informants from Klaipėda was 49 years, from Ukraine – 51 years. The average teaching experience of teachers from Klaipėda was 28 years, from Ukraine – 30 years.

Data collection and analysis. When planning research, a written interview was chosen, which, according to I. Gaižauskaitė and N. Valavičienė (2016), is an exceptional form of interview with absolutely no verbal or visual communication – “conversation” takes place through correspondence. In the case of the following research, it was an e-mail interview. The advantages of such interview: an interview transcript is immediately formed; research participant’s information is recorded exactly as one has provided it. Moreover, such an interview made it possible to reach geographically distant research participants and was practical,

since research participant and the researcher did not have to coordinate with each other in terms of time and place. Interview questions were sent to the research participants by e-mail. Having answered the questions, the informants sent their answers to the researchers. One correspondence session was enough for the following research, all informants answered the questions correctly and sufficiently on the first try, thus no clarifications or additional correspondence were necessary. Research participants were coded (Klaipėda city teachers: from M1 to M15; Ukrainian teachers: from U1 to U8). The research is based on the principles of respect for the person's free decision to participate in the research, information about the research, beneficence and non-maleficence towards the researched person, confidentiality and anonymity (Wiles, 2012). Research participants took part in the research voluntarily and agreed for the written interview form to be used, thus ensuring anonymity and confidentiality of their responses. In the article, the answers of research participants are presented in tables.

Research Findings

Research findings are grouped into three categories: Criteria for identifying gifted students; Ways of educating gifted students; Difficulties in education of gifted students.

In the first category, *Criteria for identifying gifted students*, 5 subcategories have been identified: *Pursuit of knowledge*; *Ability to learn*; *Creativity*; *Critical thinking*; *Individuality*. The subcategory of the *Pursuit of knowledge* was distinguished by 6 LT informants (“curiosity” (M3); “interest in the subject” (M4); “is curious” (M5); “desire to learn something more” (M9); “desire to get to know oneself and others” (M12); “I pay attention to curiosity, inquisitiveness” (M15)) and 4 UA informants (“need for interrupted knowledge of new information” (U1); “they are distinguished by their interest in different areas” (U3); “achieving exceptional success in a specific activity” (U4); “express interest” (U5)). The subcategory of *Ability to learn* was singled out by 5 LT informants (“ability to quickly learn new material, complete tasks accurately and in full” (M1); “speed of completing tasks” (M3); “learn from experience” (M5); “hardworking” (M7); “independent preparation for the lesson, striving not to leave gaps” (M13); “interested in the surrounding world, likes to learn by heart” (M15)) and 7 UA informants (“search for new information” (U1); “understanding of the subject and consistency in the perception of information” (U2); “the process of learning is more rapid” (U3); “they understand the task more quickly than others and after hearing recommendations for completing it, usually offer several alternatives” (U5); “ability to actively work” (U6); “love for training and development” (U7); “ability to self-organize, work towards a result, desire to learn” (U8)). The *Creativity* subcategory was distinguished by 4 LT (“creative

initiative” (M1); “creatively solve problems” (M5); “creativity” (M11); “creativity” (M14)) and 4 UA (“creativity” (U1); “creative approach to the implementation of tasks” (U2); “shows creativity” (U3); “creative thinking” (U7)) teachers. The *Critical thinking* subcategory was singled out by 3 LT (“critical thinking” (M13); “raising problematic questions and critical thinking” (M14); “finds connections between unrelated things, thinks critically” (M15)) and 3 UA (“critical thinking” (U1); “ability to analyse, draw conclusions, think critically” (U2); “critical thinking” (U7)) informants. The subcategory of *Individuality* was distinguished by 2 LT (“has one’s own opinion” (M2); “is distinguished by non-standard, but correct decisions” (M9)) and 4 UA (“extraordinariness and originality of thinking” (U1); “extraordinary” (U3); “valuable individual characteristic” (U4); “one’s own independent view of the world” (U7)) teachers. The following research data suggest that gymnasium teachers in both countries are able to recognize gifted students, following the same criteria.

In the second category, *Ways of educating gifted students*, 5 subcategories were identified: *Additional tasks*; *Individualized education*; *Participation in competitions, olympiads*; *Psychological support, motivation*; *Parental involvement*. *Additional tasks* subcategory was distinguished by 9 LT (“we work extra” (M1); “I provide more tasks” (M3); “additional tasks” (M4); “additional learning is recommended, practical assignments that help deepen knowledge are carried out” (M5); “additional tasks” (M7); “additional tasks outside the curriculum” (M8); “I assign additional tasks” (M11); “I assign additional more complex tasks” (M14); “give more complex tasks and they try to complete them” (M15)) and 3 UA (“additional tasks” (U4); “additional tasks are offered” (U5); “additional tasks of different types and different levels of complexity” (U8)) informants. The subcategory of *Individualized education* was singled out by 6 LT (“individual tasks are chosen” (M5); “I determine an individual learning style” (M6); “I always try to prepare some unconventional tasks” (M9); “determine learning style and individualize tasks” (M10); “I choose more difficult tasks” (M12); “I give individual tasks” (M13)) and 6 UA (“I give differentiated tasks” (U1); “possibility to work individually” (U2); “learning on the basis of the personal interest of the students, one’s abilities, individual interests” (U3); “individual learning” (U4); “individual approach” (U5); “orientation on individual preferences of the student” (U7)) research participants. *Participation in competitions, olympiads* subcategory was distinguished by 4 LT (“Olympiads, competitions” (M4); “it’s necessary to encourage participation in competitions, olympiads, etc.” (M6); “we’re preparing for olympiads” (M7); “I encourage to write research papers, I encourage to participate in competitions, olympiads” (M14)) and 3 UA (“I engage in participation in competitions, scientific-practical conferences, olympiads” (U1); “participation in Olympiads, competitions” (U4); “I invite to participate in competitions, exhibitions, festivals, olympiads” (U7)) informants. The subcategory of *Psychological support, motivation* was noted by

4 UA (“I motivate students” (U1); “I create situations of success, interest” (U3); “analysis of students’ progress and achievements; provision of psychological comfort to gifted students” (U4); “support – definitely note the smallest success” (U8)) teachers. *Parental involvement* subcategory was distinguished by 2 UA (“I work with the student’s parents: conversations about methods and conditions for the development of giftedness in the family” (U1); “advice concerning gifted students, recommendations for parents” (U4)) informants. Research data show that in the category *Ways of educating gifted students* it becomes clear that LT teachers apply such methods of education as additional tasks, individualized education, preparation of students to participate in competitions, olympiads, while UA teachers, in addition to the already mentioned methods, single out psychological support, motivation; parental involvement in the education of gifted students. The difference in the number of responses regarding the use of additional tasks in the education of gifted students between LT (9) and UA (3) informants should also be mentioned. It can be assumed that UA teachers use a wider range of educational methods, while LT teachers pay more and more detailed attention to individualized education and additional tasks to the gifted students.

In the third category, *Difficulties in education of gifted students*, 5 subcategories were distinguished: *Heavy student learning workload*; *Lack of teacher time*; *Lack of teacher knowledge on how to work with gifted students*; *Large number of students in the class*; *Need for professional development*; *Increased requirements for the teacher’s personality*. In the following category, LT teachers identified 3 subcategories: *Heavy student learning workload* (“gifted students are overloaded” (M1); “the student is overtired from the abundance of various activities” (M5); “student fatigue, heavy workload” (M7); “fatigue is one of educational problems” (M12); “as students themselves say, lack of time” (M13); “the workload is considerable and they fail to do something in due time” (M14)) – 6 informants; *Lack of teacher time* (“lack of time” (M7); “shortage of time” (M8); “separate preparation time is needed” (M15)) – 3 informants; *Large number of students in the class* (“too many students in classes” (M2); “large number of students in a class” (M3)) – 2 informants. In the category *Difficulties in education of gifted students*, UA teachers distinguished 2 subcategories: *Need for professional development* (“learn to work systematically and develop” (U2); “it’s necessary to constantly improve one’s skills” (U5); “the teacher needs to constantly improve the level of one’s knowledge” (U8)) – 3 informants. *Increased requirements for the teacher’s personality* (“teacher’s personality should display more love, guardianship and support and on a more frequent basis” (U3); “it’s necessary to pay attention to one’s personal qualities” (U4); “self-discipline appears” (U8)) – 3 informants. The responses of research participants showed that teachers face various difficulties in education of gifted students. The responses of the informants also revealed that LT teachers mostly associate difficulties in

education of gifted students with environmental factors, while UA teachers – with personal and professional factors.

Informants from both countries provided recommendations for the education of gifted students in schools. Suggestions of LT teachers were as follows: “notice gifted students and carry out purposeful educational activities with them” (M1); “attention and creativity of the teacher are necessary” (M2); “motivate gifted students” (M3); “avoid standard tasks, use programs for the education of gifted students” (M6); “creatively apply teaching methods when working with the gifted” (M10); “motivate gifted children to further improve, not to overshadow their personalities” (M11); “get to know and recognize a gifted child, advise and help one” (M12); “create a system of effective education of gifted students” (M15). UA research participants suggested: “timely early diagnosis and adequate perception of the peculiarities of your child” (U1); “creation of conditions for revealing the abilities of students; development of creative potential, self-realization; successful socialization” (U3); “it’s important for the teacher to be fair, emotionally stable, to be capable of self-analysis, self-criticism, revision of one’s positions, give children freedom of choice and decision-making” (U4); “to be able to find balance when working with gifted and other students in order to create a friendly, positive classroom atmosphere” (U5); “timely diagnosis will facilitate timely assistance” (U6); “to instil, also by one’s example, love for one’s profession” (U7); “the most important is the provision of resources, psychological and educational support” (U8).

Discussion and Conclusions

Empirical research, which was based on the paradigm of differentiation and problematic questions about the criteria for identifying gifted students, methods of educating them, and educational difficulties, aimed to reveal opinion of gymnasium teachers about the peculiarities of education of gifted students in Lithuania and Ukraine.

It became clear during the research that teachers from both countries consider the following as the criteria for identifying gifted students: pursuit of knowledge; ability to learn; creativity; critical thinking; individuality. These and similar criteria for identifying gifted students are also distinguished by a number of studies (Survutaitė, 2022; Belska, 2022; Voloshuk, Gal'chenko, 2022; Dinichenko, 2000), which indicate that this recognition is associated with various and different manifestations of students’ talents; thus, the field of research is constantly expanding in order to maximize their potential and improve the quality of teaching. Researchers note that gymnasium teachers from both countries are able to recognize gifted students on the basis of the above-mentioned criteria for recognition. The following allows to claim that gifted students are noticed,

educational conditions that meet their needs are created, and the potential of these students' talents is developed.

Data of the conducted research on the methods of educating gifted students revealed that LT teachers use the following methods of education: additional tasks, individualized education, preparing students for participation in competition, olympiads. UA teachers also apply the above-mentioned methods, but also distinguish psychological support, motivation; parent involvement in the education of gifted students. Most studies (Reid & Boettger, 2015; Matheis et al., 2017; Khalikova & Khalikov, 2020) associate the choice of methods of education of gifted students with the personality of the teacher, one's professional abilities. It is worth mentioning that methods of educating gifted students provided by informants reveal the professional and personal preparation of teachers to work with gifted students professionally. The conducted research highlighted the differences between educational methods used by LT and UA teachers: UA teachers provided more and more diverse educational methods, while LT teachers focused more on the application of individual and additional educational methods. It is important to note that teachers who participated in the research are determined and motivated to achieve the ambitious goal of educating gifted students by using all educational methods available to them.

International studies (Cheung et al., 2022; Reid, Boettger, 2015) reveal that education of gifted students is often accompanied by difficulties: not always and not all gifted students are noticed, teachers do not have a wide choice of various educational strategies for gifted students, etc. The conducted research and its findings largely support this position. LT teachers who participated in the research presented difficulties related to environmental factors: heavy student learning workload; lack of teacher time; lack of teacher knowledge in working with gifted students; large number of students in the class; need for professional development; increased requirements for the teacher's personality. Meanwhile, UA teachers identified other difficulties related to personal and professional factors: continuous qualification improvement; high requirements for the teacher's personality, etc. The responses of the informants revealed differences between countries (LT and UA), which could be caused by the use of different criteria for identifying gifted students, methods of education, national educational traditions, etc. Nevertheless, researchers note that education of gifted students is a complex area that not only requires the efforts of teachers, but also appropriate attention of the wider education community.

The limitation of the qualitative research is related to the inevitable subjectivity in the qualitative research. Even though when planning and conducting the following research requirements for this type of research were met, the generalization of findings and possibilities of their application are limited in part by the small number of research participants. It is the results of qualitative research that are unique and specific to the individuals involved in the research.

It would be incorrect to apply the findings of the research to all LT and UA teachers, but it is likely that the opinion expressed by the participants of the following research provides an understanding of the challenges and opportunities of the education of gifted students in gymnasium, faced by teachers. Research results allow to predict continuity of the further research on the following phenomenon in order to find out the opinion of general education teachers by conducting quantitative research in both countries.

On the basis of theoretical insights and findings of the conducted research, in order to improve the quality of education of the gifted students, the researchers believe that it is important to ensure consistent, continuous, research-based development of students' talents; create opportunities and provide teachers with knowledge about the adaptation and modification of general programmes, thus enriching their content, differentiating and individualizing the teaching process; motivate teachers to improve their qualification in matters of education of gifted students; gather teams of specialists needed for the recognition, education, and motivation of talented students to improve. In summary, it can be concluded that gymnasium students are noticed by teachers and are educated in a variety of ways. Not all opportunities are used for the education of gifted students for different reasons in each (LT and UA) country. Teachers from both countries aim to educate talented gymnasium students by improving themselves, looking for the best educational methods, etc.

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LANGUAGE POLICY AND SCHOOL EDUCATION AS MAIN FACTORS OF UKRAINE STATE CREATION

Oleksandr Malykhin

Institute of Pedagogy of National Academy of Educational Sciences of Ukraine, Ukraine

Nataliia Aristova

Institute of Pedagogy of National Academy of Educational Sciences of Ukraine, Ukraine

Nataliia Dichek

Institute of Pedagogy of National Academy of Educational Sciences of Ukraine, Ukraine

Maryna Zahorulko

Institute of Pedagogy of National Academy of Educational Sciences of Ukraine, Ukraine

Abstract. *The authors present their views on the formation of the Language Policy and the role of general secondary school education as important factors in the Ukraine state creation shortly before and in the first years of Ukraine's independence. The main drivers of changes in the Language Policy of the Soviet government regarding the state of the Ukrainian language in the USSR are identified. These drivers of changes include (1) activities of nationally oriented public organisations, primarily Ukrainian writers, historians, human rights defenders, and the Ukrainian language admirers; (2) public desire to develop nationally oriented education, which forced the authorities to start implementing very specific measures, first of all – in the field of general secondary school education; (3) the gradual formation of a scientific and pedagogical basis for the versatile Ukrainisation and humanisation of education and upbringing of children and youth giving priority to their native language as a language of instruction; (4) the need to introduce measures for external and internal differentiation of general secondary school education; (5) the psychologisation of the educational process. Based on documentary sources, it is argued that general secondary school education played the role of an important factor in the Ukraine state creation which was facilitated by the specific measures developed by the Ministry of Education of Ukraine to implement the Ukrainian idea in school practice in the first years of independence. The novelty of the present research is that authors extrapolate the past educational experience to the current language situation in general secondary school education in Ukraine. Moreover, the authors represent the opinions of contemporary Ukrainian sociolinguists on the state Language Policy in the field of general secondary school education. The research proves that the strategic ideas laid down at the turn of the last decades of the last century regarding the Educational Policy of independent Ukraine in the field of general secondary school education played an important role in improving the position of the Ukrainian language and in shaping Ukrainian self-identity among children and young people which explicitly and implicitly reinforced the key strategic idea – the idea of the Ukrainian State creation.*

Keywords: *Educational Policy; general secondary school education; Language Policy; Ukraine; Ukrainian language.*

Introduction

In the context of the current and unequivocally unresolved socio-political problem related to the functioning of the Ukrainian language as the state one in Ukraine, we consider it appropriate to carry out a historical and retrospective analysis of developing educational component of the problem's solution within the general secondary school education. At the beginning of the 21st century L. Masenko (2004), who is a well-known contemporary Ukrainian sociolinguist, wrote that even 27 years after declaring Ukraine's independence, "the situation in education was not favourable, although it was reported all the time that there was probably 95% of schools where instruction was provided in Ukrainian and Ukrainian was supposedly the language of instruction in all universities" (Masenko, 2004). Moreover, numerous Ukrainian linguists, writers, and public figures expressed their dissatisfaction with the Language Policy implemented by the government back then.

Ukrainian scientific literature contains various research related to different aspects of the functioning of the Ukrainian language. Thus, for instance, much was done by O. Danylevska (2018) and O. Ruda (2012) who investigated modern relations of languages, language practices and cultures and their projections on the social and linguistic consciousness of Ukrainian citizens. The connection between the language and the policy of state creation, issues of language policy were examined by N. Dichek (2020), M. Kocherhan (2008), O. Kuts (2004), L. Masenko (2004), H. Matsyuk (2009). The research by O. Tkachenko (2014), S. Sokolova (2019), S. Sokolova and H. Zalizniak (2018), T. Tkachuk (2015) were aimed at exploring the interaction between various factors of political, social, cultural, scientific life of bilingual environment. What is more, language issues in the context of public administration were investigated by N. Popovych (2011) and I. Lopushynskyi (2006).

It should be noted that close to our research was the analysis of the State Policy in the field of education carried out by I. Lopushynskyi (2006). The analysis showed the influence of the language factor on language training at all levels of education and on reforming language education in educational institutions of Ukraine in the context of European integration processes. The researcher also analysed the state of Ukrainian language education in the diaspora (Lopushynskyi, 2006). The research by N. Dichek (2016) was focused on investigating the ways of establishing a personally oriented paradigm of school education in Ukraine. However, neither these researchers nor others specifically investigated the role of general secondary school education in forming and implementing the State Language Policy, nor did they set goals to conduct its historical and genetic analysis.

The authors of the research limited the analysis of scientific works and experts' opinions on the state and ways of solving the language issue in Ukraine only to those published studies (although in reality there were far more), where – albeit indirectly – the State Language Policy in the field of education was criticised. For instance, the quote from the article by O. Danylevska (2018) represented a consolidated position of Ukrainian sociolinguists: "... sociolinguists conclude that the State Language Policy in general and in the system of language education in particular is ineffective. A sign of Ukrainian linguistic existence is the fact that the expert environment, in particular linguists, whose research interests include the problems of language functioning in society and the analysis of language policy, almost throughout the entire history of independent Ukraine were in a kind of opposition to the state authorities responsible for the language implementation".

Problem Statement and Research Methodology

The research purpose was to carry out a historical and genetic analysis of the first steps of the State Educational Policy of independent Ukraine in the field of general secondary school education in the context of its Ukrainization. The purpose was specified in the following tasks: (1) to identify the main drivers of changes in the policy of the Soviet government regarding the state of the Ukrainian language in the USSR; (2) to outline the specific steps of implementing the Ukrainian idea in school practice in the first years of independence; (3) to extrapolate past experience gained by researchers to the current language situation in general secondary school education in Ukraine and to represent the opinions of contemporary Ukrainian sociolinguists on the State Language Policy in the field of general secondary school education.

The main inclusion criterion for search was journal articles and monographs written in Ukrainian and English that reflected the language situation in Ukraine in general and language policy in general secondary education in Ukraine shortly before and in the first years of Ukraine's independence in particular from a critical perspective. To achieve the purpose of research the authors conducted the analysis of scientific literature and normative legal acts of Ukraine selected according to the main inclusion criterion mentioned above.

Results

Assuming that the language policy is "a set of political and administrative measures aimed at giving language development the desired direction, ... the part of the national policy of a particular state" (Kocherhan, 2008), or that the language policy can be regarded as one of political mechanisms that affects the structure, functions, use or assimilation of any language (Johnson, 2013), we can suggest

that such a policy began to form in Ukraine not earlier than the latter part of the 20th century: firstly, under pressure from the national-oriented public, that is, “from below”; secondly, only due to the exaggerated situation aimed at adopting the Law “On Languages in the Ukrainian SSR” in October 1989 (in the Soviet Ukraine back then) (Verkhovna Rada Ukrainy, 1989). Considering this point of view, we can conclude that it is hardly possible to overcome centuries of restrictions concerning the rights and even prohibitions of the Ukrainian language (the Valuev Circular issued in 1863 (Danylenko, 2010; Remy, 2007; Remy, 2016) and the Ems Decree issued in 1876 (Internet Encyclopedia of Ukraine, 2001; Reyent, 2016)) in several decades.

We should indicate that the Law “On Languages in the Ukrainian SSR” (Verkhovna Rada Ukrainy, 1989) in Ukraine, despite the severe resistance of the communist authorities, was adopted thanks to mass actions of the public movement participants who advocated the fate of the Ukrainian language, national sovereignty and national (Ukrainian) priorities in all spheres of life.

According to L. Deshchynskyj (2006), it was under the influence of the national-liberation movement, although heterogeneous in the composition of participants due to their beliefs and demands, that democratic changes began in the Ukrainian republic in the second half of the 1980s and “the writers were in the forefront of this movement” (Deshchynskyj, 2006). It was the writers who defended the Ukrainian language and culture from Russification and who were able to force Gorbachev’s perestroika to “speak Ukrainian” (Deshchynskyj, 2006).

In February 1989, the language situation in Ukraine was compared with the situation in Chernobyl during the Taras Shevchenko Founding Conference of the Ukrainian language society (Ostrozkyi zamok, 2020). Conferenced participants loudly declared the narrowing the scope of use of the native language and initiated the adoption of the Law “On Languages in the Ukrainian SSR” (1989), which became the legal grounds for introducing such new training courses of folk studies as “Ethnography and Folklore of Ukraine”, “Culture and Art of Ukraine”, “Folk Studies”, “Native Land”.

So, since October 1989, when the Law “On Languages in the Ukrainian SSR” was put into effect, the Ukrainian language received the status of the state language (Verkhovna Rada Ukrainy, 1989). Its functioning and development was recognised as “one of the decisive factors of the national identity of the Ukrainian people”, which guarantees them the “sovereign national-state futureness” (Verkhovna Rada Ukrainy, 1989). It should be noted that the Law “On Languages” laid down the need to “educate citizens, regardless of their nationality, to understand the social purpose of the Ukrainian language as the state language in the Ukrainian SSR” (Verkhovna Rada Ukrainy, 1989). We have to state that the issue of developing Ukrainian-language education was almost the first among large-scale national processes.

On July 16, 1990, under pressure from broad public circles, the Congress of the Communist Party of Ukraine was forced to adopt the Declaration on State Sovereignty of the Ukrainian SSR (Verkhovna Rada of Ukraine, 1990), which recognised the independence of the Republic in solving issues of science, education, cultural and spiritual development of the Ukrainian nation. In Part VIII – “Cultural Development” of the Declaration, it was noted: “the Ukrainian SSR, independent in solving issues of science, education, cultural and spiritual development of the Ukrainian nation, guarantees all nationalities living on the territory of the Republic the right of their free national and cultural development. The Ukrainian SSR ensures the national and cultural revival of the Ukrainian people, their historical consciousness and traditions, national and ethnographic features, and the functioning of the Ukrainian language in all spheres of life” (Verkhovna Rada of Ukraine, 1990).

On the eve of the 1990-1991 school year, in August, the Commissions on Public Education and Science, Culture and Spiritual Revival of the Supreme Soviet of the Ukrainian SSR appealed to the citizens of Ukraine (parents of schoolchildren) from the pages of the newspaper “Education” with a challenge to the State expediency of sending children to Ukrainian schools to teach in their native language, the state functioning of which was low at that time (Zvernennia komisii Verkhovnoi Rady Ukr. RSR, 1990). It was noted back then that the majority of Ukrainian children (especially in cities) did not know the Ukrainian language, there was “renunciation of the native language, ignorance of the history of the native people, oblivion of national roots” in society (Zvernennia komisii Verkhovnoi Rady Ukr. RSR, 1990), which caused a deep spiritual and moral crisis in Ukrainian society. And in order to change this situation, the first task that the commissions suggested to do was to change the work of the school as the future of Ukraine would depend on it.

According to the Law “On Languages” (Verkhovna Rada Ukrainy, 1989), 176 Ukrainian-language schools were opened in 1990 alone, and the number of hours allocated for studying the history and geography of Ukraine was increased in the content of secondary education (Berezivska, 2018).

The active core of the national movement who also influenced changes in education, included writers, scientists-historians, public figures, human rights defenders, whose speeches in the press aroused public opinion and activity, and contributed to raising the level of national consciousness and finally shifted the process of national state creation in Ukraine. Thus, thanks to the efforts of Ukrainian history researchers at the level of the decision of the Politburo of the Communist Party of Ukraine in January 1989 almost for the first time, it was recognised that there were many complex phenomena and facts which were incomplete, contradictory, biased”, and “the study of the history of Ukraine of the Ukrainian SSR in general secondary schools and vocational schools did not ensure the formation of a holistic view of the ancient and modern history of Ukraine

among students” (Deshchynskyi, 2006, pp. 8-9). The result was the approval of the decision to develop a “Program for Developing Historical Research, Improving Research and History of Propaganda of the Ukrainian SSR for 1991-2000”. And although this program was approved only in July 1990, however, its important cultural and national-creating significance was described by V. Lytvyn in 1994 as follows: “... what is being done thoroughly in the field of research and propaganda of the history of Ukraine is a consequence of the implementation of the mentioned program” (Lytvyn, 1994).

Another factor and driver of changes in general secondary school education in the Soviet era was the adoption of the Law “On Education”, in accordance with the resolution of the Verkhovna Rada No. 1144-XII of June 4, 1991 (Zakon Online, 1991). Without exaggeration, we consider this Law to be a breakthrough step in the beginning of democratic changes in the development of the educational sector, because it justified State expediency of transforming the educational system on the principles of humanism, national interests and universal values as opposed to class Communist interests. Thus, in the 4th article of the adopted Law “On Education”, it was stated: “Ukraine recognises education as a priority sphere of socio-economic, spiritual and cultural development of society” (Zakon Online, 1991). And among the basic principles of education (Article 6), the following principles as “humanism, democracy, priority of universal spiritual values; organic connection with world and national history, culture, traditions” were indicated (Zakon Online, 1991). With the development of democracy in the country and changes in social needs in 1993, and in more detail – in 1996. The Law was clarified (edited), and further amendments and clarifications were made to it, until it became invalid with the adoption of the new Law “On Education” in May 2017.

It can be argued that the need to protect the Ukrainian language, to expand the scope of its functioning and studying initiated by writers intensified the problem of the constitutional declaration of sovereignty of Ukraine (Verkhovna Rada of Ukraine, 1990), which took place on August 24, 1991, when the Verkhovna Rada adopted the act of declaration of independence of Ukraine, which marked the beginning of the creation of an independent Ukrainian State.

Thus, the main drivers of breaking the Soviet language policy and creating the educational policy of an independent state in the country were primarily such internal factors of cultural, educational and political changes as the gradual disappearance (under the pressure of the nationally oriented public) of the totalitarian state monopoly on solving socially significant issues in the humanitarian sphere of people’s lives. The proof of this is the determined decisive influence of humanitarian and public opinion on the definition of State Educational Policy in Ukraine; public desire to develop nationally oriented education, which forced the authorities to start implementing very specific measures, first of all – in the field of general secondary school education; the

gradual formation of a scientific and pedagogical basis for the versatile Ukrainisation and humanisation of education and upbringing of children and youth giving priority to their native language as a language of instruction; the need to introduce measures for external and internal differentiation of general secondary school education; the psychologisation of the educational process. A significant external factor that influenced the formation of general secondary school education policy in Ukraine was the collapse of the USSR and the liberation from communist monoideology.

Adhering to the opinion of the modern linguist M. Kocherhan (2008) that in the process of shaping Ukrainian patriots, “educational work, first of all, should be entrusted to the Ministry of Education. It should always be provided by schools. Most of all, it depends on our teaching whether the current schoolchildren will become nationally conscious citizens, whether they will be able to defend their national dignity” (Kocherhan, 2008).

We should also mention the significant participation of the Ministry of National Education of Ukraine (since 1992 – the Ministry of Education of Ukraine) in determining and implementing the Ukrainian-oriented School Educational Policy. During the controversial transition period of the Ukraine State creation, it was led by the Minister I. Ziaziun (September 1990 – January 1992), who came to the post as a recognised scientist and the developer of ideas about pedagogical proficiency as an integral quality of a teacher, which implies teachers’ ability to apply fundamental principles of individual approach to the schoolchildren.

The activation of the movement for the recognition of the national identity of Ukrainians in the late 1980s stimulated the beginning of a broad public discussion on the need to reform general secondary school education on the national basis, which led to the development of various public and official projects for reforming its work (Berezivska, 2018). Based on the public discussion about the renewal of the school’s activities, the Board of the Ministry of National Education of the Ukrainian SSR approved the Project “Concepts of Secondary General Education Schools of Ukraine” in August 1990, prepared by the team of scientists from the Research Institute of Pedagogy of the Ukrainian SSR (now – *Institute of Pedagogy of National Academy of Educational Sciences of Ukraine*). It was widely discussed both at teachers’ conferences in August and at public hearings during the school year. The concept, which was based on the thesis that “the school is a model of society”, proclaimed the need to restore the cultural function of the school, to revive the traditions of national culture in the content of teaching and upbringing, to refuse to impose political and religious dogmas on the school, and the autonomy of schools in choosing the forms and methods of the educational process (Dichek, 2020). Already in September 1991, the Board of the Ministry adopted the Decision № 8/61 “On the Concept of General Secondary Education Schools in Ukraine”, in which it approved the revised version of the

document. It “defined the main tasks and prospects for the development of the school, the main directions of its spiritual and national revival: restoration of school’s cultural function, reflection of traditions of national culture in the content of training and education, democratisation and humanisation of education, individualisation and differentiation of the educational process and its development taking into account national traditions” (Informatsiinyi zbirnyk Ministerstva osvity Ukrainy, 1992b).

It should be noted that among the ideas declared in the concept, later many ideas modified and detailed were included into further educational documents of independent Ukraine, namely, the principles of nationality, differentiation and individualisation of education and upbringing of schoolchildren, the introduction of variability in the content, forms and methods of education.

During 1991, the Ministry developed and adopted a comprehensive action plan to implement the resolution of the Council of Ministers of the Ukrainian SSR of 12.02.1991 “On the State Program for the Development of the Ukrainian Language and other National Languages in the Ukrainian SSR for the Period up to 2000” (Pedahohichna presa, 1991c), which became a plan of specified actions to strengthen the role and significance of the native language in school’s activities, aimed at promoting “the establishment of the Statehood of the Ukrainian language in all educational institutions” (Pedahohichna presa, 1991c).

In the context of updating the content of secondary education within the Concept of the National School, with the joint participation of scientists of the Academy of Educational Sciences of Ukraine, the Ministry of National Education, the Union of Writers of Ukraine, competitions were launched to create new original textbooks, manuals and programmes for general secondary schools and Pedagogical Institutes (Pedahohichna presa, 1991b).

The development of “The Concept of Patriotic and International Education of Students’ Youth, the Formation of Their National Identity” by the Ministry in 1990 (Pedahohichna presa, 1990) and “The Concept of Aesthetic Development of Students’ Youth” was aimed at achieving the purpose of the national state creation by means of education. Along with the development of “The Concept of Aesthetic Development of Students’ Youth”, the creation of small Academies of Folk Arts and Folk Studies which were supposed to contribute to the restoration of folklore traditions and crafts was approved (Pedahohichna presa, 1990).

The Ministry also developed the Regulation “On the Movement of Students of Ukraine for the Preservation and Multiplication of Traditions, Customs, Rituals of the People”: “My land – the land of my parents”, which was launched on September 1, 1990 in all general secondary schools of the country with the aim to revive national culture among schoolchildren, ensuring the in-depth study of the history of their native land (Pedahohichna presa, 1990). A large-scale comprehensive programme of search, training and upbringing of gifted children and youth “Creative Giftedness” (1990-1991) was also launched (Pedahohichna

presa, 1992a), thanks to which the research by young students was stimulated, and the work of creative voluntary associations of schoolchildren was recognised and justified. In 1991, the Board of the Ministry of Public Education of the USSR approved the “Regulations on the Small Academy of Sciences, the Scientific Society of Schoolchildren and Young Students” (Pedahohichna presa, 1991a). Later, this vector aimed at “developing intelligence, cognitive activity and creative abilities, self-determination in the future profession” of Ukrainian schoolchildren was constantly supported in the activities of the Ministry (Pedahohichna presa, 1991a).

Since the chronological boundaries of the article are limited to the years of formation (prerequisites) and the first years of independence of Ukraine, we should also turn to such an important document that defined the key strategies for the development of education in an already independent Ukraine – the State National Programme “Education” (“Ukraine of the XXI Century”) (Verkhovna Rada Ukrainy, 1993) developed under the minister of Education P. Talanchuk (1992-1994). Without a doubt, this document became the first ideological reference point in the development of an independent national education system. The Programme focused on the need to recreate the intellectual and spiritual potential of Ukrainians, on the need for National Science, Technology and Culture to reach the world level, on national revival, the formation of statehood and the democratisation of society in Ukraine (Verkhovna Rada Ukrainy, 1993). The main goal of the Programme was formulated as “defining strategic directions for the development of education in the conditions of State independence”, while the orientation to the national direction of education was determined, “creating such an integral system of continuous education and upbringing that would ensure the formation of the intellectual and cultural potential of the nation” (Verkhovna Rada Ukrainy, 1993, p. 2). The defining component of educational reform was recognised as updating its content and coordinating it with the needs of the individuals and new needs of Ukrainian society, as well as with the standards of world scientific and pedagogical experience.

The definition of key areas of school education renewal in the Programme was largely influenced by such factors as the position and voice of the Ukrainian public, which is associated with the tendency to increase the influence of the nationally oriented part of society on state decision-making, as well as the activity of the educational community regarding the formation of State Policy in the field of education, in particular, general secondary education, which began in the mid-1980s.

According to the activities of the Minister – P. Talanchuk in the educational sphere, there were fundamentally important changes aimed at intensifying the development of nationally oriented education (preparation of updated textbooks, monitoring the implementation of the Law “On the Ukrainian language” (1989) in certain regions of the country), as well as changes directly or indirectly related

to the strengthening of the processes of humanisation of education. In addition, for instance, by the decision of the Ministry of Education of Ukraine, since 1993, the creation of Centres for Holding Events Related to the Memory of Holodomor Victims in Ukraine has been initiated in all types of Educational Institutions (Pedahohichna presa, 1993a; Pedahohichna presa, 1993b; Pedahohichna presa, 1993c). But, at the same time, the literature analysis clearly demonstrates that the reform concerning general secondary education took place at an inappropriate pace (Dichek, 2020; Masenko, 2004).

In general, emphasising the national-creation potential of the State National Programme “Education” (“Ukraine of the XXI Century”), we have to use the word “proclaimed”, which is not accidental. Unfortunately, the ideas and principles declared in the document, which are extremely important for the State and development of education as its significant component, have largely remained demonstrated (for example, the provision on granting priority status to education has not yet been implemented). We think it is inappropriate to accuse the developers of the Programme that they did not foresee the growth of the material and economic crisis in the country in the 1990s, and did not take into account the inertia of the educational system itself regarding rapid innovations. In our opinion, we should still remember and appreciate that it is thanks to the ideas laid down in this programme, the ways of humanisation and development of national education were outlined for years to come, the development of school education on the all-Ukrainian basis focused on the needs of both the state and the individual began and is being continued.

Conclusions

In the paper the historical and genetic analysis of the first steps of the State Educational Policy of independent Ukraine in the field of general secondary school education in the context of its Ukrainization was conducted. The authors presented their views on the formation of the Language Policy and the role of general secondary school education as important factors in the Ukraine State creation shortly before and in the first years of Ukraine’s independence. The authors also identified the main drivers of changes in the Language Policy of the Soviet government regarding the state of the Ukrainian language in the USSR. The main drivers of changes included (1) activities of nationally oriented public organisations, primarily Ukrainian writers, historians, human rights defenders, and the Ukrainian language admirers; (2) public desire to develop nationally oriented education, which forced the authorities to start implementing very specific measures, first of all – in the field of general secondary school education; (3) the gradual formation of a scientific and pedagogical basis for the versatile Ukrainisation and humanisation of education and upbringing of children and youth giving priority to their native language as a language of instruction; (4) the

need to introduce measures for external and internal differentiation of general secondary school education; (5) the psychologisation of the educational process. The research proved the fact that general secondary school education played the role of an important factor in the Ukraine State creation which was facilitated by the specific measures developed by the Ministry of Education of Ukraine aimed at implementing the Ukrainian idea in school practice in the first years of independence. Moreover, it proved the fact that the strategic ideas laid down at the turn of the last decades of the last century regarding the Educational Policy of independent Ukraine in the field of general secondary school education played an important role in improving the position of the Ukrainian language and in shaping Ukrainian self-identity among children and young people which explicitly and implicitly reinforced the key strategic idea – the idea of the Ukrainian State creation.

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SKOLĒNU KOGNITĪVĀS DARBĪBAS DZILUMS VIDĒJĀS IZGLĪTĪBAS VALSTS PĀRBAUDES DARBOS MATEMĀTIKĀ

Students' Depth of Cognitive Performance on Secondary School State Mathematics Tests

Marta Mikite

Latvijas Universitāte, Latvija

Ilze France

Latvijas Universitāte, Latvija

Abstract. Latvia began curriculum reform implementation in 2020. Not only has the learning content changed, but students are also now able to choose from one of three levels to study mathematics in secondary school. This requires new exams at the end of each of these courses. The aim of this study is to investigate student performance and to what extent students can use higher cognitive skills on the new exams. Results were analyzed using Classical Test Theory and Item Response Theory. Comparing the results of the new exams using Wright maps shows a trend that, although there are flaws, they are more representative of the relevant population than the previous exam. A group of experts determined the level of cognition for each of the tasks and analyzed students' performance. The results show that there are tasks where students can demonstrate the highest level of cognitive abilities. However, such tasks are relatively few, and they are mathematical rather than problems in a real context. Performance analysis shows that students have difficulty expressing their thoughts and this is one of the reasons why only a small number of students solve challenging problems.

Keywords: cognitive abilities, item analysis, mathematics assessment, national large-scale assessment, performance analysis, secondary school exams.

Ievads

Introduction

Kopš 2020. gada Latvijā notiek jaunā mācību standarta matemātikā ieviešana. Mainās ne tikai mācību saturs, bet izmaiņas ir arī vidusskolas matemātikas kursa apguves formā. Skolēni var izvēlēties vienu no trīs mācību satura apguves līmeņiem, kādā apgūt matemātikas kursu - vispārīgajā, optimālajā vai augstākajā līmenī (Ministru kabinets [MK], 2019). Sākot ar 2021./22. mācību gadu vispārizglītojošo

skolu skolēniem, kuri apgūst matemātiku pēc jaunā mācību priekšmeta standarta, jākārto centralizētais eksāmens optimālajā satura apguves līmenī (CEOAL), vai augstākā (MK, 2019). Savukārt, profesionālās izglītības iestāžu audzēkņiem, kuri apgūst vispārējās izglītības saturu, jākārto matemātikas eksāmens vispārīgajā satura apguves līmenī (CEVAL) vai augstākā (MK, 2020). Pētījumā analizēti 2022. gada CEVAL un CEOAL.

Eksāmeni un citi vērtēšanas darbi vienmēr ir bijuši visas izglītības sistēmas dzinulis. Tie mēra un ietekmē mācīšanas praksi un formas - ja eksāmenā ir šaura, uz rezultātu balstīta nevis uz reālo dzīvi, procesu un attīstību orientēta pieeja, tas atstāj ietekmi arī uz mācīšanu un mācīšanos (Cimen, 2010), tādejādi valsts pārbaudes darbu izpēte ir viens no instrumentiem, kas dod informāciju par jaunā satura ieviešanu (Pestovs, Saleniece, & Namsone, 2019). Ņemot vērā vidējās izglītības eksāmenu rezultātu augsto ietekmi uz skolēnu turpmāko dzīvi, jāpārlicinās par testu kvalitāti. To var raksturot novērtējot eksāmenu ticamību (ang. *validity*) un drošumu (ang. *reliability*). Informācija par testelemntiem, kuri iespējams nemēra, to, kas plānots, ir noderīga gan eksāmenu veidotājiem, gan skolotājiem, gan visiem, kuri tieši vai netieši izmanto eksāmenu rezultātus lēmumu pieņemšanā (Latifi, Bulut, Gierl, Christie, & Jeeva, 2016).

Jaunā satura ieviešana paredz kompetences kā galveno mācību rezultātu (Oliņa, Namsone & France, 2018). Līdzšinējo vidusskolas centralizēto eksāmenu matemātikā šobrīd aizstāj trīs dažādi eksāmeni, kas ir atbilstoši izvēlētajam satura apguves līmenim. Būtiski ir noskaidrot, cik lielā mērā šie eksāmeni mēra augstākos izziņas darbības līmeņus un kādu sniegumu skolēni šajos uzdevumos demonstrē. Pētījumam izvirzīti jautājumi: (1) Ko rāda eksāmenu rezultāti, par eksāmenu ticamību, drošumu un piemērotību skolēnu kopai, kas to kārtā? (2) Kā tiek mērīta skolēnu izziņas darbība augstākajos līmeņos šajos eksāmenos un kāds ir skolēnu sniegums?

Literatūras apskats ***Literature Review***

Centralizēto eksāmenu mērķis ir novērtēt skolēnu sniegumu matemātikā atbilstoši izvēlētajam satura apguves līmenim un iegūt datus skolēnu snieguma un mācību satura izvērtēšanai, metodisko ieteikumu izstrādei un profesionālās pilnveides plānošanai izglītības iestādes, dibinātāja un valsts līmenī (VISC, 2023). Pasaulē arvien lielāku lomu iegūst datu par skolēnu sniegumu izmantošana, izglītības sistēmas uzlabošanā (Gneezy et al., 2019, Shiel & Cartwright, 2015, Eacott & Holmes, 2010). To ļauj izdarīt prasmīga datu apstrāde un palūkošanās uz eksāmena darbiem no dažādiem rakursiem. Datu analīze ļauj izdarīt secinājumus par

konstruktu kopumā un identificēt problemātiskos testelementus, taču, lai izdarītu precīzākus secinājumus nepieciešama arī kvalitatīva rezultātu analīze. Šādu kvantitatīvu un kvalitatīvu novērojumu kopsavilkums ļauj noderīgi, jēgpilni un derīgi skaidrot datu būtību (Bond & Fox, 2013).

Vidusskolas noslēguma eksāmeņiem matemātikā ir liela ietekme uz skolēnu turpmāko dzīvi, tāpēc ir nepieciešams pārliecināties, ka iegūtie dati ir ticami un godīgi (Betels, 2003). Tas ir nozīmīgi (1) lai būtu pārliecība, ka skolēns tiešām ir sasniedzis paredzēto satura apguves līmeni, (2) lai varētu taisnīgi sarindot skolēnus pēc viņu snieguma eksāmenā un (3) eksāmens sniedz empīriskus pierādījumus, kas varētu veicināt izglītības mērķu, eksāmenu politikas un mācību priekšmetu satura kritisku izvērtēšanu un, plašākā nozīmē, varētu veicināt uzlabojumus (Latifi et al., 2016).

Pārbaudes darba ticamība raksturo, kādā mērā šis darbs ļauj novērtēt tieši tās skolēna zināšanas un prasmes, kura pārbaudei tas paredzēts (Betels, 2003). Lai tiktu mērītas standartā noteiktās prasības, eksāmena vērtēšanas saturu veido trīs kategorijas: (1) satura modulis, (2) sasniedzamo rezultātu grupas, (3) izziņas darbības līmenis (VISC, 2023). Viens no eksāmena drošuma faktoriem ir testelementu grūtības pakāpe, jo labāk testelementu grūtība atbilst skolēnu spēju līmenim, jo augstāks ir testa drošums (Betels, 2003).

Raita karte ir Raša analīzes vizuāls attēlojums, kurā personas (kartes kreisajā pusē) un testelementi (kartes labajā pusē) tiek attēloti uz vienas skalas atbilstoši to spēju un grūtības pakāpes novērtējumam (Bond & Fox, 2013). Raša analīze balstās apgalvojumu, ka: “personai ar lielākām spējām kā citai vajadzētu būt lielākai varbūtībai atrisināt jebkuru uzdevumu, un līdzīgi grūtāku uzdevumu kā citu jebkurai personai atrisināt ir mazāka varbūtība” (Rasch, 1960). Tiek aprēķināta varbūtība, personai ar tās spēju līmeni (konkrēta vērtība, balstoties uz kopējo punktu skaitu testā), pareizi atbildēt uz jautājumu (ar konkrētu grūtības pakāpi, kas atkarīga no pareizi atbildējušo personu skaita). Šī varbūtība ir atkarīga no personas spēju un testelementa grūtības pakāpes starpības (Bond & Fox, 2013). Svarīgākais ir princips, ka personas novietojums attiecībā pret testelementu attēlo, kāda ir varbūtība, ka šī persona pareizi atbildēs uz konkrēto jautājumu (Boone, 2016). Raita karte atspoguļo tikai saistību starp skolēnu sniegumu un testelementu grūtības pakāpi, kas ir tikai daļa no visas Raša analīzes, taču tā ļauj izdarīt secinājumus par eksāmenu piemērotību skolēnu kopai, kas tos kārtos (Bond & Fox, 2013).

Matemātikas mācību jomas plānotie skolēnam sasniedzamie mācību rezultāti paredz, ka skolēns izprot matemātiku kā zināšanu un prasmju sistēmisku kopumu, kas ļauj kvantitatīvi aprakstīt un izzināt apkārtējo pasauli, lietojot algoritmus, matemātisko modelēšanu un citus matemātikai raksturīgus paņēmienus dažādos kontekstos, spriež inductīvi un deduktīvi, veidojot risinājumus un skaidrojot savu

darbību un rezultātu (MK, 2019). Labs pārbaudes darbs mēra ne tikai skolēnu prasmes reproducēt zināšanas un prasmes, tajā ir jāiekļauj jautājumi kuros skolēns saprot un lieto informāciju jaunās situācijās un kontekstos. Darbā jāiekļauj arī uzdevumi, kuros skolēnam zināšanas un prasmes būtu jālieto jaunā situācijā, lai demonstrētu savu kompetenci (Cimen, 2010). Zināšanās balstītos uzdevumos vajadzētu iekļaut arī jautājumus *Kāpēc?* un *Kā?*, ne tikai atbildes uz jautājumiem *Kas?* *Kur?* *Kad?*, uzdevumos jāiekļauj konteksti, kas saistīti ar reālo dzīvi (Heyneman & Ransom, 1990).

Literatūrā tiek aprakstītas dažādas pieejas un definīcijas, ko saprot ar augstākā līmeņa izziņas darbību, piemēram, tās ir prasmes, kas veicina dziļākas, konceptuāli virzītas izpratnes veidošanu (Schraw & Robinson, 2011). Daudzi autori, veidojot augstāko izziņas darbības līmeņu definīciju, izmanto Blūma taksonomiju vai tās precizētu versiju (Bloom, Englehart, Furst, Hill, & Krathwohl, 1956; Anderson & Krathwohl, 2001), kas piedāvā skolēnam sasniegumus rezultātus klasificēt sešos izziņas darbības līmeņos - zināšanas (atcerēšanas), saprašana, lietošana, analīze, sintēze un izvērtēšana. Aprakstot plašāk modeli kā vērtēt augstāka līmeņa izziņas darbību (Paul & Nosich, 1992) min 21 būtiskākos mērķus, lai novērtētu skolēnu izziņas darbību augstā līmenī. Veidojot uzdevumus mācību procesam un pārbaudes darbiem, ir būtiski novērtēt, cik lielā mērā uzdevums dod iespēju skolēnam domāt “dziļi”. Uzdevumus var klasificēt četros līmeņos: (1) iegaumēšana, (2) procedūru izpilde, neveicinot to saistību ar izpratni, (3) procedūru izpilde, veicinot to saistību ar izpratni, (4) matemātikas lietošana dažādās situācijās, kur trešais un ceturtais līmenis raksturo skolēnu iespēju izmantot augstākās izziņas darbības prasmes (Smith & Stein, 1998). Domājot par skolēna iespējamo sniegumu, Austrālijas pētnieki (Biggs & Collis, 1982) izveidojuši SOLO (ang. *structure of observed learning outcomes*) taksonomiju, ko var izmantot, lai analizētu skolēna demonstrētās izziņas darbības dziļumu (Namsone & Oliņa, 2018). Sākot ar 2021./22.mācību gadu centralizēto matemātikas eksāmenu programmas nosaka to, ka eksāmena vērtēšanas saturu raksturo trīs kategorijas: (1) sasniegamo rezultātu veids un grupa; (2) satura modulis; (3) izziņas darbības līmenis (VISC, 2023), kur izziņas darbības līmenis tiek noteikts izmantojot SOLO taksonomiju. Arī iepriekš dažādos valsts pārbaudes darbos tika piedāvāts skolēnu izziņas darbību aplūkot trīs līmeņos, kuros nepieciešama: (1) zema; (2) vidēja vai (3) augsta izziņas līmeņa darbība. Pētot dažādus valsts pārbaudes darbus matemātikā (France, Cakane, Namsone & Cirulis, 2017), ir vērojams, ka pārbaudes darbos ir neliels uzdevumu skaits, kuros skolēniem jādemonstrē augsts izziņas darbības līmenis.

Metodoloģija Research Methodology

Pētījumā izmantots paralēlais jauktais pētījuma dizains (1. att). Vienlaicīgi eksāmena testelementi un rezultāti tiek analizēti izmantojot kvantitatīvas un kvalitatīvas pētījuma metodes.



1.attēls. *Pētījuma dizaina shematiskais attēlojums (autoru veidots)*
Figure 1 *Schematic representation of the research design (created by authors)*

Pētījumā tika izmantoti 2021./2022. mācību gada dati par CEVAL un CEOAL eksāmenu kārtotajiem skolēniem. CEVAL kārtoja 860 skolēni, bet CEOAL kārtoja 4338 skolēni. Eksāmeni tika vērtēti centralizēti. Katra eksāmena otro daļu vērtēja divi vērtētāji. Skolēns saņēma vidējo vērtējumu.

Eksāmenu rezultāti analizēti izmantojot klasiskās testu teorijas elementus un Raša analīzes Raita kartes. Lai pārliecinātos par eksāmenu konstruktīvu validitāti, katrā eksāmenā tika aprēķināti Pīrsona korelācijas koeficienti starp katru no eksāmena testelementu kopām (Swank & Mullen, 2017), grupējot tos pēc (1) satura moduļa, (2) sasniedzamo rezultātu grupas, (3) izziņas darbības līmeņa. Lai pārliecinātos par eksāmenu drošumu un noturību eksāmenu daļām tika aprēķināti Kronbaha alfa koeficienti (Tavakol & Dennick, 2011). Tika izmantotas Raša analīzes Raita kartes, lai analizētu eksāmenus un to atbilstību skolēnu kopai, kas kārtot katru no eksāmeniem (Bond & Fox, 2011).

Ekspertu grupa, ko veido 3 izglītības eksperti, analizēja eksāmena testelementus izmantojot SOLO taksonomiju, kas izmantota aprakstot izziņas darbības līmeņus un CEVAL un OEVAL programmas (VISC, 2023). Eksāmenu izziņas darbības līmeņu apraksti: I Atceras, lieto faktus, īsas procedūras vai atsevišķas idejas., II Veic tipiskus algoritmus, lieto formulas, paņēmienus vai prasmes pazīstamās situācijās., III Saista, skaidro, lieto zināšanas vai prasmes jaunās situācijās, demonstrējot patiesu izpratni.,

IV Veido un pierāda vispārinājumus, lieto zināšanas un prasmes situācijās ar augstu kompleksuma pakāpi (VISC, 2023) Kvalitatīvai skolēnu snieguma analīzei testelementos ar augstu izzīņas līmeni (trešo vai ceturto) atlasītās izlases kopas sastāv no 100 skolēnu darbiem (CEOAL) un 70 darbiem (CEVAL). Veicot šo atlasīti tika nejauši izvēlēti skolēnu darbi, kuru sniegums nebija zemāks par 20%, tos sagrupējot: A grupa skolēni, kuru sniegums ir intervālā no 80% līdz 100%, B grupa - no 60% līdz 80% (neieskaitot), C grupa - no 40% līdz 60% (neieskaitot) un D grupa no 20% līdz 40% (neieskaitot).

Rezultāti

Results

Nosakot CEOAL ticamību pēc vērtēšanas satura kategorijām, aprēķinātie Pīrsona koeficienti ir lielāki kā 0,5, kas liecina par vidēji ciešu un ciešu korelāciju starp eksāmena testelementu grupām un eksāmena satura ticamību. CEVAL vairums aprēķināto Pīrsona koeficientu ir virs 0,5. Nebūtiski vājāka korelācija novērota IV izzīņas līmeņa testelementiem ar atsevišķām satura grupām. Kopumā arī CEVAL saturs ir ticams.

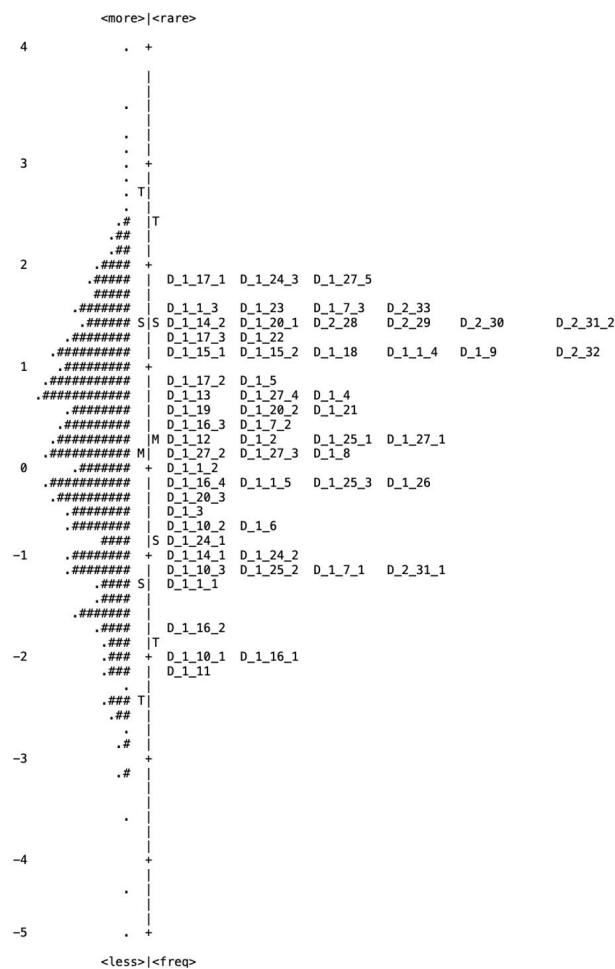
CEVAL un CEOAL tika aprēķināts Kronbaha alfa koeficients atsevišķām eksāmena daļām, lai pārlicinātos par eksāmenu noturību un drošumu. CEOAL Pirmās daļas Kronbaha alfa koeficients ir 0,95, otrajā daļā – 0,85. CEVAL Kronbaha alfa koeficients ir 0,90, otrajā daļā – 0,80. Visās daļās Kronbaha alfa ir lielāks kā 0,8, tāpēc abus eksāmenus var uzskatīt par drošiem (Ekulu & Quainoo, 2019, Krishnan, 2013).

Spriežot par eksāmenu ticamību, CEOAL Raita kartē (3. att.) novērojams, ka skolēnu snieguma un testelementu grūtības vidējās (M) un vienas standartnovirzes (S) vērtības ir ļoti tuvas. Būtu sagaidāms, testelementu izkārtojums kartē simetrisks skolēnu sadalījumam, taču redzams, ka tā nav. Ir daudz testelementu ar līdzīgu grūtības pakāpi. Raita kartē redzams, ka trūkst uzdevumu ar augstu izzīņas līmeni, jo skolēni izkārtojas krietni virs testelementiem, tātad šiem skolēniem eksāmens nav bijis pietiekoši izaicinošs un eksāmens neļauj precīzi izmērīt šo skolēnu sniegumu.

CEVAL Raita kartē (2. att.) novērojams, ka testelementu grūtības vidējā vērtība (M) atrodas kartē krietni virs skolēnu snieguma vidējās vērtības (M). Tātad zem skolēnu snieguma vidējās vērtības ir mazāk testelementu, kā virs. Tas liecina, ka šis pārbaudes darbs šai skolēnu kopai bijis pārāk grūts. Starp skolēnu snieguma pirmo apakšējo (S) un otro apakšējo (T) standartnovirzi Raita kartē atbilstoši ir tikai 2 testelementi. Skatoties virs testelementu vidējās vērtības līdz pirmajai augšējai standartnovirzei (S) ir daudz testelementu, ar līdzīgu grūtības pakāpi. Lai tests kā mērisinstrumentu būtu precīzs, testelementiem būtu jāizkārtojas simetriski pret

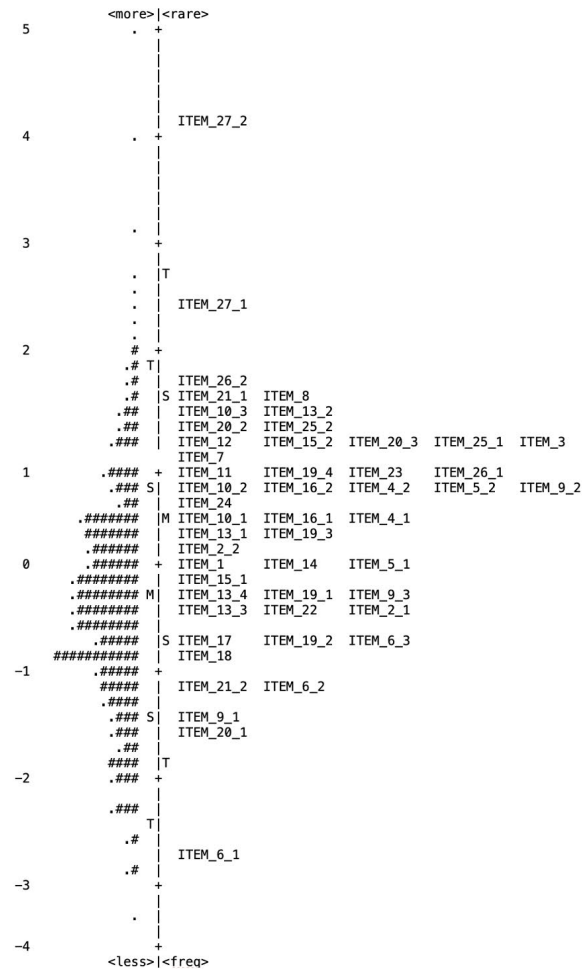
skolēniem, veidojot normālu sadalījumu, šajā gadījumā redzams, ka šis princips nav ievērots. Redzams, ka ir divi testelementi, kas ir bijuši skolēniem izaicinoši 27.1 un 27.2. Savukārt, trūkst testelementu starp 20.1. un 6.1., jo starp tiem veidojas atstarpe, kurai pretī ir liels skaits skolēnu.

CEOAL



apzīmē 18 skolēnus
 . apzīmē 1 līdz 17 skolēnus

CEVAL



apzīmē 6 skolēnus
 . apzīmē 1 līdz 5 skolēnus

2.attēls. CEOAL un CEVAL Raita karte (autoru veidots)
 Figure 2 Wright-map of CEOAL and CEVAL (created by authors)

CEOAL un CEVAL pirmo reizi tika atsevišķi vērtēta matemātiskās valodas lietojums un, kā organizēts un skaidrots risinājums. Ņemot vērā esošo darbu vērtēšanas kārtību, nav iespējams iegūt detalizētāku informāciju par to, kuros uzdevumos skolēniem ir labāk veicies ar valodas un risinājumu organizēšanu, kuru

simbolu vai pieraksta lietošana skolēniem nesagādā grūtības un, kuros gadījumos tā nav ierasta prakse.

1. tabulā redzams, ka, veicot uzdevumu analīzi un nosakot to izziņas darbības līmeni, tā atbilst plānotajam, atšķirība ir vērojama I un II līmeņa uzdevumu īpatsvarā CEVAL eksāmenā.

1. Tabula *Uzdevumu izziņas darbības līmeņi un skolēnu sniegums (autoru veidota)*
 Table 1 *Cognitive levels of items and students' performance (created by authors)*

Izziņas darbības līmenis	Plānotais īpatsvars (%)	CEOAL		CEVAL	
		Īpatsvars eksāmenā, (%)	Skolēnu vidējais sniegums, (%)	Īpatsvars eksāmenā, (%)	Skolēnu vidējais sniegums, (%)
I	23 – 27	28	52	36	40
II	58 – 62	53	41	40	29
III	11 – 13	15	26	15	22
IV	2 – 4	4	23	4	6

Uzdevumi ar augstu izziņas darbības līmeni (III un IV līmenis) ir CEOAL eksāmenā 31.2, 33. (algebra), 29. (analītiskā ģeometrija), 32. (ģeometrija) un 30. (trigonometrija), nav iekļauti uzdevumi ar augstu izziņas darbības līmeni satura modulī varbūtības (t.sk.kombinatorika) un statistika. CEVAL eksāmenā uzdevumi ar augstu izziņas darbības līmeni ir 23., 26.2 (algebras modulis), 25.1., 27. (ģeometrijas modulis), 24. (varbūtības). Raita kartēs, redzams, ka testelementi ar augstu izziņas līmeni (III un IV) izkārtojas virs skolēnu augšējās standartnovirzes (S), izņemot CEOAL 32. uzdevumu un CEVAL 24. uzdevumu.

CEOAL 29. uzdev. skolēniem bija jāizmanto informāciju, kas dota tekstā un attēlā, jāpieņem lēmums par taisnes vienādojuma veidu, kuru izmantos, jāizmanto trijstūra laukuma aprēķināšana un trijstūru vienādības pierādīšana. 9% no skolēniem demonstrēja spriešanu III izziņas darbības līmenī. I līmenī savu sniegumu demonstrēja 17% skolēni, veicot kādu konkrētu spriedumu vai aprēķinus. Analizējot darbus, vērojams, ka skolēni pareizi atrisina uzdevumu, tomēr ir ļoti lakoniski un nepamato/neskaidro veiktās darbības, kļūdās arī aprēķinos.

30. uzdev. dota situācija ar reālu kontekstu. Risinājumā bija jāaskata sakarības vairākos trijstūros, jāizmanto sinusu teorēma, jāveic trigonometrisko vērtību aprēķināšana, izmantojot kalkulatoru un noapaļošana. 12% skolēnu demonstrēja spriešanu III izziņas darbības līmenī, savukārt I līmenī 14%, iesākot risinājumu un izdarot spriedumus, piemēram, par trijstūru leņķiem. Līdzīgi kā iepriekšējā uzdevumā skolēni mēdz būt ļoti lakoniski, piemēram, raksta uzreiz sinusa teorēmu,

nenorādot, kurš trijstūris tiek izmantots, nekorekti lieto vienādības zīmi. 15% skolēnu no izlases kopas nespēja tikt galā ar skaitļošanu, lietojot sinusu teorēmu. Grūtības sagādā starprezultātu iegūšana un noapaļošana, kaut arī skolēni lietoja kalkulatorus.

31.2. uzd. dota situācija ar reālu kontekstu. Risinājumā bija izvēle veidot algebrisku modeli - eksponentvienādojumu vai spriest, jāveic identiski pārveidojumi eksponentvienādojumā un ar logaritmiem, jāizmanto logaritmi saknes noteikšanai. 10% skolēnu demonstrēja spriešanu III izziņas darbības līmenī, savukārt, I līmenī sprieda 25% rakstot konkrētus piemērus un vērtības, savukārt, tikai 9% izveidoja vienādojumu, bet tālākus risinājuma soļus neveica - daļai skolēnu grūtības sagādāja darbošanās ar logaritmiem.

32.uzd. jāveic ģeometrisks pierādījums, spriežot par trijstūriem un telpas elementiem. 16% skolēnu demonstrēja spriešanu III izziņas darbības līmenī. Arī te daļa skolēnu spēja veikt atsevišķus spriedumus, grūtības sagādāja spriešanas gaitas korekta pierakstīšana.

33. uzd. dota situācija ar ģeometrisku kontekstu, kuras risinājumā jāizmanto algebriski modeļi. 5% skolēnu demonstrēja spriešanu IV izziņas darbības līmenī, savukārt, I līmenī sprieda 21% , apskatot zīmējumos dotās situācijas vai spriežot par sānu virsmu diagonāļu skaitu, neveicot tālākus vispārinājumus.

CEVAL 23.uzd. dota situācija ar reālu kontekstu, kura risināšanā jāizmanto procenti. Tālākajā risinājumā skolēni varēja veidot spriedumus, algebrisku vienādojumu vai nevienādību, izdarot spriedumus par rezultātu. 4% no skolēniem demonstrēja spriešanu III izziņas darbības līmenī. I līmenī savu sniegumu demonstrēja 55%, veicot skaitliskus aprēķinus, algebrisku modeli izveido tikai 7% skolēni.

24.uzd. varēja veikt sistemātisku pilno pārlassi vai izmantot kombinatorikas likumus izlašu skaita noteikšanai, bija jāaprēķina klasiskā varbūtība. 14% no skolēniem demonstrēja spriešanu III izziņas darbības līmenī. Tā kā konteksts - skaitļu veidošana, dod iespēju demonstrēt atsevišķus spriedumus, to veica 14% skolēnu, bet tālāk ar risinājumu netika.

25.1.uzd. dota situācija ar reālu kontekstu, tajā jāaskata iespēja izmantot prizmas tipluma aprēķināšanu. 12% no skolēniem demonstrēja spriešanu III izziņas darbības līmenī, izvēloties sev piemērotāko risināšanas paņēmienu.

26.2. uzd. dota situācija ar reālu kontekstu, jāveido eksponentvienādojums. Uzdevuma pirmajā solī jau ir nepieciešams spriest vispārīgi, to veic 9% skolēnu, bet pilnībā spriešanu III līmenī veic tikai 5% skolēnu.

27.2. uzd. jāveic pierādīšana, ko III izziņas līmenī demonstrē tikai 1% skolēnu. Šāda veida uzdevumi visticamāk nav ierasta prakse šajā mācību kursā.

Skolēnu risinājumos kopumā vērojams, ka kļūdas ir īpašību un pārveidojumu lietojumā, parādot to, ka skolēniem nav izpratnes par to ko viņi dara, tiek veikti pavirši un neprecīzi spriedumi. Skolēnu daļa, kuri iesāk risināt uzdevumus ar augstu izziņas darbību, tajos bieži demonstrē tikai zemākā darbības līmeņa sniegumu.

Secinājumi un diskusija *Conclusions and discussion*

CEVAL un CEOAL konstruktīvi uzskatāmi par ticamiem un drošiem. CEOAL Raša analīzes Raita kartē redzams, ka, lai arī skolēnu snieguma un testelementu vidējās vērtības ir ļoti tuvas, testelementi neizkārtojas simetriski pret skolēniem. Lai eksāmenu varētu uzskatīt par piemērotu populācijai būtu jāsamazina testelementu skaits, kuriem ir līdzīga grūtības pakāpe un jāpievieno augstas izziņas līmeņa testelementi. Pētnieki (Planinic, Boone, Susac & Ivanjek, 2019) iesaka, lai uzlabotu eksāmenu piemērotību skolēnu kopai, kas tos kārtot, eksāmena izstrādes procesā, veidot uzdevumu banku, apbēt to, tad veikt Raša analīzi (ne tikai izmantojot Raita karti) un izmantot iegūtos datus, lai atlasītu piemērotākos uzdevumus.

CEVAL Raita kartē redzams, ka trūkst vieglu, zemas izziņas darbības testelementu, taču nepieciešama sīkāka izpēte, kāpēc skolēni ir demonstrējuši tik zemu sniegumu. Par zemu sniegumu liecina skolēnu skaits, kuri nerasniedz 10% robežu. Tie ir 9,9% no visiem kārtotajiem. 2022./23. mācību gadā skolēni ar šādu snief nebūs nokārtojuši gala pārbaudījumu, CEOAL 10% robežu nerasniedza 8,1 % skolēni. Lai eksāmenus nokārtotu, plānots paaugstināt snieguma “sliksni” līdz 15% 2023./24.mācību gadā, līdzīgi tas ir jau šobrīd Lietuvā (Jakaitiene, Želvys, Vaitekaitis, Raižiene & Dukynaite, 2021). CEVAL 15% robežu nerasniedz 19,4 % skolēnu. Tas liek spriest, ka skolēni vidējās izglītības saturu kopumā šajā programmā apgūst vāji.

Eksāmenos uzdevumu ar augstu izziņas darbības līmeni apjoms ir iekļauts plānotajā apjomā. Viens no pētījuma ierobežojumiem bija COVID-19 ietekme uz mācību procesu, novērtējot vai uzdevums ir jauna, vai jau zināma situācija skolēniem. Skolēnu vidējais sniegums šāda veida uzdevumos ir zems abos eksāmenos. Tomēr, gala spriedumus par visiem vidējās izglītības beidzēju rezultātiem varēs izdarīt tad, kad beigu eksāmenu kārtos arī skolēni, kuri izvēlējušies mācīties matemātiku augstākajā apguves līmenī. Šis ir īpašs signāls, lai veiktu padziļinātu izpēti par mācību procesu un skolēnu mācību motivāciju. Pētnieki (Eklöf and Nyroos, 2013) secinājuši, ka 30% no skolēniem nav motivēti veikt nacionāla līmeņa valsts pārbaudes darbus. Būtiski ir veikt pētījumus par mācību procesu stundās, lai meklētu iemeslus kopumā zemajam skolēnu sniegumam, un rastu risinājumus tā uzlabošanai. Būtu jāuzlabo datu ieguve par skolēnu prasmi lietot

matemātisko valodu un risinājuma organizēšanu un skaidrošanu, ko konkrēti skolēni prot, bet ko neprot. Pētot skolēnu darbus, vērojams, ka ir uzdevumi, kuros skolēni ne vienmēr skaidri saprot uzdevumu nosacījumus vai arī tie ir saprotami dažādi, kas rosina izvērtēt uzdevumu aprobācijas procesu. Lielais skolēnu skaits abos eksāmenos, kuri nesāk risināt eksāmenu 2.daļas uzdevumus, rosina meklēt iemeslus tam. Viens no iemesliem varētu būt eksāmenu apjoms un izpildes laiks. Risinājums tam būtu precīzāka eksāmenu sasniedzamo rezultātu atlase, samazinot tā apjomu un skolēnu anketēšana par eksāmena izpildi.

Kopsavilkums *Summary*

Latvia began curriculum reform implementation in 2020. The form of the national examination in mathematics at the end of secondary school changed from one exam for all students to three different exams depending on the chosen curriculum level. For the first time students took the exam in optimal (CEOAL) or general (CEVAL) level depending on their chosen curriculum. The aim of this study is to evaluate validity, reliability and appropriateness of the exams, to investigate how high-order thinking skills are measured and to assess student performance. To estimate the validity of the exams, Pearson correlation coefficients were calculated between the results of test item groups. The results show that the constructs of both exams are valid. Cronbach's alpha coefficients were calculated to test the reliability of the exams. They exceed the 0.8 threshold, indicated that the exams are reliable. The next step in the evaluation was the Wright map analysis. Results showed that there should be more items that measure high-order thinking skills in the CEOAL exam. The Wright map of this exam shows a very disbalanced distribution of items pointing to the necessity to improve the procedures for developing the exams. The Wright map of the CEVAL exam shows very low student performance. This may indicate a need for less challenging items or a focus on how the curriculum is taught in this program. Reasons for low performance in tasks requiring students to demonstrate High-Order Thinking Skills were investigated and explained. One finding was that students do not even start solving these items. Most students made inaccurate justifications. Results show that students have difficulty reasoning at the third and fourth cognitive levels. Further research is needed on the motivation of students and its impact on test results.

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KĀ MATEMĀTIKAS STUNDĀS SKOLĒNI MĀCĀS SPRIEST

How Students are Learning to Reason in Mathematics Lessons

Ildze Čakāne

University of Latvia, Latvia

Dace Namsone

University of Latvia, Latvia

Ilze France

University of Latvia, Latvia

Abstract. *The goal of mathematics teaching in primary school is not just to acquire knowledge of mathematical ideas and procedures, but also to learn mathematical reasoning. While this is common knowledge, the reality in everyday primary math classrooms in Latvia is an open question. The results from recent national diagnostics give reason to re-examine common teaching practices. The aim of this study is to clarify what is happening in primary math classrooms and to understand the needs and gaps in mathematics teaching. This will serve as the basis for designing appropriate professional development for teaching mathematical reasoning. In this study researchers observed and transcribed primary math lessons. Teacher performance was appraised using “Framework for teacher performance assessment to support teaching 21st century skills”. The criteria used to assess teacher techniques were lesson design and clarity of learning content as well as student cognitive activation. The results of this preliminary study show that separate elements of student reasoning are present in lessons.*

Keywords: *lesson observation, mathematical reasoning, primary education, teacher performance.*

Ievads

Introduction

Mūsdienu pasaulē prasme loģiski spriest un veidot patiesus un pārliciecināšus argumentus kļūst arvien svarīgāka (Organisation for Economic Co-operation and Development [OECD], 2018). Lai gan iespējams, ka sākumskolas skolotāji gatavo skolēnus profesijām, kas vēl neeksistē, var prognozēt, ka reti kurā darba vietā pietiks ar vienkāršām skaitļošanas prasmēm. Visdrīzāk būs nepieciešama prasme interpretēt kompleksus datus, rakstīt algoritmus un radoši izmantot stratēģijas nezināmu problēmu risināšanai (Van de Walle, Karp, Bay-Williams, & Wray, 2019). Līdz ar to arī Latvijā matemātikas izglītības mērķi no ilgspēlējošās faktu un procedūru iegaumēšanas ir mainījušies uz

problēmrisināšanas, augstāka līmeņa domāšanas un spriešanas prasmi mācīšanu (Oliņa, Namsone, & France, 2018) un 2020.gadā ir uzsākta jaunā satura ieviešana skolās (Ministru kabinets [MK], 2019), kas pieprasa arī atbilstošu mācību procesu. Lai to nodrošinātu, skolotājiem, blakus matemātikas satura izpratnei, nepieciešams izprast, kā skolēni mācās un kā būvēt mācību procesu un vidi, kurā iespējams šos mērķus sasniegt (Wood & Tumer-Vorbeck, 2014).

Lai skolēnu sagatavotu nākotnes darba tirgum viņam nepieciešams iegūt matemātisko prasmi (*mathematical literacy*) - spēju formulēt, pielietot un interpretēt matemātiku dažādos kontekstos. Tā iekļauj matemātisku konceptu, procedūru, faktu un rīku lietošanu, lai aprakstītu, izskaidrotu un prognozētu parādības; kā arī matemātisku spriešanu (OECD, 2017). PISA 2022 (*Programme for International Student Assessment*) matemātikas ietvarā matemātiskā spriešana ir izvirzīta priekšplānā (OECD, 2018). Arī Latvijā pamatskolas matemātikas mācību jomas apguves mērķis skolēnam ir matemātiskā prasme, un viens no uzdevumiem ir "attīstīt domāšanas prasmes, saskatot un formulējot sakarības starp lielumiem, likumsakarības skaitļu un figūru sakārtojumos, veidojot pieredzi izteikt matemātiski pamatotus spriedumus un lietot matemātikai raksturīgus problēmrisināšanas paņēmienus" (Valsts izglītības satura centrs, 2018).

Pētījuma mērķis ir noskaidrot, kā skolotāji veido un vada matemātikas stundas sākumskolā, lai pilnveidotu skolēnu prasmes spriest. Tādejādi identificējot skolotāju profesionālās pilnveides vajadzības. Pētījumam izmantota kvalitatīva metode: mācību stundu vērošana un analīze. Šis ir sākotnējs pētījums lielāka pētījuma ietvaros.

Literatūras apskats

Literature Review

Matemātikas izglītības pētnieki visbiežāk lieto divas mācīšanās teorijas, lai saprastu, kā skolēni mācās (Van de Walle et al., 2019). Viena no tām ir sociokulturālā teorija, kas ir labs rīks lai analizētu to, kā sociāli un kulturāli procesi klasē ietekmē mācīšanos. Izglītojamais ir aktīvs "jēgas meklētājs" mācību procesā, un lai pieņemtu kādu ideju kā savu, viņam nepieciešama sabiedrība, ar kuru mijiedarbojoties idejas uztvert. Skolēnam ir jāatrodas viņa tuvās attīstības zonā (Vygotsky, 1978), tātad apgūstamajam saturam jābūt izaicinošam, bet sasniedzamam ar atbalstu, tas ir priekšnoteikums, lai vispār mācīšanās notiktu. Vēl viens sociokulturālās teorijas koncepts ir semiotiskā mediācija, tas attiecas uz valodu un citām reprezentācijām, kas palīdz nodot idejas starp indivīdiem sociāli mijiedarbojoties (Forman & McPhail, 1993). Matemātikā semiotika iekļauj arī simbolus, un šie rīki ir vidutāji starp intuitīvām un zinātniskām zināšanām (Fiorani, 2014). Otra mācīšanās teorija ir konstruktīvisms, kas izgaismo to, kā skolēni izprot idejas, padara tās par savām. Šo teoriju īsumā aplūkosim. "Zināšanas netiek pasīvi saņemtas, bet izzinošais subjekts tās aktīvi būvē"

(Glaserfeld, 1989) - šis princips ir konstruktīvisma domas pamatā. Skolēns netiek uztverts kā balta lapa, bet savas mācīšanās konstruētājs, kam nepieciešamas aktīva iesaiste, piepūle. Jaunas zināšanas un izpratne tiek būvētas uz esošajām, tās papildinot vai pielāgojot, šajā procesā starp idejām tiek veidots savienojumu tīkls. Jo vairāk savienojumu izveidots, jo labāk ideja saprasta (Van de Walle et al., 2019). Šī brīža pētījumi par skolēnu un skolotāju domāšanu un mācīšanos lielā mērā atbilst konstruktīvismam (Thompson, 2020). Abas augstākminētās teorijas nav pretrunīgas, bet gan apvienojamas (Van de Walle et al., 2019).

Apjomīgā meta pētījuma (Alfieri, Brooks, Aldrich, & Tenenbaum, 2011) rezultāti liecina, ka dot uzdevumus, kuros skolēniem zināšanas jāatklāj pašiem (*discovery tasks*), bez skolotāja atbalsta ir neefektīvi. Taču šādi uzdevumi, ja tie tiek veikti skolotāja vadībā ir efektīvāki nekā citas mācīšanas/instruēšanas formas, piemēram, tieša mācīšana (*direct teaching*). Pētnieki secināja, ka tas, kas padara mācīšanu veiksmīgu ir atgriezeniskās saites sniegšana, laba snieguma piemēri, strukturēts atbalsts (*scaffolding*) un skolēnu skaidrojumu iegūšana.

Kad skolotājs izveidojis izpratni par to, kā skolēns mācās, nepieciešamas prasmes izveidot atbilstošu stundas struktūru. Skolotājam jātiecas veidot un realizēt stundu, kurā skolēni konstruē savas matemātikas zināšanas pētot, diskutējot un reflektējot; uzdevumiem jābūt izaicinošiem un interesantiem, bet to atrisināšanai nepietiek ar kāda zināma likuma vai procedūras pielietošanu (Huinker & Bill, 2017). Lai mācīšana būtu efektīva, tai ir jāietekmē skolēna iekšējais mācīšanās process (Gagne, Briggs, & Wager, 1992). Skolotāja uzdevums ir apdomīgi izvēlēties un sakārtot notikumus stundā: veidot ārējos mācīšanās nosacījumus, lai skolēnos radītu iekšēju informācijas apstrādi, kas ved pie mācīšanās. Ganjē (Gagne et al., 1992) ir izvirzījis deviņus iespējamus notikumus stundā, lai skolēns būtu aktīvs savu zināšanu veidotājs: 1) uzmanības pievēršana; 2) skolēnu informēšana par mācīšanās mērķiem; 3) iepriekšējo zināšanu atsaukšana atmiņā; 4) skaidra jaunā satura prezentēšana; 5) mācīšanās vadīšana; 6) skolēnu iesaistīšana, iespēja praktizēties; 7) atgriezeniskās saites (AS) sniegšana par sniegumu; 8) snieguma novērtēšana, iekļaujot papildus AS; 9) zināšanu saglabāšanas un pārneses veicināšana.

Matemātikas mācību procesā īpaši izceļams reprezentāciju lietojums. Saistību saskatīšana starp dažādām reprezentācijām, abstraktās matemātikas idejas padara skolēnam pieejamas. Piemēram, priekšmetiskas darbības rīki palīdz skolēnam saprast abstraktus simbolus tikai tad, ja nepārprotami tiek norādīta saikne starp abām reprezentācijām (Uttal, Liu, & DeLoache, 1999). Skolēna elastība pārvietoties starp dažādiem reprezentāciju veidiem liecina par prasmīgu matemātisku domāšanu un izpratni (Huinker & Bill, 2017).

Viena no 21.gadsimta prasmēm ir kritiskā domāšana (OECD, 2018), kas ir “jēgpilna, pamatota un uz mērķi orientēta” domāšana (Helpers, 2013). Savukārt, šādas domāšanas priekšnosacījums ir prasme pielietot loģiskas likumsakarības (Bronkhorst, Roorda, Suhre, & Goedhart, 2020), kas ir viens no loģiskas

spriešanas soļiem. Loģiska spriešana ir “informācijas atlasīšana no dota konteksta un tās interpretēšana, sakarību saskatīšana un pārbaudīšana, un secināšana, balstoties dotajā un interpretētajā informācijā un saistītajās likumsakarībās un procesos” (Bronkhost et al., 2020). Andersone (Anderson, 2021) matemātisko spriešanu definē līdzīgi: kā procesu un rīkus, ar kuru palīdzību nosaka, kuras idejas ir patiesas un kuras nav, vispārina, veido kopsakarības un pierādījumus, saprot kāpēc stratēģijas darbojas. Šie trīs jēdzieni daudzos aspektos pārklājas un mēdz būt savstarpēji aizvietojami. Šī pētījuma nolūkiem izmantosim sekojošu matemātiskās spriešanas definīciju, kas iekļauj elementus no iepriekš minētajām: matemātiskā spriešana (gan deduktīva, gan induktīva) iekļauj situācijas izvērtēšanu, stratēģijas izvēli, nonākšanu pie loģiska secinājuma, nonākšanu pie risinājuma un tā aprakstīšanu, un tā pielietojuma atpazīšanu (OECD, 2018). Skolēns spriež, ja viņš identificē, atpazīst, kārtu, saskata sakarības, reprezentē; konstruē, abstrahē, novērtē, secina, pamato, izskaidro; interpretē, kritizē, atspēko. Spriežot norisinās izpratnes veidošanās.

Pētījumam izvirzīts šāds jautājums: Kā skolotāji matemātikas stundās sākumskolā sniedz iespēju skolēnam spriest?

Metodoloģija *Methodology*

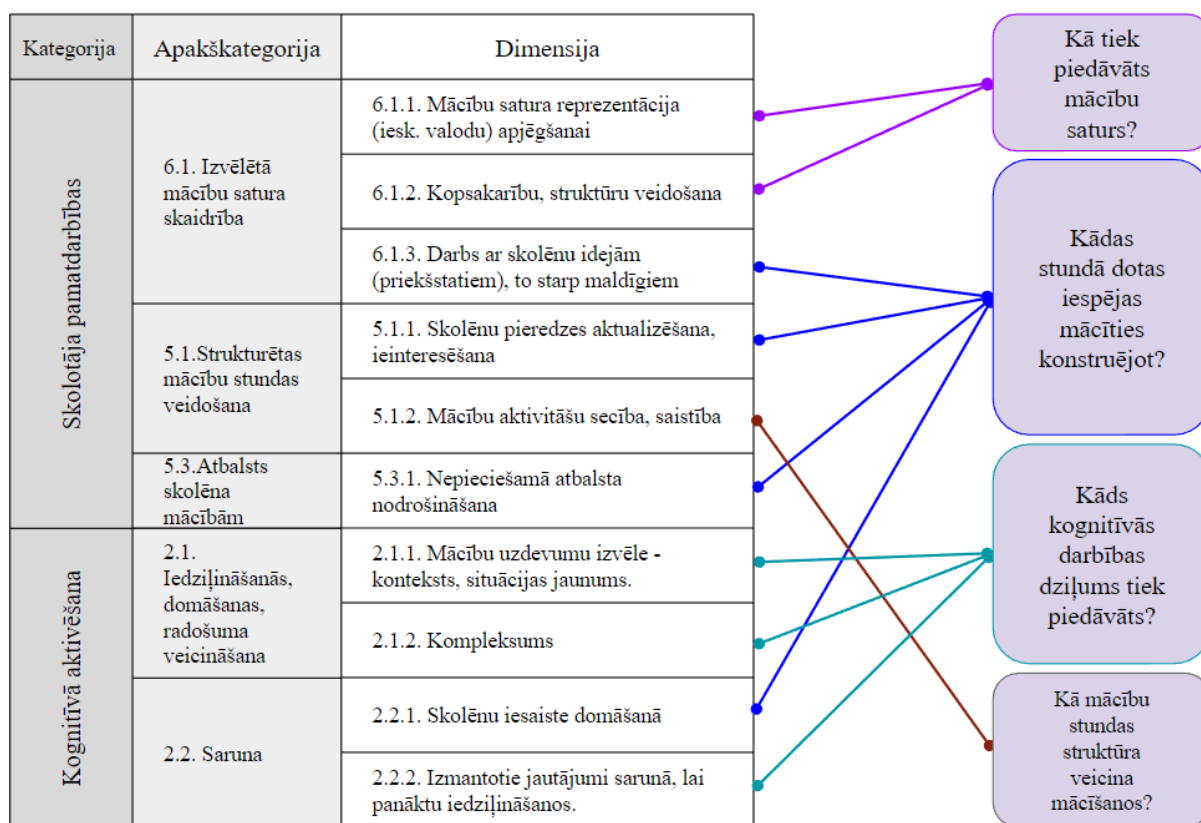
Lai noskaidrotu matemātikas mācīšanas tendences sākumskolā, tika vērotas 1. – 4. klases matemātikas stundas, veiktas šo stundu transkripcijas un izvērtējums. Analīzei tika izmantots “Teorētiskais ietvars skolotāju snieguma vērtēšanai 21.gs. prasmju mācīšanā” (Bērtule, Dudareva, Namsone, Čakāne, & Butkēviča, 2019). Praksē vērotais tika salīdzināts ar to, kas konkrētajā gadījumā atbilst labai praksei, šim nolūkam izmantoti atbilstošā kritērija dimensijas līmeņa apraksti (deskriptori). Izmantotais teorētiskais ietvars un snieguma līmeņu apraksti iepriekš validēti (Bērtule et al., 2019). Pētījuma nolūkiem izvēlētas tikai kategorijas un to dimensijas (skatīt 1.attēlu), kas sniedz informāciju saistībā ar to, kā skolēniem tiek piedāvāta iespēja mācīties spriest.

Spriešana mācību stundā ir iespējama:

1. skolotājam daudzveidīgi piedāvājot jēgpilnu saturu – to, par ko spriest -, kā arī veicinot matemātisku kopsakarību veidošanos skolēnam. Lai vērotajās stundās izvērtētu to, kā tiek piedāvāts mācību saturs, izvēlētas dimensijas 6.1.1. un 6.1.2.;
2. skolēnam konstruējot savas zināšanas. Mācīšanās kā apgūstamā satura jēgas konstruēšana skolēnam mācību stundā sākas ar skolēna iepriekšējās pieredzes aktualizēšanu; tā ietver darbu ar skolēna priekšstatiem; iespēju skolēnam iesaistīties sarunā, lai formulētu idejas un dalītos ar apjēgto. Lai izvērtētu to, kādas stundā dotas iespējas mācīties konstruējot, izvēlētas dimensijas 6.1.3., 5.1.1., 5.3.1. un 2.2.1.;

3. skolēnam dodot iespēju iedziļināties. Izziņas darbības dziļumu iespējams saskatīt analizējot skolotāju piedāvāto mācību uzdevumu un uzdoto jautājumu dziļumu, kompleksumu un situācijas jaunumu. Lai izvērtētu to, kāds kognitīvās darbības dziļums tiek piedāvāts, izvēlētas dimensijas 2.1.1., 2.1.2. un 2.2.2.;
4. ja ir prasmīgi izveidots stundas dizains un skaidrība par notiekošo stundā. Mācīšanos veicina uz sasniedzamo rezultātu virzīts skaidrs stundas dizains. Lai izvērtētu to, kā mācību stundas struktūra veicina mācīšanos, izvēlēta dimensija 5.1.2.

Tādejādi pētāmais jautājums – par to, kā skolotāji matemātikas stundās sākumskolā sniedz iespēju skolēnam spriest – tiek sastrukturēts 4 precizējošos jautājumos, kas tiks aplūkoti rezultātu sadaļā, tā sniedzot daudzpusīgu priekšstatu.



1.attēls. Izvēlētās snieguma izvērtēšanas kategorijas, apakškategorijas un dimensijas (autoru veidots)

Figure 1 Selected performance evaluation categories, subcategories and dimensions (made by Authors)

Datus ievāca 5 iepriekš apmācīti eksperti. Analīze tika veikta, aizpildot veidlapu, kurā novērtēts skolotāja sniegums atbilstoši izvēlētai ietvara kategorijām piecos līmeņos (0., 1., 2., 3. un 3.+), kur 3.līmenis ir vēlamais - sagaidāmā labā prakse, nepieciešamības gadījumā uzrādot pierādījumus transkripcijā un komentārus, kāpēc snieguma raksturošanai izvēlēts konkrēts līmenis. Lai panāktu

lielāku datu ticamību, pirms stundu analīzes tika organizētas divas ekspertu fokusgrupas diskusijas. Katrs eksperts individuāli izanalizēja vienu un to pašu stundu pēc tās transkripcijas, pēc tam diskusijā vienojoties par stundā redzamā snieguma līmeni. Diskusijas rezultātā vadošā pētnieka vadībā eksperti nonāca pie vienotas izpratnes par katra līmeņa deskriptora nozīmi stundas kontekstā.

Pētījuma izlasi veido 23 mācību stundas 1. – 4. klasēs, kas vērotas 11 skolās, laika posmā no 2022. gada 26. septembra līdz 14. decembrim. Skolēnu skaits klasē bija sākot no 13 līdz 29.

Rezultāti *Results*

Stundu analīzes aplūkotas atbilstoši izvēlētajām kritēriju dimensijām pret 4 izvirzītajiem precizējošajiem jautājumiem (1.att.) pēc novērotajiem snieguma līmeņiem (1.tab.).

1.tabula Stundās novērotie snieguma līmeņi (autoru veidots)
Table 1 Observed performance levels (made by Authors)

Kritērija dimensija	3. un 3.+ līmenis	2. līmenis	1. līmenis	0. līmenis
6.1.1. Mācību satura reprezentācija apjēgšanai	3	14	6	0
6.1.2. Kopsakarību, struktūru veidošana	2	1	16	4
6.1.3. Darbs ar skolēnu idejām (priekšstatiem), to starp maldīgiem	1	6	5	11
5.1.1. Skolēnu pieredzes aktualizēšana, ieinteresēšana	8	6	6	3
5.1.2. Mācību aktivitāšu secība, saistība	5	9	6	3
5.3.1. Nepieciešamā atbalsta nodrošināšana	1	9	10	3
2.1.1. Mācību uzdevumu izvēle - konteksts, situācijas jaunums	3	12	7	1
2.1.2. Kompleksums	0	4	14	5
2.2.1. Skolēnu iesaiste domāšanā	1	4	16	2
2.2.2. Izmantotie jautājumi sarunā, lai panāktu iedziļināšanos	2	5	15	1

n=23

1. Kā tiek piedāvāts mācību saturs?

Konstatēts, ka skolotāji dominējoši izvēlas mācību satura skaidrojumam atbilstošu reprezentāciju, korektu mācību priekšmeta valodu (14) un izvēlas būtisku, standartam atbilstošu saturu, bet strādā uz kādu atsevišķu jēdzienu (16). Dominējošā prakse pret sagaidāmo labo praksi parādīta 2.tabulā.

2.tabula Kā tiek piedāvāts mācību saturs. Dominējošais un optimālais sniegums
 (autoru veidots)

Table 2 How the learning content is administered. Dominant and optimal achievement (made by Authors)

Kritērija dimensija	Vērotais dominējošais sniegums	Sagaidāmais sniegums (3.līmenis)
6.1.1. Mācību satura reprezentācija apjēgšanai	Izvēlas mācību satura skaidrojumam atbilstošu reprezentāciju; lieto korektu mācību priekšmeta valodu. (2.līmenis - 14 stundās)	Izvēlas mācību satura skaidrojumam vairākas vispiemērotākās reprezentācijas. Pārlicinās, vai izvēlētā mācību satura reprezentēšana un valodas lietojums, skolēnam ir skaidrs.
6.1.2. Kopsakarību, struktūru veidošana	Izvēlas būtisku, standartam atbilstošu saturu, bet strādā uz kādu atsevišķu jēdzienu. (1.līmenis - 16 stundās)	Satura apguve tiek virzīta uz būtisko, saistot jaunus jēdzienus esošajā jēdzienu sistēmā, atsedzot kopsakarības.

2. Kādas stundā dotas iespējas mācīties konstruējot?

Konstatēts, ka skolotāji cenšas ieinteresēt skolēnus, aktualizēt skolēnu iepriekšējo pieredzi (8), daļā vēroto stundu aktualizēšana nav tieši saistīta ar sasniedzamo rezultātu (6) vai novērota “iesildīšanās” (6).

Konstatēts, ka darbs ar skolēnu priekšstatiem skolotājiem rada grūtības, jo tikai 1 vērotajā stundā konstatēta sākotnējo priekšstatu pārveide zinātniskos priekšstatos; 6 gadījumos noskaidroti skolēnu priekšstati, reaģējot uz tiem; 5 gadījumos prognozēti iespējamie maldīgie priekšstati, bet 11 gadījumos novēroti maldīgu priekšstatu veidošanās riski skolēniem.

Skolēniem 16 vērotajās stundās ir bijušas ierobežotas iespējas iesaistīties tādā sarunā, kas veicina domāšanu, jo skolotājs vērotajās stundās jautāja un skaidroja pats.

Tikai 9 vērotajos gadījumos uzdevuma apjoms paver iespēju, lai skolēni darbotos iespējami patstāvīgi, tiek sekots skolēnu darbībām, nepieciešamības gadījumā sniedzot konkrētu atbalstu (atgādnes, norādes, pārrunāju rīcības plānu, iespējamus risinājumu ceļus u.c.), tostarp atvēlot vairāk laika. 10 gadījumos konstatēts, ka skolotājs dod īslaicīgus uzdevumus, lai skolēni darbotos viņa stingrā vadībā. 3 vērotajās stundās skolēniem netika dots pietiekami ilgs laiks domāšanai. Dominējošā prakse pret sagaidāmo labo praksi parādīta 3.tabulā.

3.tabula. Kādas stundā dotas iespējas mācīties konstruējot. Dominējošais un optimālais sniegums (autoru veidots)

Table 3 What opportunities for learning by constructing are given in the lesson. Dominant and optimal achievement (made by Authors)

Kritērija dimensija	Vērotais dominējošais sniegums	Sagaidāmais sniegums (3.līmenis)
5.1.1. Skolēnu pieredzes aktualizēšana, ieinteresēšana	(3.līmenis - 8 stundās) Cenšas ieinteresēt skolēnus. Aktualizē skolēnu pieredzi, prasmes – iepriekš mācīto, bet reizēm aktualizācija precīzi neatbilst konkrētās stundas plānotajam rezultātam. (2.līmenis - 6 stundās)	Stundas ievadaktivitātes ir skolēnam personiski nozīmīgas, motivējošas, atbilstošas plānotajam SR. Precīzi tiek aktualizēta skolēnu pieredze, kas nepieciešama plānotā rezultāta sasniegšanai

	Veido stundā “iesildīšanos” - ierosināšanu, tā ne vienmēr ir tieši saistīta ar konkrētajā stundā nepieciešamajam zināšanām un prasmēm. (1.līmenis - 6 stundās)	
6.1.3. Darbs ar skolēnu idejām (priekšstatiem), to starp maldīgiem	Iespējama maldīgu priekšstatu veidošanās. (0.līmenis - 11 stundās)	Tiek veidots process, kurā notiek sākotnējo t.sk. maldīgo priekšstatu pārveide par zinātniskiem viena mācību priekšmeta ietvaros.
2.2.1. Skolēnu iesaiste domāšanā	Praksē visbiežāk skolotājs jautā pats. Ja skolēni ātri nedod vajadzīgo atbildi, skaidro skolotājs; ļauj atbildēt tiem skolēniem, kuri vēlas. (1.līmenis - 16 stundās)	Tiek veidota situācija, lai skolēni jautātu par mācīšanās saturu; izmantoti jautājumi un dažādās skolēnu atbildes, nepieciešamības gadījumā tās pārfrāzējot, lai panāktu sarunas precīzāku virzību, padziļināšanu. Ir vienošanās ar skolēniem par noteikumiem, kā katrs var iesaistīties sarunā.
5.3.1. Nepieciešamā atbalsta nodrošināšana	Uzdevuma apjoms paver iespēju, lai skolēni darbotos iespējami patstāvīgi. Tiek sekots skolēnu darbībām, nepieciešamības gadījumā sniedzot konkrētu atbalstu, tostarp atvēlot vairāk laika. (2.līmenis - 9 stundās) Dod īslaicīgus uzdevumus, lai skolēni darbotos stingrā skolotāja vadībā, ierobežotā laikā. (1.līmenis - 10 stundās)	Veido mācību procesu tā, lai skolēniem ir iespēja pašiem patstāvīgi risināt lielāka apjoma atvērtus uzdevumus (t.sk. veidot projektus), skolotāja atbalstu saņemot nepieciešamības gadījumā. Skolēniem ir pietiekami liels laiks domāšanai un darīšanai.

3. Kāds kognitīvās darbības dziļums tiek piedāvāts?

Konstatēts, ka skolotāji dominējoši izmanto uzdevumus, kas neprasa konstruēt jaunas zināšanas. Uzdevuma veikšanai nepieciešama kāda atsevišķa izziņas prasme. Izmanto vairākus neliela apjoma īslaicīgus uzdevumus (14). Skolotāju izvēlēto uzdevumu konteksts atbilst skolēna pieredzei, tas saistīts ar mācību priekšmeta saturu; situācija skolēniem pazīstama, prasa tiešu pārnesumu (12); konstatēts, ka skolotājiem ir izaicinājums veidot tādu mācību procesu, kurā vairāk strādāt ar mazāk pazīstamu kontekstu, jaunām situācijām, pakāpeniski palielinot uzdevumu apjomu; kā arī reti tiek izmantoti uzdevumi, kas prasa konstruēt zināšanas.

Skolotāji dominējoši (15) uzdod jautājumus par atsevišķiem mācību satura elementiem, lai pārliecinātos par skolēnu zināšanām; uz jautājumu ir viena pareizā atbilde. Konstatēts izaicinājums uzdot atvērtus jautājumus, uz kuriem ir iespējamas vairākas atbildes. Dominējošā prakse pret sagaidāmo labo praksi parādīta 4.tabulā.

4.tabula Kāds kognitīvās darbības dziļums tiek piedāvāts. Dominējošais un optimālais sniegums (autoru veidots)

Table 4 Opportunities to think deeper. Dominant and optimal achievement (made by Authors)

Kritērija dimensija	Vērotais dominējošais sniegums	Sagaidāmais sniegums (3.līmenis)
2.1.1. Mācību uzdevumu izvēle - konteksts, situācijas jaunums.	Izmanto uzdevumus, kuru konteksts atbilst skolēna pieredzei, tas saistīts ar mācību priekšmeta saturu; situācija skolēniem pazīstama, prasa tiešu pārnesumu. (2.līmenis) - 12 stundās)	Izmanto uzdevumus, kur skolēnam jālieto savas zināšanas un prasmes iepriekš nepieredzētā kontekstā; tie prasa pārnesumu uz jaunu situāciju, viena mācību priekšmeta ietvaros.
2.1.2. Komplekss	Izmanto uzdevumus, kas neprasa konstruēt jaunas zināšanas. Uzdevuma veikšanai nepieciešama kāda atsevišķa izziņas prasme. Izmanto vairākus neliela apjoma īslaicīgus uzdevumus. (1.līmenis - 14 stundās)	Izmanto kompleksu uzdevumu – tas prasa, lai skolēns pats konstruētu zināšanas liekot kopā gan priekšmeta specifiskās zināšanas un prasmes, augsta līmeņa izziņas prasmes. Uzdevuma veikšana aizņem lielāko daļu stundas.
2.2.2. Izmantotie jautājumi sarunā, lai panāktu iedziļināšanos	Uzdod jautājumus par atsevišķiem mācību satura elementiem, lai pārliecinātos par skolēnu zināšanām. Uz jautājumu ir viena pareizā atbilde. (1.līmenis - 15 stundās)	Uzdod jautājumus par būtisko mācību saturā kopumā, lai, skolēni pamatotu savas izteiktās domas. Jautājumam nav viennozīmīgi pareizas atbildes.

4. Kā mācību stundas struktūra veicina mācīšanos?

3 vērotajās stundās identificēts, ka skolotājs izmanto tikai tādus uzdevumus, mācību aktivitātes, kas būtiskas rezultāta sasniegšanai, secīgas, savstarpēji saistītas, vēl 9 gadījumos novēroti centieni tās saistīt. Dominējošā prakse pret sagaidāmo labo praksi parādīta 5.tabulā.

5.tabula. Kā mācību stundas struktūra veicina mācīšanos. Dominējošais un optimālais sniegums (autoru veidots)

Table 5 How lesson structure promotes learning. Dominant and optimal achievement (made by Authors)

Kritērija dimensija	Vērotais dominējošais sniegums	Sagaidāmais sniegums (3.līmenis)
5.1.2. Mācību aktivitāšu secība, saistība	Izvēlas tādus uzdevumus, mācību aktivitātes, kas vajadzīgas plānotā rezultāta sasniegšanai. Mēģina aktivitātes savstarpēji saistīt. (2.līmenis)	Izvēlas tikai tādus uzdevumus, mācību aktivitātes, kas būtiskas rezultāta sasniegšanai, secīgas, savstarpēji saistītas.

Pētījuma ierobežojumi: pētījuma izlase nereprezentē visu valsti, līdz ar to vispārinājumi veikti no neatlasītas kopas.

Secinājumi un diskusija Conclusions and discussion

Izvērtējot stundas pēc kritērijiem, kuri būtiski skolēna spriešanas prasmju attīstīšanai, novērots, ka, piedāvājot mācību saturu, skolotāji salīdzinoši veiksmīgi

izvēlas atbilstošas satura reprezentācijas un lieto korektu valodu, aktualizē skolēnu pieredzi un izvēlas sasniedzamajam rezultātam atbilstošas aktivitātes.

Vērojama tendence, ka sākumskolas skolotājiem matemātikas stundās izaicinājumus sagādā:

- kopsakarību veidošana. Skolotāji lielākoties strādā uz kādu atsevišķu jēdzienu, paņēmiena apguvi, apzināti neveidojot sakarību izpratni - sakarību shēmu konstruēšanu prātā (Skemp, 1987), izprati par to, kur no jauna apgūtais iederas skolēnam zināmās informācijas gūzmā;
- mācīšanās konstruējot zināšanas;
- uzdevumu izvēle un saruna, kas skolēnam ļauj domāt “dziļi” - pārnesums uz citu jaunu situāciju, kompleksi uzdevumi, kuru risināšanai nepieciešamas augstas izziņas līmeņa prasmes, skolēniem nepieciešamība skaidrot, pamatot, kas sakrīt ar jaunā mācību satura prasībām (MK, 2019).

Stundās novērotais sniegums sakrīt ar citā pētījumā (Namsone, Čakāne & Eriņa, 2021) iegūtiem datiem, kurā vērotas un analizētas dažādu priekšmetu stundas 1. – 12.klasē. Šajā pētījumā arī novērots, ka lielākajā daļā stundu skolēniem piedāvā neliela apjoma, īslaicīgus, tipveida uzdevumus, kuru risināšanai nepieciešama kāda atsevišķa izziņas prasme, tādus uzdevumus, kas neprasa konstruēt jaunas zināšanas; saruna stundā par atsevišķiem satura elementiem ar vienu pareizu atbildi. Tāpat salīdzinoši veiksmīgāk demonstrēta mācību satura skaidrība un struktūra - prasmīgi veikta aktualizācija un mācību uzdevumu, aktivitāšu izvēle, kas virza uz sasniedzamo rezultātu, tiek lietotas atbilstošas reprezentācijas un valoda. Rezultāti atšķiras skolotāju sniegumā saistībā ar kopsakarību veidošanu un darbu ar skolēnu priekšstatiem, minētajā pētījumā šajos kritērijos stundās tika novērots labāks sniegums. Ir nepieciešama turpmāka izpēte, lai konstatētu vai atšķirīgais sniegums vērojams plašākās klašu un priekšmetu kopas dēļ, t.i. izaicinājumi ir īpaši tieši sākumskolas vai matemātikas skolotājiem, vai arī meklējams kāds cits skaidrojums.

Turpmāk nepieciešams pētīt arī to, kāda veida profesionālā pilnveide nepieciešama sākumskolas skolotājiem, lai viņi mērķtiecīgi varētu mācīt skolēniem spriest matemātikas stundās, kas ietver prasmes saskatīt un skaidrot kopsakarības, domāt “dziļāk” un konstruēt zināšanas.

Summary

The new mathematics curriculum in Latvia shifts from the traditional focus of fact and procedure memorization to problem-solving, high-level thinking and teaching reasoning skills that require appropriate teaching and learning in the classroom. To see how teachers are managing this change a research question was posed: how are teachers enabling students to reason in primary math lessons? This

research was done in order to identify gaps in teaching practices and to create appropriate professional development.

To understand what is happening in primary math classrooms, five experts observed, transcribed and analysed 23 lessons in grades 1 to 4. To evaluate teacher performance level a previously validated rubric was used: the “Framework for teacher performance assessment to support teaching 21st century skills”. For the purpose of this study only those categories and dimensions were chosen that provide information that are relevant to the acquisition of students' reasoning skills.

It was observed that during lessons teachers relatively successfully chose appropriate representations of the learning content, used accurate language, gained attention and stimulated recall of prior learning, and chose activities that corresponded to the planned learning outcomes.

It was concluded that primary school teachers tend to face the following challenges while conducting mathematics lessons:

- Making connections: Teachers mostly teach a single concept or technique, without deliberately creating relational understanding;
- Organizing learning so that students construct their own knowledge;
- Choosing tasks and leading conversations that allow student to think "deeply" – providing a necessity to transfer knowledge and skills to new settings, offering complex tasks, the solution of which requires high cognitive skills, and creating opportunities for students to explain and justify their thinking.

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ANXIETY AMONG SCHOOL-AGE CHILDREN IN WAR-AFFECTED AREAS IN UKRAINE AND WAYS TO REDUCE IT: PARENTS' VIEWS

Oleksandr Malykhin

Institute of Pedagogy of National Academy of Educational Sciences, Ukraine

Aivars Kaupuzs

Rezekne Academy of Technologies, Latvia

Nataliia Aristova

Institute of Pedagogy of National Academy of Educational Sciences of Ukraine, Ukraine

Rita Orska

Rezekne Academy of Technologies, Latvia

Eriks Kalvans

Rezekne Academy of Technologies, Latvia

Abstract. *The Ukrainian-Latvian team of researchers are dedicated to commit their research to finding out parents' views on whether school-age children experience anxiety in war-affected areas in Ukraine and ways to reduce it. The research also enables to identify the most common signs of anxiety. The data collection instrument includes a web-based questionnaire developed by researchers from Ukraine using Google Forms. All researchers are involved in sharing the developed web-based questionnaire via social media networks. The research sample includes 1346 parents of school-age children from all the parts of Ukraine, namely, Central, Eastern, Western, Northern, Southern Ukraine and Kyiv. Research findings demonstrate the urgent need to implement targeted psychological and pedagogical influences (the use of technologies, methods and techniques aimed at reducing the level of anxiety in school-aged children) in the educational process of general secondary schools, regardless of whether this process is carried out face-to-face, remotely or in a blended learning format. The conducted research makes it possible to substantiate the necessity of creating a web-based support system for educators to reduce anxiety among school-age children. The current research is carried out within the project "Web-based Support System for Educators to Reduce Children's Anxiety in War-affected Areas" (Registration No GPK-07/2022).*

Keywords: *anxiety, educational process, general secondary schools, school-age children, war-affected areas in Ukraine, web-based support system for educators.*

Introduction

Undoubtedly military conflicts do irreparable harm to people living in war-affected areas but it is the children of preschool and school age who suffer the most (United Nations Children's Fund [UNICEF], 2022c). It happens because for children of different ages who have been or are in war-affected areas, war becomes a main reason for detrimental changes in the social ecology and infrastructure which are fundamental for their development, let alone that it poses a real threat to their lives (Betancourt & Khan, 2008). The sounds of gunfire, sirens and exploding bombs, the need to hide and stay in bomb shelters for a long period of time, the fear of the unknown and the stark reality have negative psychological effect on both adults and children and lead to stress and anxiety.

Researchers who explore issues of consequences of war on children are unanimous in their views (Ataullahjan, Samara, Betancourt, & Bhutta, 2020; Hall, & Ahmad, 2022; Kadir, Shenoda, & Goldhagen, 2019) that armed conflicts and displacement become a real threat to both physical and emotional wellbeing of children. Terrible events related to the hostilities and witnessed by children of different ages can cause stress and anxiety and, what is more, lead to serious consequences for their further emotional development, wellbeing and educational opportunities (International Committee of the Red Cross, 2011; Frounfelker, Islam, Falcone, Farrar, Ra, Antonaccio, Enelamah, & Betancourt, 2020; Malykhin, Aristova, & Rohova, 2022). According to World Health Organization (2021), stress is regarded as “any type of change that causes physical, emotional or psychological strain”. In a broad sense stress is a common feeling experienced by people who are under pressure, overwhelmed or unable to cope with something (UNICEF, n.d.). And although any person can experience stress to a certain degree, the way people usually respond to it has a great influence on their physical and emotional state. Moreover, it is believed (Bethere et al., 2018) that the accumulation of physical and mental problems can lead to negative consequences not only for schoolchildren, but for their parents and teachers as well. Therefore, the earlier children learn to build resilience, to manage risks, to keep themselves safe and to identify individual strategies for coping with stress, the more stable and healthier their mental state will be throughout their entire lives.

The researchers distinguish the following groups of children who are vulnerable to stress during armed conflicts, namely, (1) children who continue living in active conflict areas; (2) internally displaced children (often forcibly displaced); (3) refugee children being in host countries (Ataullahjan et al., 2020). Research conducted by O. Malykhin, N. Aristova, & J. Bondarchuk (2022) shows that as a result of hostilities in Ukraine stress may affect more groups of children: “... (1) school-age children who stayed at home in the same living conditions which they had before the war started; (2) internally displaced school-age children; (3) refuge- or asylum-seeking children; (4) forcibly displaced children; (5) children who remain in the war-affected areas”.

Considering online learning format some signs of stress may not be obvious for schoolteachers (for instance, trouble seeking, eating disorder, desire for privacy etc.) and in this regard parents' views can be crucial. Moreover, based on the idea that family relationships are very important in supporting physical and mental health of children who are in war (Betancourt & Khan, 2008) as well as in other difficult life situations including the Covid-19 pandemic (Malykhin, Aristova, & Kalinina, 2022; Topuzov, Malykhin, & Aristova, 2021), the authors of this paper took a decision to conduct research aimed at finding out parents' point of views on whether their school-age children experience anxiety caused by stress in war-affected areas in Ukraine, on the one hand, and the ways to reduce it, on the other hand.

Methodology

Instruments and Procedure

The research, which was aimed at reaching parents with school-age children, started in April 2022 and lasted till December 2022. Because of the difficult situation in Ukraine related to the war and the inability to conduct face-to-face interviews with targeted participants, the researchers took a decision to carry out a web-based survey. It was with this in mind that researchers from Ukraine developed a web-based questionnaire using Google Forms. Moreover, considering the fact that the manifestation of anxiety caused by stress can vary in children of different ages, before developing a web-based questionnaire the researchers reviewed literature relevant to the research topic with the aim to identify signs of anxiety typical for school-age children caused by stress. Thus, for instance, L. Valizadeh, A. Farnam, & M. R. Farshi (2012) investigated the symptoms of stress among children of primary school age. Publications by C. Schuman (2022) and UNICEF (2022a; 2022b; n.d.) provided information about signs of stress among children of different school ages. A detailed analysis of literature enabled to select 19 signs of anxiety which could be manifested in children of different school ages, namely, primary, secondary and high school ages.

To reach the research aim and to gather necessary information, the researchers included the following questions into the web-based questionnaire, namely:

1. *Did you and members of your family change the place of residence after a full-scale invasion of Ukraine by Russia on the 24th of February 2022?*
2. *Do you believe that your child (children) is (are) under stress because of hostilities?*
3. *Can you recognize any of the following signs of anxiety in your children (trouble sleeping, lack of concentration, deterioration of mood, strong concern about safety, eating disorder, headache, sense of guilt, irritability, sense of fear,*

constant fatigue, uncontrolled rage, worsening of academic performance, defiant behaviour, rapid fatigue, depressed mood, excessive tearfulness, emotional overexcitability, desire for privacy, strong concern about safety of relatives)?

4. *What do you usually do at home to help your children cope with stress and anxiety?*

5. *What should teachers do during the educational process to help your children cope with stress and anxiety?*

To better understand the research sample, the researchers included some demographic questions into the web-based questionnaire (namely, place of residence before the 24th of February 2022), age, gender, education and social status). The developed web-based questionnaire contained information that the participation in the web-based survey was completely anonymous.

To carry out a web-based survey a joint team made up of researchers from Institute of Pedagogy of NAES of Ukraine (Ukraine) and Rezekne Academy of Technologies (Latvia) shared the developed web-based questionnaire via various social media networks both in Ukraine and Latvia.

Participants

Altogether the research sample included 1346 parents who have children of different school age. Table 1 shows socio-demographics of web-based survey participants.

Table 1 Socio-demographics of web-based survey participants (made by authors)

Variable	Number (N=1346)	Percentage (100%)
<i>Gender</i>		
Female	1301	96.7
Male	45	3.3
<i>Age</i>		
24-30	131	9.7
31-35	363	27.0
36-40	429	31.9
41-45	253	18.8
46-50	114	8.5
51-60	42	3.1
Other	14	1.0
<i>Place of residence (before the 24th of February 2022)</i>		
Kyiv	186	13.8
East of Ukraine	79	5.9
West of Ukraine	237	17.6
North of Ukraine	48	3.6
South of Ukraine	107	7.9
Centre of Ukraine	689	51.2

<i>Education</i>		
General Secondary Education	309	23.0
Technical and Vocational Education	342	25.4
Higher Education	695	51.6
<i>Social Status</i>		
Housekeepers	319	23.7
Temporarily unemployed	119	8.8
Workers in Education	252	18.7
Public Servants	72	5.4
Workers in Agriculture	23	1.7
Public Health Workers	88	6.5
Representatives of Working Professions	151	11.2
Self-employed	76	5.7
Legal Professionals	15	1.1
Other	231	17.2

Source: own study (N=1346)

Data Analysis

To do a proper analysis of all the data collected, the researchers used methods of qualitative analysis.

Results

The first question was aimed at finding out whether web-based survey participants changed their place of residence after a full-scale invasion of Ukraine by Russia which happened on the 24th of February 2022. 70.1% of respondents stated that they did not change the place of their residence and stayed at home. 5.6% of respondents replied that they were forced to leave their homes because of hostilities and became internally displaced. 8.6% of respondents mentioned that they left their homes and lived for a definite period of time in a different region of Ukraine, but then they returned home. 6.8% of respondents pointed out that they found shelters abroad and did not plan to return home. Some respondents (7.2%) noted that after the beginning of hostilities they decided to leave Ukraine but then they took a decision to return home. These respondents attributed their decision to the fact that they found it difficult to adjust to life under new circumstances. 1.7% of respondents did not respond to this question directly. Table 2 shows the summary data concerning web-based survey participants' place of residence after a full-scale invasion of Ukraine by Russia on the 24th of February 2022.

The main aim of the second question was to solicit the views of participants whether their children were under stress because of hostilities. Answering this question 612 respondents (45.5%) stated that they did not think that their children were under stress. An entirely different picture was shown by 545 respondents (40.5%) who mentioned that their children were under stress. 189 respondents (14.0%) found it difficult to give a clear answer to this question.

Table 2 Web-based survey participants' place of residence after a full-scale invasion of Ukraine by Russia on the 24th of February (made by authors)

Variable	Number (N=1346)	Percentage (100%)
People who stayed at home	944	70.1
People who became internally displaced	75	5.6
People who returned home after living in a different region of Ukraine	116	8.6
People who found shelter abroad	92	6.8
People who moved abroad and then returned home	97	7.2
Other	22	1.7

Source: own study (N=1346)

The third question was intended to find out parent's views on signs of anxiety manifested in their children after the outbreak of war in Ukraine. Table 3, given below, gives consolidated information on existing signs of anxiety among children of different school ages according to parents.

Table 3 Parents' Opinions on Signs of Anxiety among Children of Different School Ages (made by authors)

Signs of Anxiety	Age Groups		
	Children of primary school age (N)	Children of secondary school age (N)	Children of high school age (N)
Trouble sleeping	211	239	163
Lack of concentration	254	284	156
Deterioration of mood	188	246	143
Strong concern about safety	85	112	56
Eating disorder	52	67	43
Headache	57	111	84
Sense of guilt	27	36	24
Irritability	130	177	113
Sense of fear	194	174	82
Constant fatigue	35	61	52
Uncontrolled rage	56	78	45
Worsening of academic performance	82	135	68
Defiant behaviour	58	74	31
Rapid fatigue	76	98	57
Depressed mood	32	53	38
Excessive tearfulness	103	64	26
Emotional overexcitability	114	111	52
Desire for privacy	27	69	60
Strong concern about safety of relatives	72	98	53
No signs of stress	132	138	122

Source: own study (N=1346)

Figures 1-3 provide a visual display of parents' opinions on signs of anxiety among their children of different school ages.

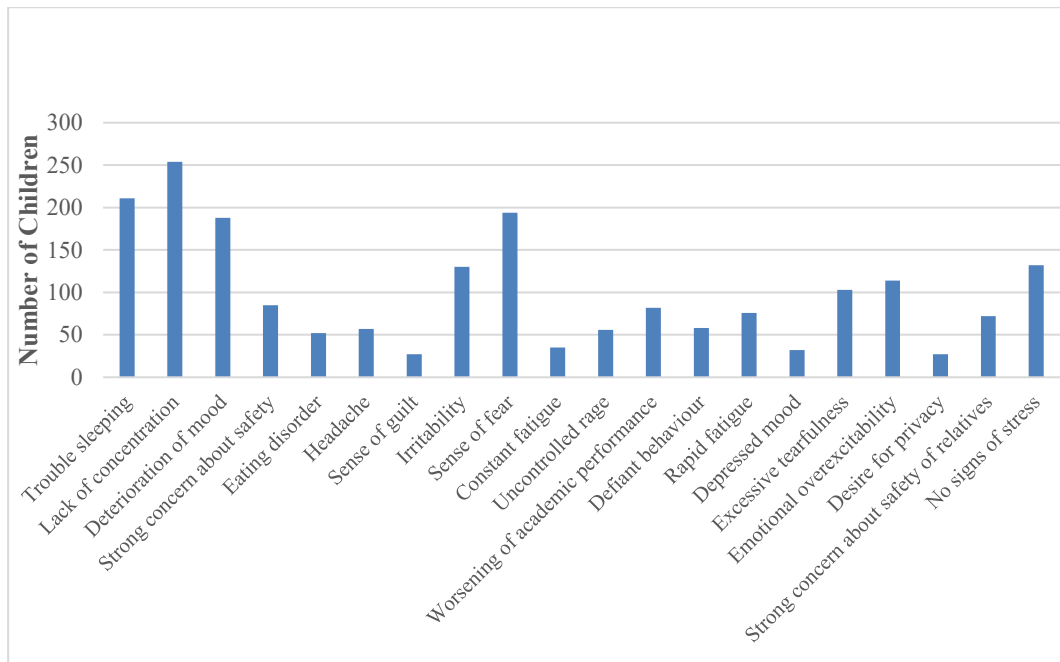


Figure 1 Parents' Opinions on Signs of Anxiety among Children of Primary School Age
(made by authors)

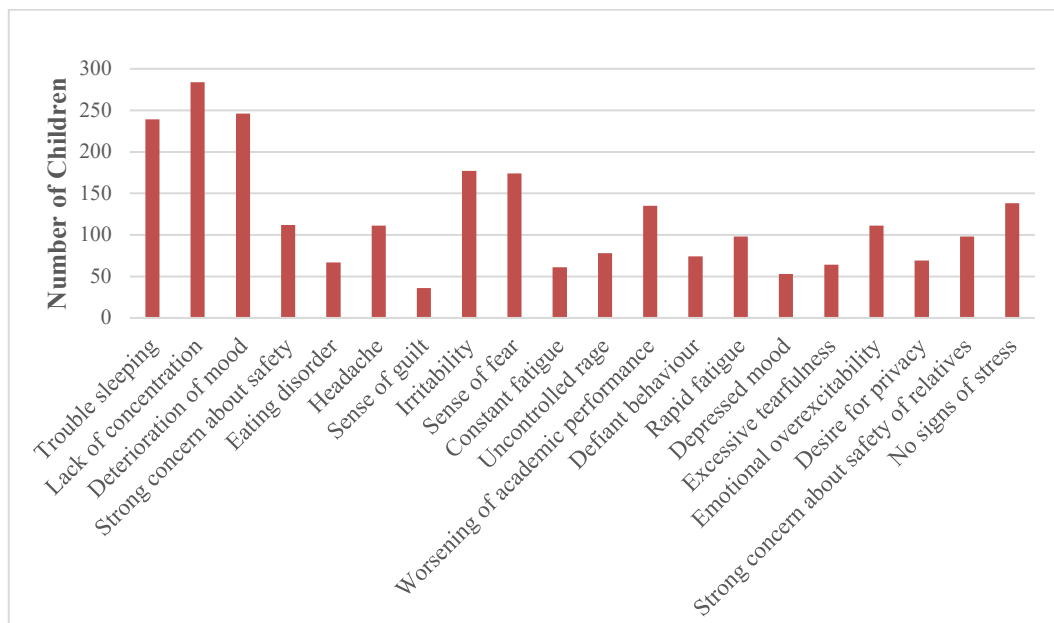


Figure 2 Parents' Opinions on Signs of Anxiety among Children of Secondary School Age
(made by authors)

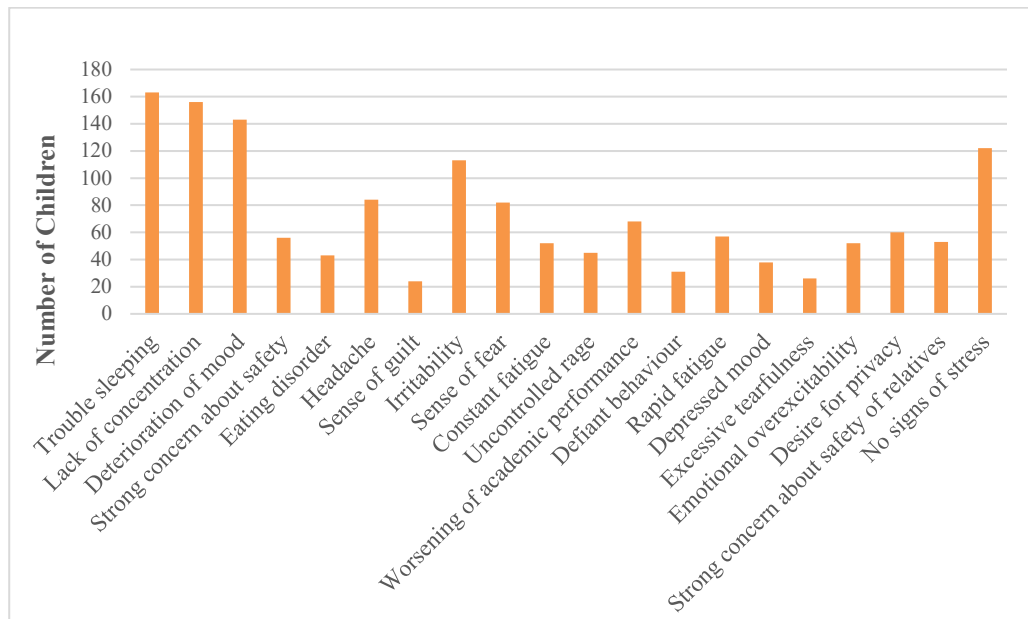


Figure 3 *Parents' Opinions on Signs of Anxiety among Children of High School Age* (made by authors)

The main aim of the fourth question was to find out whether parents did anything special at home to help their children cope with stress and anxiety. The majority of respondents (73.0%) replied that they did not do anything special except for trying to spend much time with their children organizing various recreational activities (painting and molding, playing games, walking in the park, watching cartoons or films, reading etc). 14.0% of respondents stated that although they experienced fear under given circumstances, they tried not to panic in order not to show their real emotions to their kids. These respondents strongly believed that their calmness and confidence made it possible both to reassure their children and to provide them with emotional support. Answering this question, 3.0% of respondents replied that they practiced meditation and breathing exercises to calm themselves in high stress situations. Therefore, they saw nothing wrong with practicing them with their children and thought that it would be nice to incorporate some elementary meditation and breathing techniques for stress relief into the classroom. Moreover, these respondents considered these activities very useful as they helped them teach their children to manage stress and anxiety in a healthy way, on the one hand, and to spend a good time with family, on the other hand.

The fifth question was focused on ascertaining parents' views on what teachers should do during the educational process to help your children cope with stress and anxiety considering the circumstances. 901 respondents (67.0%) noted that it would be a good idea if teachers were able to apply teaching methods and techniques aimed at developing those skills and abilities that would help children thinking for analysing problem situations and taking sound decisions. The

following examples prove the importance of implementing teaching methods and techniques aimed at reducing stress into the classroom:

P 35: *It is obvious that teachers do their best to help our children gain valuable education and their efforts are invaluable. But under conditions of war, it is of paramount importance to teach children to cope with inner negative emotions, resist stress and anxiety and not to lose the presence of mind. That is why, I am convinced that teachers, parents and children should have the opportunity to use some online resources containing free teaching materials aimed at changing negative emotions into positive and at reducing stress and anxiety.*

P 49: *Teachers have to be attentive and be able to recognize the signs of stress and anxiety in children. In order to help our children cope with stress, teachers have to be equipped with special teaching methods and techniques which can be used during classes.*

P 50: *I believe that teachers should monitor psycho-emotional state of children and be able to use some activities aimed at calming down children when it is necessary. It would be helpful if teachers constantly interact with parents.*

12.0% of respondents expressed the view that teachers should provide quality education to their children and should not raise urgent questions and uneasy subjects during classes. In response to this question 3.0% of respondents expressed the opposite opinion. They were fully persuaded that teachers should not hide the truth and should explain what happened discussing real-life situations with children. 21.0% of respondents were convinced that teachers should provide their children with psychological help and gentle handling as well as quality education.

Conclusions

The research aim was to find out parents' views on whether children of different school-age experience anxiety in war-affected areas in Ukraine and ways to reduce it. The current research enabled to identify the most common signs of anxiety among children of different school-age including trouble sleeping, lack of concentration, deterioration of mood, strong concern about safety, eating disorder, headache, sense of guilt, irritability, sense of fear, constant fatigue, uncontrolled rage, worsening of academic performance, defiant behaviour, rapid fatigue, depressed mood, excessive tearfulness, emotional overexcitability, desire for privacy, strong concern about safety of relatives. Moreover, the results obtained proved the extreme importance of exerting purposeful psychological and didactic influences (for instance, innovative technologies, methods, techniques and activities aimed at reducing stress and anxiety among children of different school age) during classes at general secondary schools regardless of the learning format

(face-to-face, remote or blended) in order to meet need of any single schoolchild. The results also provided an empirically-proven basis for developing the Ukrainian-Latvian cooperation project “Web-based Support System for Educators to Reduce Children’s Anxiety in War-affected Areas” and confirmed the need to create a website “Overcoming Stress and Anxiety Together: Teachers – Schoolchildren – Parents”. The developed web-site contains activities for teachers, parents and schoolchildren of primary, secondary and high school age. The activities posted on the website can be used both during classes and at home and are aimed at helping build emotional resilience in children, teaching them to understand a wide range of emotions, to practice positive thinking in a helpful way, to develop an optimistic attitude, to sympathize and to be attentive to each other.

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EDUCATORS' FEEDBACK ON WEBSITE “OVERCOMING STRESS AND ANXIETY TOGETHER: TEACHERS – SCHOOLCHILDREN – PARENTS”

Aivars Kaupuzs

Rezekne Academy of Technologies, Latvia

Oleksandr Malykhin

Institute of Pedagogy of National Academy of Educational Sciences of Ukraine,
Ukraine

Nataliia Aristova

Institute of Pedagogy of National Academy of Educational Sciences of Ukraine,
Ukraine

Eriks Kalvans

Rezekne Academy of Technologies, Latvia

Rita Orska

Rezekne Academy of Technologies, Latvia

Abstract. *The research aim was to collect feedback from educators on the website “Overcoming Stress and Anxiety Together: Teachers – Schoolchildren – Parents” created within the joint Latvian-Ukrainian project “Web-based Support System for Educators to Reduce Children’s Anxiety in War-affected Areas” (Registration No GPK-07/2022). Immediately after creating a demo version of the website, researchers organised webinars aimed at presenting its content to educators in Ukraine and collected feedback from webinars’ participants. For that very reason the joint Latvian-Ukrainian team of researchers developed a web-based questionnaire using Google Forms. The population of the conducted research comprised 216 educators from different regions of Ukraine including university lecturers, general secondary teachers, researchers and students of pedagogical specialties. The obtained results proved the necessity of developing the web-based support system for educators aimed at reducing anxiety among schoolchildren in war-affected areas in Ukraine.*

Keywords: *anxiety, general secondary schools, psychological and didactic support, schoolchildren and parents, schoolchildren, website for teachers, war-affected areas in Ukraine.*

Introduction

A full-scale military offensive launched by Russia in Ukraine on 24 February 2022 changed the lives of many people not only in Ukraine but also throughout the world. Many Ukrainians became internally displaced and many of them had to seek refuge abroad. According to United Nations (2022b), nowadays there are more than 7.8 million Ukrainian refugees scattered across Europe. Most tragically, hostilities have already had and continue having a detrimental effect on both educational opportunities and mental health of 5.7 million Ukrainian children of different school ages (United Nations Children's Fund, 2022). It means that providing quality education and psychological support to Ukrainian schoolchildren who are inside and outside of Ukraine are among remaining pressing needs to be addressed in the shortest possible time (Malykhin, Aristova, & Bondarchuk, 2022).

The joint Latvian-Ukrainian project "Web-based Support System for Educators to Reduce Children's Anxiety in War-affected Areas" (Registration No GPK-07/2022) was an important initiative preceded by a great deal of theoretical and research work done by a team of scientists from Latvia and Ukraine. The research initiated by Latvian scientists started in the middle of March 2022. Its aim was to define psychological and didactic problems related to maintaining mental and emotional health and providing quality education to children of different school ages as the central agents of education amid martial law and in the post-war period (Malykhin, Aristova, & Rohova, 2022) and to provide theoretically substantiated solutions to the problems defined. Given the complicated situation currently prevailing in Ukraine and the idea that the accumulation of physical and mental problems can lead to negative consequences for schoolchildren, parents and teachers (Bethere et al., 2018), the main efforts of project participants were aimed at developing a website which would provide Ukrainian teachers, schoolchildren and parents with valuable information on stress and anxiety reduction technologies, methods, techniques and activities that could be applied both in the classroom and at home. Thus, a website "Overcoming Stress and Anxiety Together: Teachers – Schoolchildren – Parents" was created through cooperative efforts among Latvian and Ukrainian project participants (Figure 1). The creation of the website lasted for two months (4 October – 30 November 2022).

The website provides its users with different types of support (audio, art etc.), useful information concerning the signs of stress and anxiety, hands-on videos for teachers, schoolchildren and parents aimed at incorporating stress-reduction practices like medication, breathing, drawing and colouring, practical recommendations for teachers targeted at applying various stress and anxiety reduction technologies, methods, techniques and activities for schoolchildren of different school ages etc. Moreover, one of its pages contains information about

practical psychologists who are ready to consult schoolchildren, teachers and parents in the best possible way and provide direct assistance to them. Details of the website can be found under the following link <https://sites.google.com/rta.lv/dolayemo-razom/>.



Figure 1 Visual representation of website's initial page (made by authors)

Before releasing the website researchers had to make sure that everything was taken into consideration and ready to use. And that is why it was taken a decision to organise and hold several webinars, face-to-face meetings (where it was possible) and speeches by Ukrainian and Latvian project participants at the Second International Scientific and Practical Conference “The World of Didactics: Didactics in the Contemporary World” (22-23 November 2022). All planned activities were aimed at presenting a website’s demo version to Ukrainian educators (including university and general secondary school teachers, students of pedagogical specialties etc.), on the one hand, and collecting feedback from them with identifying areas for improvement, on the other hand. Table 1 presents summarised information on planned online activities aimed at presenting the demo version of the website “Overcoming Stress and Anxiety Together: Teachers – Schoolchildren – Parents” to Ukrainian educators.

Table 1 Summarised Information on Planned Online Activities Aimed at Presenting the Demo Version of the Website “Overcoming Stress and Anxiety together: Teachers – Schoolchildren – Parents” to Ukrainian Educators (made by authors)

Planned online activities	Date	Link
All-Ukrainian webinar “Overcoming Stress Together: Teachers – Schoolchildren – Parents”	10 November 2022	https://undip.org.ua/news/kompensatsii-a-osvitnikh-vtrat-u-zakladakh-zahalnoi-serednoi-osvity-v-umovakh-voiennoho-stanu-ta-u-povoiennyy-chas/

Second International Scientific and Practical Conference "The World of Didactics: Didactics in the Contemporary World"	22 November 2022	https://sites.google.com/view/conferencedidactica2021
Webinar "Overcoming Stress Together: Teachers – Schoolchildren – Parents"	22 November 2022	https://kafsotsped.kpnu.edu.ua/sklad-kafedry/
Webinar "Web-based Support System for Educators to Reduce Children's Anxiety in War-affected Areas"	24 November 2022	https://donnuet.edu.ua/kafedra-inozemnoi-filolohii-universytetu-tuhan-baranovskoho-zaproshuie-vidvidaty-vebinar/

Table 2 provides summarised information on planned face-to-face meetings aimed at presenting the demo version of the website "Overcoming Stress and Anxiety together: Teachers – Schoolchildren – Parents" to Ukrainian educators.

Table 2 Summarised Information on Planned Online Activities Aimed at Presenting the Demo Version of the Website "Overcoming Stress and Anxiety Together: Teachers – Schoolchildren – Parents" to Ukrainian Educators (made by authors)

Planned face-to-face activities	Date	Location
Meetings with general secondary school teachers, internally displaced people and local residents	3 November 2022	Lozuvatka (Ukraine)
Meetings with general secondary school teachers, internally displaced people and local residents	8 November 2022	Zelenodolsk (Ukraine)
Meetings with general secondary school teachers	8 November 2022	Kamianets-Podilskyi (Ukraine)
Meetings with general secondary school teachers, internally displaced people and local residents	14 November 2022	Apostolove (Ukraine)
Meetings with general secondary school teachers, internally displaced people and local residents	16 November 2022	Soffiivka and deliberated villages of Kherson region (Ukraine)
Meetings with general secondary school teachers	24 November 2022	Kamianets-Podilskyi (Ukraine)
Meetings with general secondary school teachers	28 November 2022	Kamianets-Podilskyi (Ukraine)

Research Methodology

Instruments

The research aim was to collect feedback from educators on the website "Overcoming Stress and Anxiety Together: Teachers – Schoolchildren – Parents" created within the joint Latvian-Ukrainian project "Web-based Support System for Educators to Reduce Children's Anxiety in War-affected Areas" (Registration

No GPK-07/2022). It is for this purpose the joint Latvian-Ukrainian team of researchers developed a web-based questionnaire using Google Forms. The web-based questionnaire contained two sets of questions. The inclusion of the first set of questions into the web-based questionnaire was targeted at collecting educators' sociodemographic data. The need to collect sociodemographic data is explained by the necessity to get more detailed personal information about research sample. The second set of questions helped researchers collect respondents' independent opinions on the website's demo version.

Research Questions

The following questions were the main point of interest to the team of researchers:

Question 1: *Do you believe that school-age children need psychological and didactic support aimed at overcoming stress and reducing anxiety during the educational process which is delivered in different formats (namely, blended learning format, distance learning format and face-to-face learning format) in times of war in Ukraine?*

Question 2: *Do you observe signs of stress and anxiety among school-age children you teach (headache, lack of concentration, deterioration of mood, irritability, worsening of academic performance, sense of guilt or fear etc.)?*

Question 3: *Do you think that teachers have to develop and summarise information aimed at reducing stress and anxiety among schoolchildren?*

Question 4: *What is your general impression about the website's demo version according to a 5-point Likert scale? (0 – do not like, 5 – impressed).*

Question 5: *Do you use any methods and techniques posted on website during classes?*

Question 6: *Do you think that website “Overcoming Stress and Anxiety Together: Teachers – Schoolchildren – Parents” is useful for educators who work in times of war in Ukraine?*

Question 7: *Do you like the design and structure of website “Overcoming Stress and Anxiety Together: Teachers – Schoolchildren – Parents”? Please, give a detailed answer to this question.*

Question 8: *Can you give some comments on improving website “Overcoming Stress and Anxiety Together: Teachers – Schoolchildren – Parents”?*

Question 9: *Will you recommend your colleagues to use website “Overcoming Stress and Anxiety Together: Teachers – Schoolchildren – Parents” in their work with schoolchildren?*

Procedure

During planned online activities and face-to-face meetings Ukrainian educators were provided with a link to the web-based questionnaire and asked to

give their feedback on the website “Overcoming Stress and Anxiety Together: Teachers – Schoolchildren – Parents” developed within the joint Latvian-Ukrainian project “Web-based Support System for Educators to Reduce Children’s Anxiety in War-affected Areas” (Registration No GPK-07/2022). Ukrainian educators were informed that the participation in the web-based survey was voluntary and anonymous. As a result, researchers obtained 216 completed questionnaires which were thoroughly analysed.

Research Sample

The population of the conducted research comprised 216 educators from different regions of Ukraine including university lecturers, general secondary school teachers, researchers and students of pedagogical specialties. All respondents were the participants of planned online activities and face-to-face meetings aimed at popularising the website’s demo version and informing about its content.

Data Analysis

The researchers analysed the data obtained using descriptive statistical analysis.

Results

Sociodemographic Data

Table 3 demonstrates demographic information about 216 respondents who represented the research sample.

Table 3 Demographic information about research sample (made by authors)

Variable	Number (N=216)	Percentage (100%)
Gender		
<i>Female</i>	206	95,4
<i>Male</i>	10	4,6
Age		
<i>≤ 25</i>	8	3,7
<i>26-30</i>	16	7,4
<i>31-35</i>	27	12,5
<i>36-40</i>	34	15,8
<i>41-45</i>	25	11,6
<i>46-50</i>	29	13,4
<i>51-55</i>	32	14,8
<i>56-59</i>	16	7,4
<i>≥60</i>	29	13,4

N=216

Table 4 contains social information about research sample.

Table 4 Social information about research sample (made by authors)

Variable	Number (N=216)	Percentage (100%)
Position		
<i>Teachers without qualifications</i>	29	13,4
<i>Category-1 teachers</i>	44	20,4
<i>Category-2 teachers</i>	29	13,4
<i>Highest category teachers</i>	70	32,4
<i>Resource teachers</i>	23	10,6
<i>Headmasters</i>	9	4,2
<i>University teachers</i>	6	2,8
<i>Students</i>	6	2,8
Work experience		
≤ 3	17	7,9
3-10	27	12,5
11-20	65	30,1
≥ 20	107	49,5

N=216

Feedback Data

Replying to the first question, 202 respondents (93,5%) stated that they were deeply convinced that after a full-scale invasion of Ukraine by Russia, Ukrainian school-age children they taught needed psychological and didactic support aimed at overcoming stress and reducing anxiety during classes. Only 4 respondents (1,9%) expressed the opposite opinion. 10 respondents (4,6%) found it difficult to give a clear answer (Figure 2).

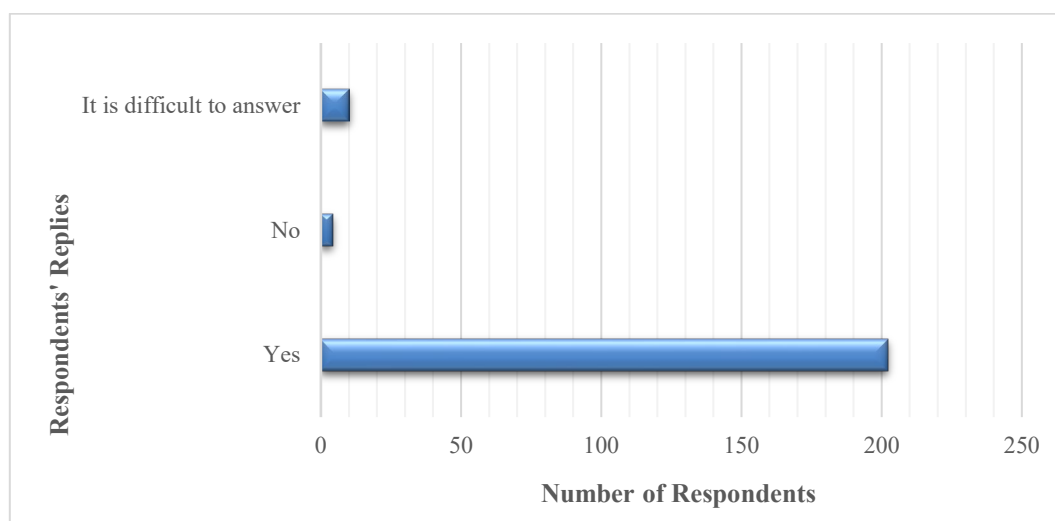


Figure 2 Educators' responses to the question "Do you believe that school-age children need psychological and didactic support aimed at overcoming stress and reducing anxiety during the educational process which is delivered in different formats (namely, blended learning format, distance learning format and face-to-face learning format) in times of war in Ukraine?" (made by authors)

The main aim of the second question was to find out if respondents observed any signs of stress and anxiety among school-age children. The obtained results showed that 165 respondents (76.4%) stated that they could observe signs of stress and anxiety among school-age children they taught. 21 respondents (9.7%) answered negatively and 30 respondents (13.9%) found it difficult to answer this question (Figure 3).

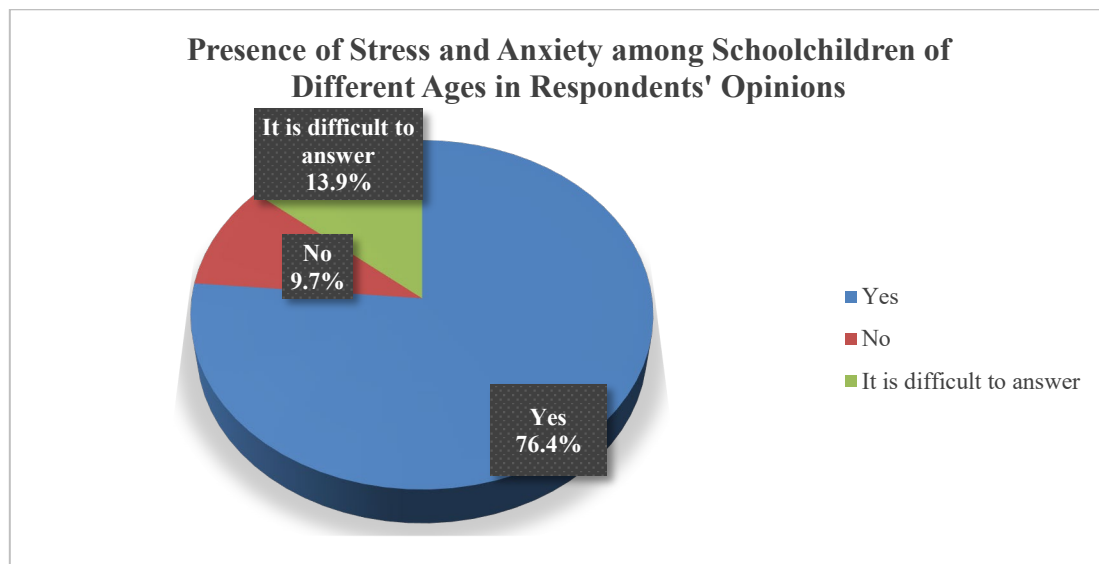


Figure 3 Educators' responses to the question "Do you observe signs of stress and anxiety among school-age children you teach (headache, lack of concentration, deterioration of mood, irritability, worsening of academic performance, sense of guilt or fear etc.)" (made by authors)

The third question which interested researchers was "Do you think that teachers have to develop and summarise information aimed at reducing stress and anxiety among schoolchildren?" The analysis of the responses revealed that 191 respondents (88.4%) thought that teachers had to develop and summarise information aimed at reducing stress and anxiety among schoolchildren. They explained that it was necessary because they worked with children who witnessed tragic events and continued to live experiencing fear. 5 respondents (2.3%) who had completely different points of view stated that they saw no need to develop and summarise information related to reduction of stress and anxiety. 20 respondents (9.3%) found it difficult to answer the question raised.

Asking the fourth question, researchers intended to clarify respondents' general impression on the website's demo version. The obtained results suggested that the website's demo version was well received by respondents (Figure 4).

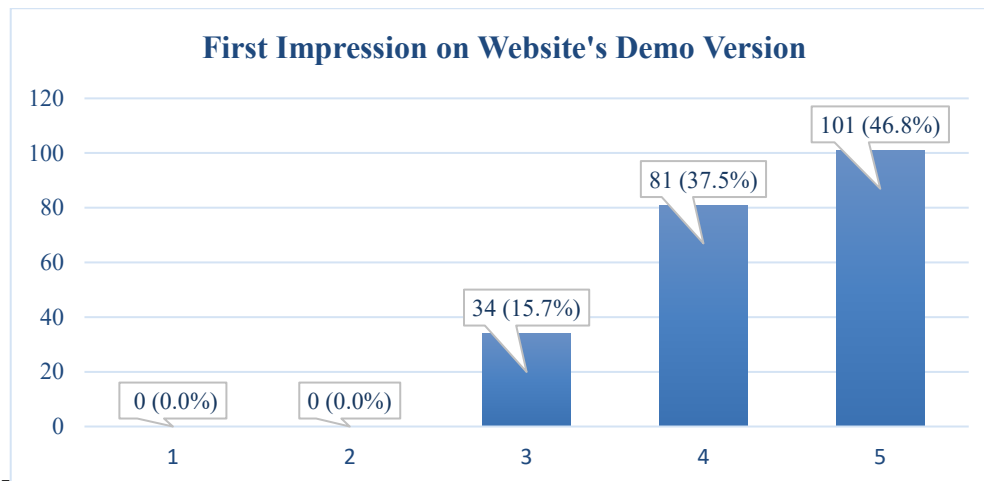


Figure 4 Educators' responses to the question "What is your general impression about the website's demo version according to a 5-point Likert scale? (0 – do not like, 5 – impressed)" (made by authors)

The fifth question was aimed at finding out if respondents used any methods and techniques posted on website during classes. Responding to this question, 201 participants (93.1%) gave a positive answer and only 15 of them (6.9%) answered negatively.

The results obtained clearly showed that approximately all respondents (93.1%) were convinced that the website developed by researchers was useful for educators who worked in times of war in Ukraine and only 15 of them (6.9%) found it difficult to answer this question. Moreover, approximately 179 respondents (82.9%) noted that they liked the design and structure of the website developed. The following are a few of positive respondents' responses:

P 22: *On the whole, I am very much in favor of creating such a website full of useful information and entertaining activities for schoolchildren of different school ages. The activities posted in the section "Art Support" deserve special praise. To tell the truth, I discovered a lot of new and interesting activities which I can use both in the classroom and with my own children at home. It is an excellent idea to collect unbiased and comprehensive information at one place.*

P 39: *I liked both the design and structure. All the activities posted on the website are positive and easy to use in the classroom.*

P 107: *The site contains real techniques and activities which can be used during the educational process.*

P 193: *Useful pieces of advice aimed at reducing stress and anxiety.*

Then, respondents were asked to give some comments on improving website "Overcoming Stress and Anxiety Together: Teachers – Schoolchildren – Parents". The most typical comments given by respondents were as follows:

P 12: *Right now, I cannot recommend anything sound. I liked everything. Thank you for the webinar, it was rather informative. You presented a large*

amount of material and it will take some time to comprehend it. Nevertheless, thank you very much. I really hope for further cooperation. I will definitely recommend this website to the practical psychologist who works in our school. Good luck!

P 54: You all did a great job! Please, do not stop and continue working in this direction! I teach high school English and I like the idea of writing essays. I will definitely use it during my classes.

P 62: Continue working and posting new methods, techniques, activities and more practical advice from teachers.

P 81: Many thanks for such a wonderful job!

P 106: Please, add information about sports-support! I am a PE teacher and I am convinced that physical activities are useful for overcoming stress and reducing anxiety.

P 109: Please, continue improving what you have already done! General impression is very positive.

The last question which interested the researchers greatly was "Will you recommend your colleagues to use website "Overcoming Stress and Anxiety Together: Teachers – Schoolchildren – Parents" in their work with schoolchildren?" A review of the responses obtained suggest that 99.1 per cent of all participants would definitely recommend the website to their colleagues while only 0.9 per cent of all participants responded negatively (Table 5). This shows that respondents have an unquestionably positive attitude towards the website and its content.

Table 5 Respondents opinions on recommending the website "Overcoming Stress and Anxiety Together: Teachers – Schoolchildren – Parents" to colleagues (made by authors)

Variable	Number (N=216)	Percentage (100%)
Positive recommendation	214	99.1
Negative recommendation	2	0.9

Conclusions

To conclude, the current research provided insight into how Ukrainian educators perceived the demo version of the website "Overcoming Stress and Anxiety Together: Teachers – Schoolchildren – Parents" within the project "Web-based Support System for Educators to Reduce Children's Anxiety in War-affected Areas" (Registration No GPK-07/2022). The obtained results proved the necessity of developing the web-based support system for educators aimed at reducing anxiety among schoolchildren in war-affected areas in Ukraine and the correctness of chosen strategy aimed at creating the website containing various technologies, methods, techniques and activities for overcoming stress and reducing anxiety among schoolchildren of different school ages. What is more,

the web-based questionnaire used for fruitful analysis of respondents' points of view became a proper framework for establishing a further action plan for the joint team of researchers from Latvia and Ukraine.

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ATTITUDE TOWARDS USING ICT IN LEARNING AND TEACHING MATHEMATICS

Arita Takahashi

Turība University, Latvia

Abstract. *This study questions attitudes of students and mathematics teachers towards using ICT in state schools of Latvia. The author has been using Latvian education portal “uzdevumi.lv” in teaching of mathematics for several years and has observed a very wide acceptance of this learning tool both among children and teachers. On the other hand, there have been certain obstacles to apply this and other ICTs more widely. Other sites, such as “Geogebra” and “Brilliant” have been used by schools abroad. The author observes that the things that prevent schools from using such sites to a large degree depend not only from the availability of computers at school, but also from students and teachers attitudes towards using ICT in mathematics learning and teaching.*

Keywords: *Attitude towards ICT, Changing stereotypes, Flow, ICT in learning mathematics, ICT in teaching mathematics, Teacher training.*

Introduction

There have been many changes in school education system in Latvia recently. Most of them are implemented by politicians that work hard to adjust the education of Latvia to the fast changing job market of future technologies. On the other side, the teachers are not so flexible and ready to change in order to transform their teaching methods and approach to teaching. As a mathematics teacher, the author has been studying the aspects of ICT in math teaching and learning from various scientific papers and has come to some interesting conclusions and new ideas for future work. Therefore, the review of the papers and analysis of the data obtained from the questionnaires are the two methods the author is currently using. The paper describes author’s insight into the starting phase of the work. This is the beginning of a deeper research to be continued, whose results will be published after some further experiments have been carried out.

Literature Review

Thinking of ICT (by Information and Communication Technology in education we understand the mode of education that uses information and communication technology to enhance learning), not only children with special

needs are given new opportunities to improve their learning. We can remember e-learning during the Covid-19 pandemic and there were some positive aspects in distance learning. According to some scientists, e-learning enabled learning from any location, encouraged the acquisition of digital competence in students, enabled adaptation to the individual pace of students, enhanced motivation, provided access to unlimited amount of learning resources, facilitated teacher monitoring of student activities and promoted student familiarization with the use of technological and digital resources (Moreno, Aznar-Diaz, & Cáceres-Reche, 2020).

There are many gains for both children and teachers, yet there are certain things that hinder using ICT in math teaching. Schools evaluate using ICT in teaching mathematics as a very progressive idea, but when the math teachers ask for certain computer labs they need available for their lessons, some software packages to be given for free, or some repairs or technical improvements that should be done for certain computers – the schools lack resources (Zakaria & Khalid, 2016).

The administrators of schools are used to one certain rigid type of arranging labs and rooms; they prefer the traditional way of scheduling everything and they refuse “to think out of the box” to use computer labs for other subjects, not only for programming. According to a thorough research, which took place in Malaysia (Zakaria & Khalid, 2016), the benefits and constraints regarding ICT in teaching and learning mathematics can be summarised as shown in Figure1.

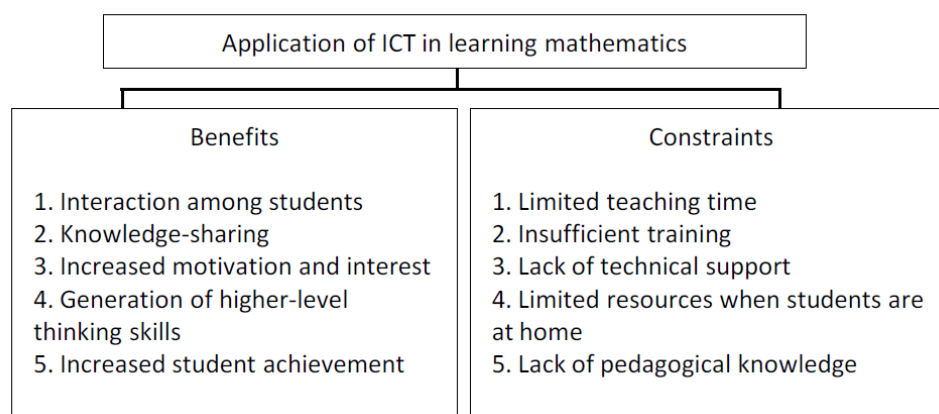


Figure 1 Summary of benefits and constraints regarding the application of ICT to learning mathematics (Zakaria & Khalid, 2016)

There is a wide range of attitudes towards the use of ICT in math teaching and learning; it is interesting that such a thing as politics in how to use calculators has influenced the attitudes for decades. According to a large study (Leung, 2006) that took place in 1999, some countries allowed using calculators in class and about 4/5 of their students used them (such politics was in Netherlands, Singapore and Australia), whereas other countries (China, Taipei, Iran, Korea, Japan,

Malaysia, Romania, Thailand and Turkey) restricted the use of calculator in classroom. Most Eastern Europe countries, including Latvia, restricted the use of calculator in classroom. Mental arithmetic was regarded as fitness training for brain, and simple addition or subtraction of numbers in math had to be done in written form on the same paper where the math problem was solved in order to show to the teacher that students “understand the solution”.

On the other hand, calculators were required for physics classes, because they allowed to solve more physics problems during a lesson and they brought effectiveness to physics lessons so that the students and the teacher could focus on the physics phenomena and not on technical procedure of calculating the values of statistics (like mean, standard deviation and error of the measurement). This politics formed believes and values not only for teachers but also for students who are the parents of nowadays’ students.

If we look at some attitudes of Iranian students that were obtained during Facebook interviews (Saadati, Tarmizi, & Ayub, 2014) then we can see that they have a reserved and old-fashioned (i.e., traditional) attitude towards using ICT for teaching mathematics, pointing out that “P8 expressed *most teachers just use power point and bring their slides and show us, without any changes in their teaching strategy... furthermore, they just reduce their activities by using power point. It is not a good idea for teaching mathematics.*” (Saadati, 2014, p.144). As Iran was a country with very strict politics regarding calculator use in math classes, it has influenced human masses for decades and the old beliefs cannot change overnight.

A calculator is the beginning form of ICT, which was available for students to purchase. Nowadays, the ICT tools have developed but the attitude has remained the same for longer than it was expected. Abstinence from calculator use in order to keep fit brain is one thing, but the shortcomings in the human to human interaction (when ITCs are used) is another.

Teaching is a form of human-to-human involvement where a teacher is trying to understand himself (his experience of knowing, practising and applying some knowledge) and at the same time trying “to migrate” this “quantum field” of his experience to another person– to his student. If a math teacher “feels numbers”, he tries to migrate the feeling as a whole to his students. To give all this to students, the teacher should be able to have free space in time and in classroom to perform an improvisation that carries away his momentary feelings that he feels when looking at certain numbers and their relationship spontaneously. In order to achieve this, teacher’s attention should not be taken away by badly working computer or by advertisements or by software which wants to update itself to a new version.

So, if we name this “aspect of flow”, then we can say that students observe their teacher in a state of “flow”. This “flow” leads the audience through certain points of experience which is communicated via intonations, gestures, emotions,

word choices, drawings, choreography, conclusions, observing mistakes and correcting them with confidence, planning (the next step of the solution), losing the thread of the story and finding it again, pausing while thinking, but storming the speech when a moment of discovery or new ideas appear.

If we regard a mathematics lesson as a piece of art – like a theatre performance – then replacing it with plain PowerPoint presentation will certainly make it more mechanic, because both the screen and the device that is used to move the slides will interrupt the “flow” and the teachers attention will be dealing with concerns regarding the arrangement of the time he would need for each slide rather than the audience. The spontaneity in dealing with mistakes, searching for solution would be missed because everything would be well-prepared and ready and already correctly solved. In case some technology does not work with the planned quality (like speed, resolution, size of the letters, shape of the math curves or geometrical objects, light in the room, reflections from the surfaces or the furniture and noise from the street or music classroom) or distraction appears – the willpower needed to keep attention to the mechanically prepared mix of information could be too high to make the experience enjoyable.

PowerPoint presentations have too little space for some improvisation for the teacher, there is less interaction between the teacher and the students and more interaction between the mechanical screen and the students. Many teachers prefer reading from the screen rather than wording their explanation in a spontaneous way. They also worry to say something in a different wording or different order than it is put in their presentation. So, the screen becomes the king of the lesson – it is not a human anymore. Technology can make math lesson more boring and less enjoyable (Saadati, 2014): “P6 said... *I can't accept to take part a math class that a lecturer use power point or some things like that.* P6 continues ... *I will sleep in this class... It is not an active class that I like.*” (Saadati, 2014, p.144).

If we look at a description of flow, we must read the formulation of Csikszentmihalyi, where he says that flow constitutes “a state in which people are so involved in an activity that nothing else seems to matter; the experience is so enjoyable that people will continue to do it even at great cost, for the sheer sake of doing it” (Csikszentmihalyi, 1990, p.4).

Also, we have to keep in mind that people cannot experience flow if distractions disrupt it (Nakamura & Csikszentmihalyi, 1990). Moreover, other authors (Bergström, Gunnarson, & Olteanu, 2021) in well-designed experiments have found out that flow can be reached if abundance of time is given to the people hoping to experience it. They point out: “Coordinating challenges with skills takes time. If there is not enough time, there is a risk that the focus will be on content alone, which can create frustration, while there is also a risk of focusing solely on flow experience, at which point the content is lost. If there is sufficient time, the students can get into flow, acquire a deeper understanding of the content and seek out greater challenges” (Bergström et al., 2021, p.22). Therefore, our guess that a

PowerPoint presentation can disappoint the students and hinder the attainment of flow state can be true.

Phiri (2016) points out that “formation of social stereotypes is another evidence of the attitude affecting people’s perception. In this case it is the social perception that is being influenced. The perception of certain undesirable traits in a particular community can easily be proved to be the result of certain attitudes that have been developed towards a particular group of individuals. Therefore, people may ignore a great deal of reality (about ICT integration in the education sector for example) and allow their perceptions to be coloured with stereotypes...” (Phiri, 2016, p.79).

Phiri (2016) states that teachers as people who have had longer life experience without having computers prefer continuing working without ICT if compared to their students whose lives without computers have been much shorter. Questionnaires that were developed and used (Phiri, 2016) showed general tendency of students having more positive attitude towards using ICT in mathematics classroom than their teachers. Phiri (2016) explains: “One possible explanation why pupils were more positive about using ICTs in learning mathematics than teachers was that pupils were in constant use of ICTs even when they were not at school. Social media such as Facebook, WhatsApp and twitter are some of the ICT facilities that have drawn the interest of youths. The unfortunate part however is that despite pupils’ perception of ICTs the youths tend to abuse these facilities in most time at the expense of using them for academic purposes.” (Phiri, 2016, p.84).

On the contrary, teachers have no sufficient experience to feel confident while using ICT in mathematics class and they remain unwilling to change their teaching practices (Phiri, 2016). Some results show (Saal, van Ryneveld, & Graham, 2019) that unconfident teachers who were forced to use ICT when teaching mathematics, achieved lower results if compared to their lessons designed in “a more traditional way”. Students were given computers for use at home and at school and depending on how they used the ICT, their studying results worsened or improved.

The authors (Saal et al., 2019) observe that “we found that only the use of computers to look up ideas had a significant negative relationship with the mathematics achievement of students” (Saal et al., 2019, p.419). The authors explain this negative relationship by the fact that “the students relied too much on computers to search for ideas in mathematics” (Saal et al., 2019, p.419). The authors also point out possible addiction to computers as negative side effect that distracts the students’ attention. They show a confession of one student: “The distribution of the tablets had a negative effect, and I regret to say that I could not able to stop playing game for hours both at school and at home” (Saal et al., 2019, p.417). Although one can suspect the young people felt “carried away” while surfing the Internet, and read and watched some non-related information that was

not about mathematics, either. And another important result, obtained (Saal et al., 2019) during the same experiments was the fact that “students who were taught by teachers who recently attended professional development for integrating IT in mathematics education performed better” (Saal et al., 2019, p.419). So, if teachers understand what they are doing and why they are doing it, they perform better than the ones who act under some poorly explained law enforcement or directive.

Extremely captivating seems the fact discovered through experiments, that the mathematics we know is conditioned by the way our bodies and minds acquire it (Leung, 2006, p.34) and that mathematics learned through the medium of ICT as embodied in our minds is different from that learned through the traditional medium of paper and pencil. Nevertheless, from the perspective of the ways mathematics is used nowadays compared to the ways it was used decades ago, we must understand that there is no way we can stubbornly stay with paper and pencil. There are the decades full of new ideas of how to use Artificial Intelligence (AI) approaching us, and we must be ready to appreciate it.

Methodology

To find out children’s attitude towards using various ICT in learning mathematics, some questionnaires were given to three groups of 13-year old 7-graders and one group of 14-year old 8-graders of a state school. There were questions with “multiple choice” type answers which were “yes, definitely”, “rather yes”, “uncertain”, “rather no” and “definitely no”. The first question was statement “*Using calculator in mathematics is cheating*” and the second was a statement of opposite type “*Using calculator is using a tool that improves one’s speed of learning*”. Then points from 0 to 4 were assigned to the answers on the first question and points in reverse order from 4 to 0 to the second question. Then the same two questions about mathematics website *uzdevumi.lv* were repeated. They were statements “*Using uzdevumi.lv in mathematics is cheating*” and “*Using uzdevumi.lv is using a tool that improves one’s speed of learning*”. In the beginning, it was planned to use classical Likert scale, but then since the purpose was to find out if a calculator was a “goodie” or not, i.e., to find out how “good” the calculator was; it was found pointless to give 1 point in the direction of “good” from people who wanted to vote for calculator as a “bad” thing. The website “*uzdevumi.lv*” could have been prised as a very good thing by everybody, because such websites are regarded as moving towards progress. But there are children who do not feel any enhancement from using such sites because their eyes get more tired when looking in a screen rather than when using paper-printed books or paper and pen. Moreover, there could be other reasons too that make old-style learning resources more appreciable than those we can use in computers.

Table 1 Scales according which responses are scored (made by author)

	yes, definitely	rather yes	uncertain	rather no	definitely no
Using calculator in mathematics is cheating	0 points	1	2	3	4 points
Using calculator is using a tool that improves one's speed of learning	4 points	3	2	1	0 points
Using uzdevumi.lv in mathematics is cheating	0 points	1	2	3	4 points
Using uzdevumi.lv is using a tool that improves one's speed of learning	4 points	3	2	1	0 points

All 94 children were informed that the questionnaires were going to be anonymous and they all agreed to participate in providing their viewpoints. The first two questions were given about calculator to find out if they were influenced by old stereotypes of previous generations who were schooled under very conservative old-style calculator politics of soviet-type education. The soviet-type education believed that using calculators to study mathematics would not promote fit and hard-working brain development. Nevertheless, it allowed (even enforced) using calculators to study physics.

To sum all the points gained from the first two questions under one common trait which was called “Using calculator is good”, first the points gained from the first two questions were compared separately. To make them more comparable, the first question was re-written “using calculator is not cheating” and then the number of answers was flipped from “rather agree” to “rather disagree” and vice versa. Also, the number of answers from “strongly agree” was changed with the number of “strongly disagree” so as to make the scales to match.

The answers to the first two questions of 21 children belonging to group 7c are depicted in bar chart in Figure 2. As can be seen from Figure 2, most of the children have a very positive attitude towards the use of calculator.

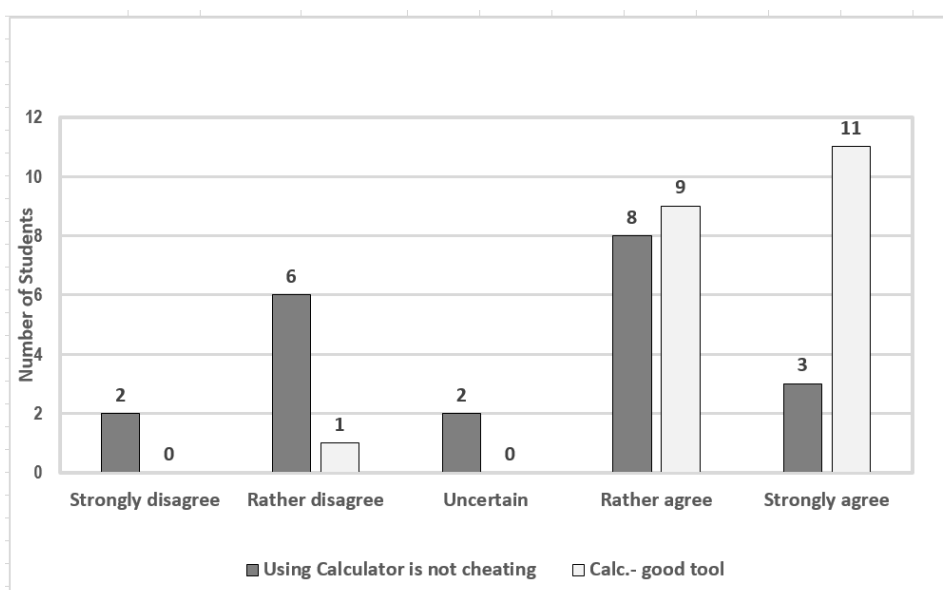


Figure 2 Children attitudes towards using calculator (group 7c) (made by author)

If we combine the two questions as a single approach to the attitude towards calculators, then the answers can be represented as the sums of the answers to both questions. If these sums of answers are expressed as percentages, then we can see the overall picture of how students from 7c relate to the use of calculators.

Table 2 shows that the sum of points in total is 42, because they come from answers to two questions (not to one question).

If we look at how children feel about using calculator – whether using calculator is a good thing – we can see that 32% strongly agree and 41% rather agree that it is so. We can also see that 5% of children are uncertain about their position, 17% rather disagree that using calculator when learning mathematics is good and 5% of them strongly disagree that it is a good thing.

Table 2 Children attitudes towards using calculator – the sum of answers (group 7c) (made by author)

	Using Calculator is good	Using Calculator is good, Percent
Strongly disagree	2	5
Rather disagree	7	17
Ucertain	2	5
Rather agree	17	40
Strongly agree	14	33

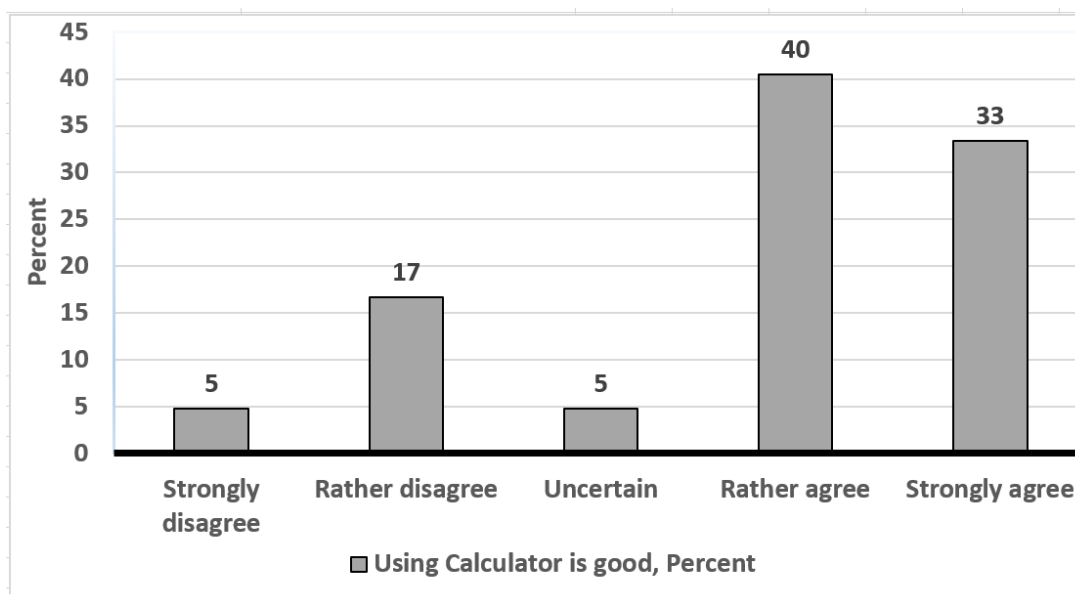


Figure 3 Children attitudes towards using calculator – the sum of answers depicted in percentage of all the answers given (group 7c) (made by author)

The questions about website uzdevumi.lv were processed in analogous way.

Regarding teachers’ attitudes towards using ICT in teaching mathematics three separate free-style interviews with three different mathematics teachers were performed. The conversations were recorded with teachers’ permissions, and the teachers were informed that all their texts will be anonymous and only the

most important ideas will be analysed in the results. A detailed description and analysis of the data is provided in the next section.

Research results

There were 26 children to answer the questionnaire in group 7a. As we can see from Figure 4, the distribution of data regarding the first question reminds a bimodal one.

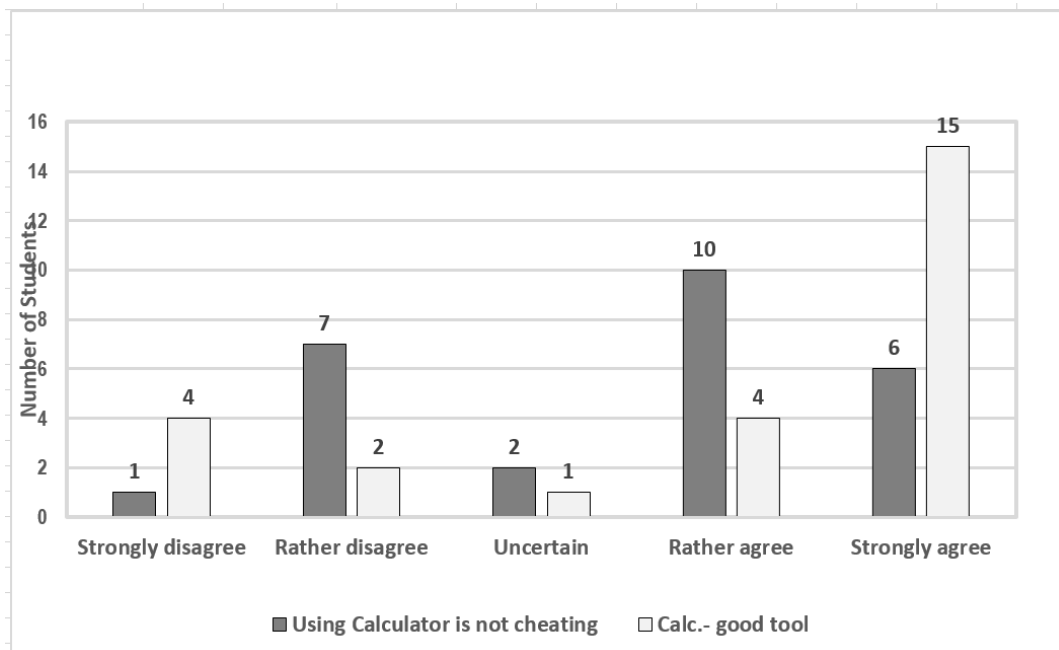


Figure 4 Children attitudes towards using calculator (group 7a) (made by author)

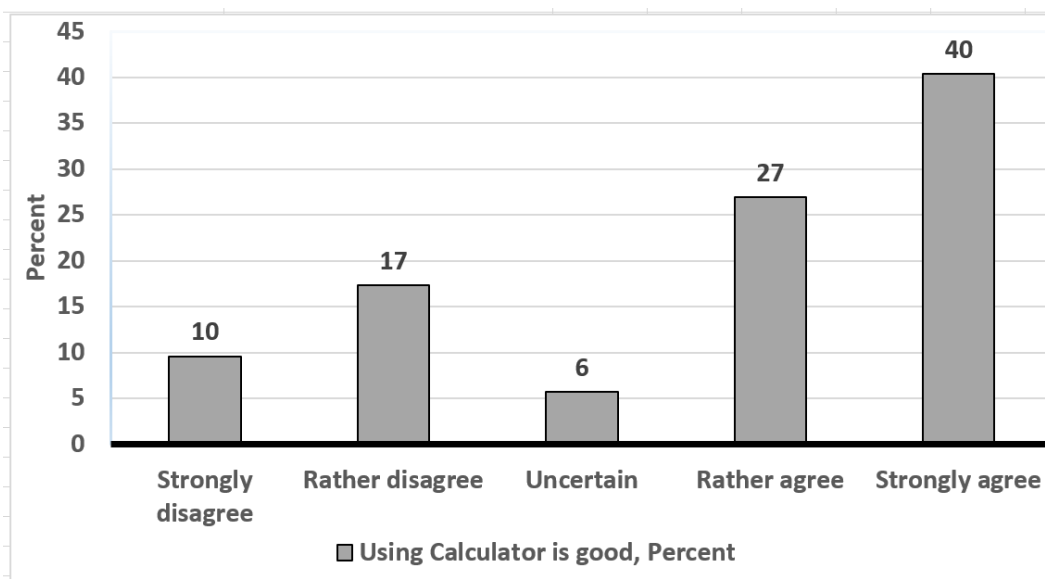


Figure 5 Children attitudes towards using calculator – the sum of answers depicted in percentage of all the answers given (group 7a) (made by author)

If we analyse the answers to the second question, then we can see a clear unimodal distribution with data from group 7c, but bimodal from group 7a.

Now, switching our attention to group 7b, we can see that the subgroup with a negative attitude towards calculator use is strongly represented among these 25 students (see Figure 6).

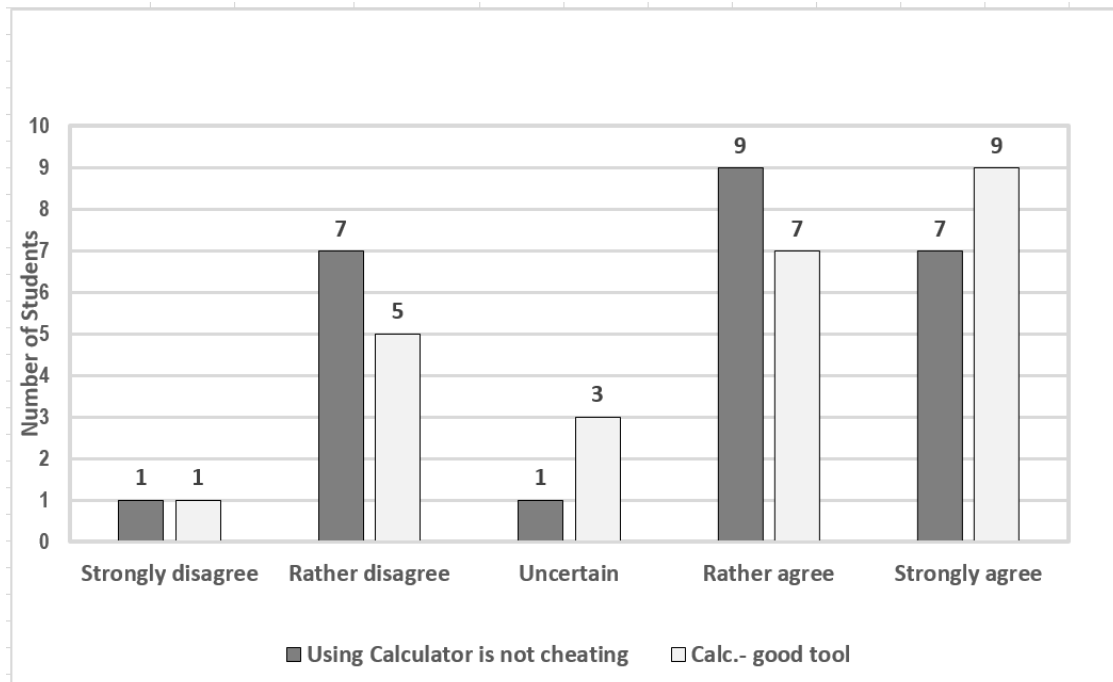


Figure 6 Children attitudes towards using calculator (group 7b) (made by author)

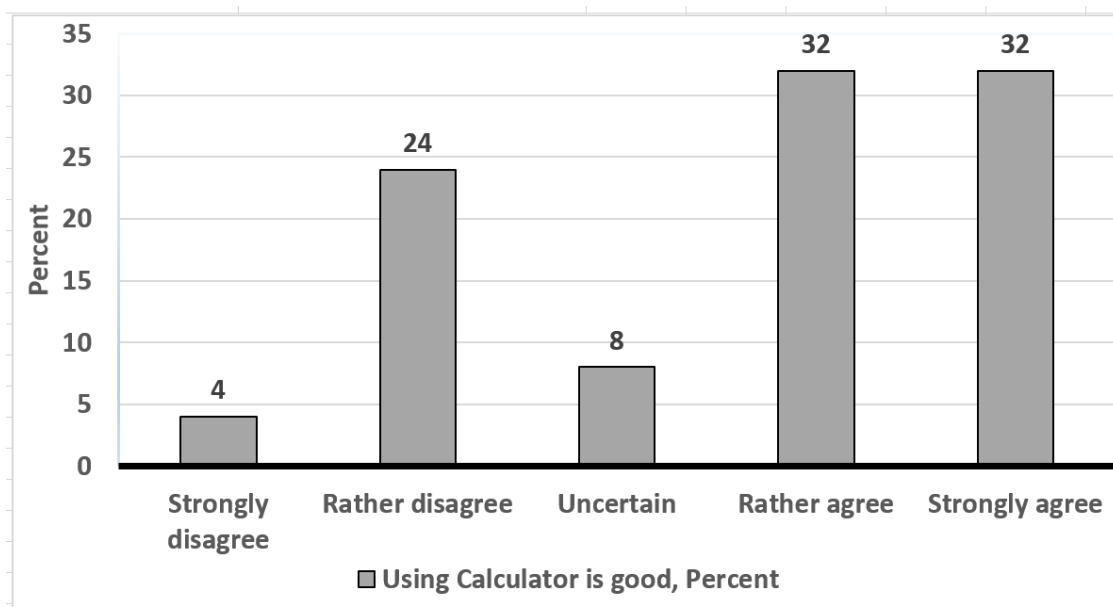


Figure 7 Children attitudes towards using calculator – sum of answers depicted in percentage of all the answers given (group 7b) (made by author)

We can see the same tendency in Figure7 as well.

There is a very interesting tendency one can observe when looking at bar chart of group 8b consisting of 8-graders (see Figure 8). There are no children who are uncertain about their position with this issue. This could be explained by characteristics of 14-year old children. They want to feel certain, so they take sides and do not give “blurry” answers.

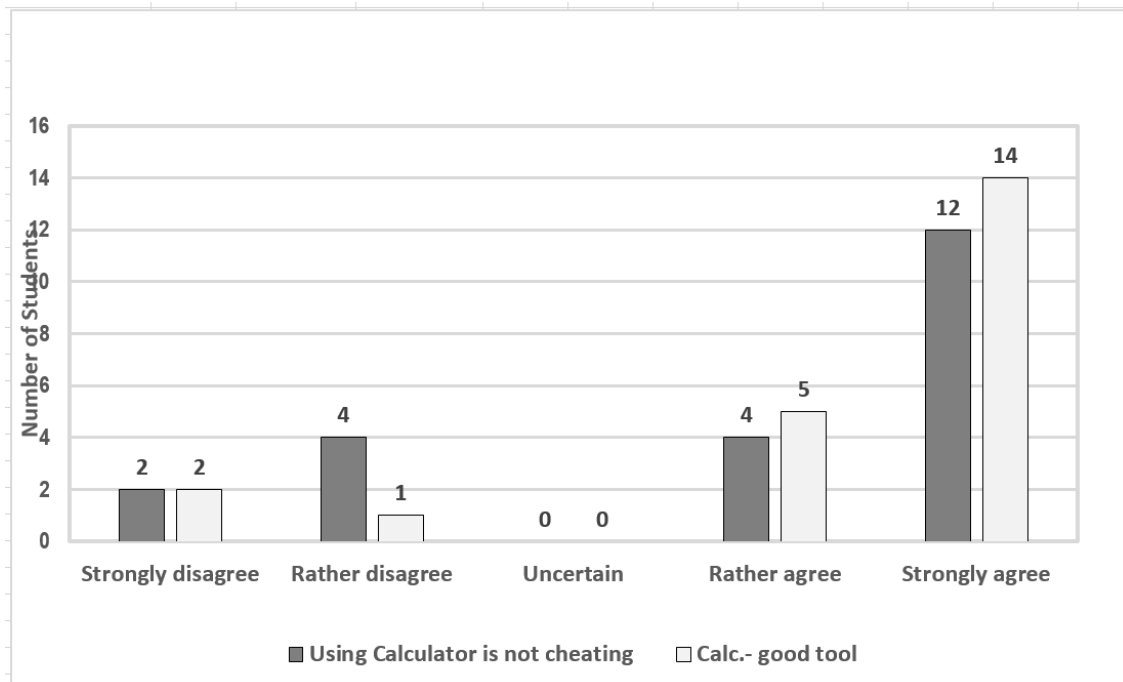


Figure 8 Children attitudes towards using calculator (group 8b) (made by author)

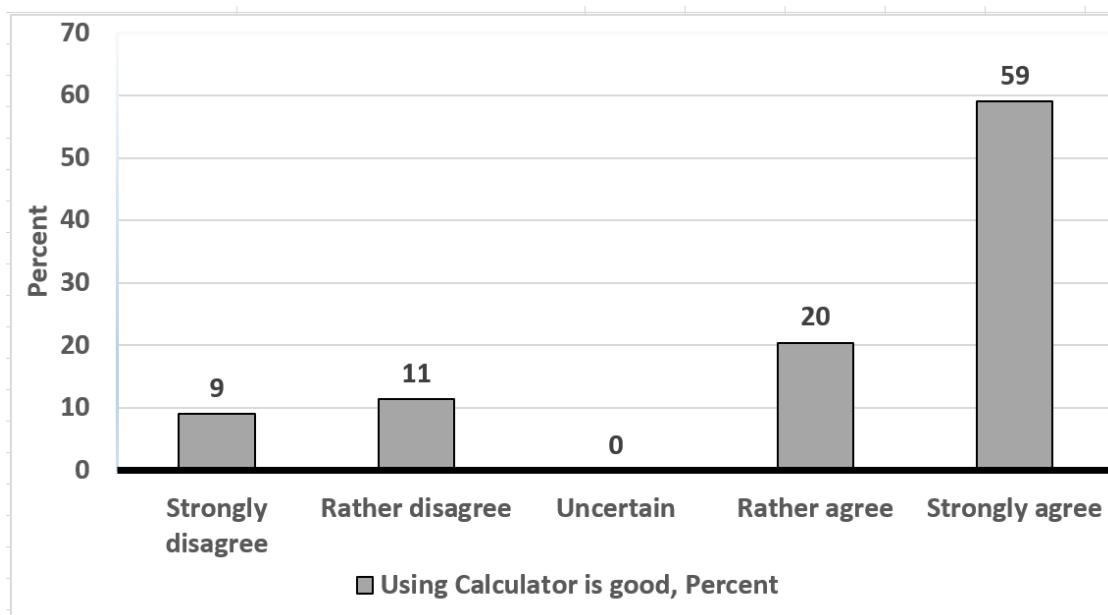


Figure 9 Children attitudes towards using calculator – sum of answers depicted in percentage of all the answers given (group 8b) (made by author)

The bar diagram in Figure 9 reminds the shape of an exponential distribution; this could also be explained with teenage decision-making.

The data about attitudes towards learning platform “uzdevumi.lv” were gathered all together – regardless of any groups, because there was no theoretical reason to show the obtained data separately group by group.

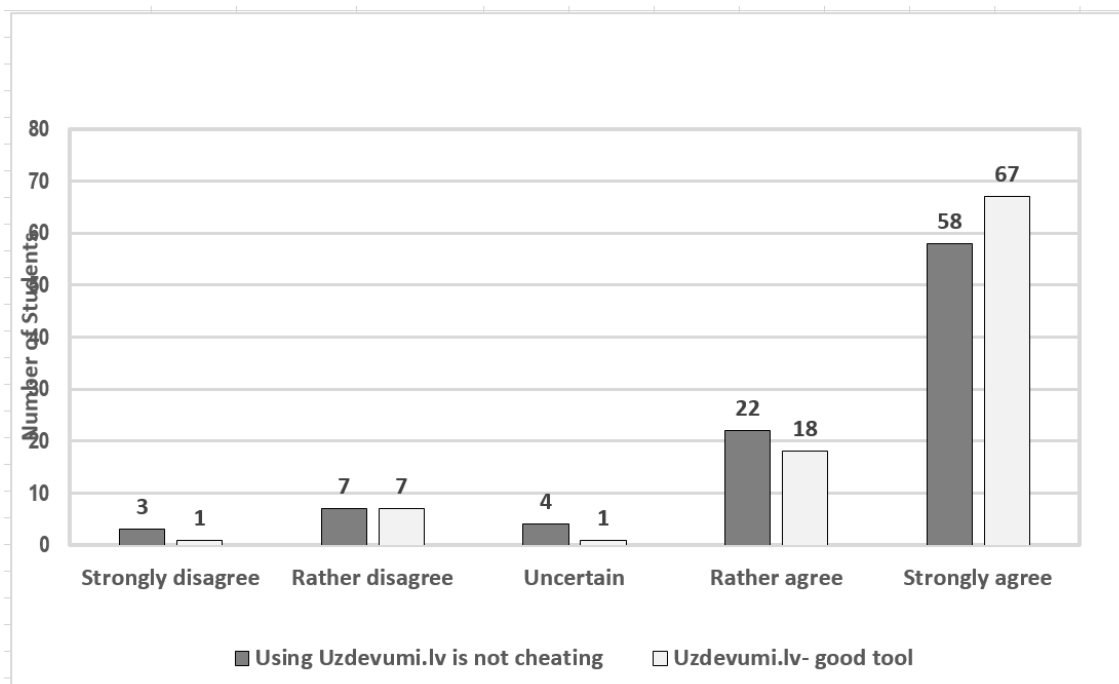


Figure 10 Children attitudes towards using Uzdevumi.lv (all groups together) (made by author)

We can see that the attitudes toward using education portal uzdevumi.lv among students are much more positive than towards using calculator. The bar chart looks like a unimodal distribution which has some exponential characteristics – it grows exponentially towards positive attitudes.

Looking at these charts, we can understand that children do not have conservative stereotypes. They show that their feelings forwards using ICT in learning mathematics are positive. It is not this way with the mathematics teachers.

The first interview was quite positive, and the teacher mentioned that she has been attending courses to learn how to use “Geogebra” and “Desmos” in her mathematics classes, but she could not use all the ICTs she learned – so, she mostly used uzdevumi.lv. She also mentioned using uzdevumi.lv very often – mostly during her lessons. She admitted that she had been giving some homework in uzdevumi.lv as well, but not all students did the homework because they were lazy. We also must admit that the laziness of students does not disappear if the homework has to be done using ICT. If some ICT does their work for them, i.e., like calculator does some sums or some other person provides them with a copy

of solution of the hardest problem, which was given as homework, then students are more likely to “study”.

The second teacher uses uzdevumi.lv during her mathematics lessons so that the children access certain mathematics tests via their mobile phones. Her comment (transformed to written English) goes approximately like this:

“Small children (12 years), if they are doing tasks on the phone, then if the phone hangs up, they are helpless– children are not really mobile phone experts. They only imagine themselves as such. The use of ICT in teaching mathematics does not promote interest in mathematics and does not help to overcome laziness. If we are talking about grammar school students – maybe it is different there. ICT is a fashion thing. Children must learn to work with a printed book and write with a pen on paper. In math, a graph board for writing with chalk is the best thing ever. What is the point of a child learning how to draw graphs in Geogebra, if everything will have to be drawn with a pencil on paper in the exam anyway? ICT– it is following the latest fashion. At home, children do not try to use ICT themselves. So what is the point if they try ICT at school once in their life? They don't learn it from one single time.”

The third teacher had very similar ideas:

"Uzdevumi.lv" homework cannot be graded for children, because then the grades will be too good. There is no way to control how that child learns that high grade. Maybe the parents complete the tasks instead of the children– it cannot be found out later.

She praises blackboard and chalk:

“A child's interest in new ICT is only at the initial stage– I say this from my own experience... After that, the interest in ICT disappears. What grammar schools have said– what is best? A blackboard and chalk are best. That's all grammar schools use. Children will like chalk and a regular blackboard best.”

Conclusions

The results obtained show that students do not have negative stereotypes about using calculator and “uzdevumi.lv” to learn mathematics. Nevertheless, as regards the use of calculator, some students believe using it is like cheating; therefore, the data obtained look like a bimodal distribution. Using site “uzdevumi.lv” is not considered cheating at all, by comparison. At the same time, the teachers of the school believe that blackboard, chalk, book and pen are the best tools for learning mathematics.

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**SOCIĀLĀS UN PILSONISKĀS MĀCĪBU JOMAS
PRIEKŠMETU SATURS UN KOGNITĪVAIS DZILŪMS**
*Content and Cognitive Depth in Teaching of Social and
Civic Study Area*

Liene Ozoliņa

University of Latvia, Latvia

Aija Kļaviņa

University of Latvia, Latvia

Dace Namsone

University of Latvia, Latvia

Abstract. *Research problem - in Latvia from 2016 started Curriculum Development and Implementation project. For Social and civic study area (SCSA) subject context it means fundamental changes –social constructivist approach in teaching as well as new subjects and study courses were implemented.*

The research aim is to analyse clarity of the chosen content, cognitive activity (development of deeper thinking) and historical thinking concepts (HTC) in observed lessons (N=16) of SCS area subjects to preliminary define implementation outcomes of educational reform.

In this research the authors wish to clarify:

RQ1 How do teachers succeed in integrating the offered learning content and opportunities to delve into it in SCSA lessons?

RQ 2 How is it possible to determine the extent to which teachers succeed in offering students the opportunity to develop historical thinking abilities in SCSA subjects?

The primary method used was lesson study using lesson analysis rubric developed and previously validated by Interdisciplinary Centre for Educational Innovation (University of Latvia). Observed lessons took place in seven schools in different municipalities at the first semester of academic year 2022 - 2023.

It was concluded that HTC are partially evident in observed lessons and the cognitive depth differs.

Keywords: *educational reform, historical thinking concepts, implementation analysis, lesson studies.*

Ievads *Introduction*

Aizvien būtiskāka kļūst cilvēkiem kļūst vajadzība iegūt zināšanas un prasmes, kas būs pielietojamas nezināmos un mainīgos apstākļos, kā arī pārnesamas no viena konteksta citā. Latvijā kopš 2016. gada ir izstrādāta un īstenota izglītības reforma, kuras mērķis ir ieviest pilnveidotu mācību saturu un pieeju, kā rezultātā skolēni gūtu dzīvei mūsdienās nepieciešamās zināšanas, prasmes un attieksmes (VISC, 2020). Vēstures izpēte piedāvā rīkus, ar kuru palīdzību var attīstīt izpratnes, empātijas, kritiskās un radošās domāšanas prasmes, kas tās var palīdzēt skolēnos attīstīt. (Zarmati, 2019) Sociālo un pilsonisko mācību jomas (turpmāk - SPMJ), kurā ietilpst vēsture un sociālās zinātnes, mērķis un uzdevumi ir: nodrošināt skolēnam izpratni par pasaules notikumiem, to cēloņsakarībām un idejiskajiem pamatiem gan pagātnē, gan tagadnē. Arī par to, kā atbildīgi iesaistīties tajos un pieņemt lēmumus, kas saistīti ar karjeru un nākotnes iespējām, kā arī pozitīvi ietekmēt labklājību lokāli un globāli. (Ministru kabinets, 2019). Vēstures un sociālo zinātņu mācīšanai vidējās izglītības posmā reformas īstenošana praksē nozīmēja dažādu mācību priekšmetu apvienošanu vienā mācību jomā jeb Sociālajā un pilsoniskajā mācību jomā. Kā arī integrēto kursu iekļaušanu vidējās izglītības apgūvē, kuros apvienoti šādi iepriekš atsevišķi mācīti mācību priekšmeti – vēsture, politikas un tiesības, filozofijas un ekonomika. (Skola 2030, 2019) 2023. gada 13. janvārī ar mērķi aktualizēt fundamentālas izmaiņas vēstures mācīšanā vidusskolas kursu ietvaros, tika organizēta diskusija ar Latvijas Valsts prezidenta un vēstures izglītības īstenošanu dalību “Vēstures mācība: vieta stundu sarakstā un loma Satversmes vērtību apgūvē”. Tās laikā tika aktualizēti izaicinājumi ar kādiem saskarās SPMJ skolotāji līdz ar pilnveidotā mācību satura un pieejas ieviešanu gan pamata, gan vidējās izglītības līmenī. (Valsts prezidenta kanceleja, 2023)

Pētījuma problēma - viens no izaicinājumiem ar ko saskarās skolotāji ir problēmas īstent vidusskolas kursus “Sociālās zinības un vēsture” un “Vēsture un sociālās zinātnes I” (Valsts prezidenta kanceleja, 2023), kuri balstās iepriekš atsevišķi mācītu mācību priekšmetu integrācijā. Tāpēc kā būtiskas mācību procesa analīzes dimensijas ir izvēlēta izvēlētais mācību saturs un tā skaidrība. Kā otra būtiska analīzes dimensija ir izvēlēta kognitīvā aktivēšana (iedziļināšanās, domāšanas un radošuma veicināšanu), kas attiecas uz to, kādas iespējas iedziļināties mācību saturā tiek piedāvātas skolēniem.

Citās valstīs aktuālajos labāks prakses piemēros satura un spriešanas integrācija SPMJ priekšmetos /ursos tiek balstīta vēsturiskajā spriešanā.

Tādēļ šī **pētījuma mērķis** ir analizēt novērotajās SPMJ mācību stundās (N=16) izvēlēta satura skaidrību un skolēniem piedāvātās iespējas tajā iedziļināties, secināt

kā skolotāji attīsta vēsturiskās spriešanas spējas SPMJ priekšmetos un izdarītu provizoriskus secinājumus par kopējo situāciju mācību jomā.

Pētījumam izvirzīti šādi pētījuma jautājumi:

RQ1 Kā skolotājiem izdodas piedāvāt mācību saturu un iespējas iedziļināties tajā SPMJ stundās?

RQ 2 Kā ir iespējams noteikt, cik lielā mērā skolotājiem izdodas piedāvāt iespēju skolēniem attīstīt vēsturiskās spriešanas spējas SPMJ priekšmetos?

Literatūras apskats
Literature Review

Atbilde uz pirmo pētījuma jautājumu ir balstīta teorijā par spriešanas un iedziļināšanās iespēju piedāvāšanu skolēniem mācību stundās, kas atspoguļota teorētiskajā ietvarā skolotāju snieguma vērtēšanai 21. gs. prasmju mācīšanā (Bērtule, Dudareva, Namsone, Čakāne, & Butkēviča, 2019).

Skolēna spriešanas un iedziļināšanās spēju attīstīšana ir iespējama, ja skolotājs piedāvā loģiskā struktūrā sakārtotu saturu, kas sniedz skolēniem priekšstatu par sabiedrības procesu norisēm gan pagātnē, gan tagadnē. To darot būtiski, lai skolotājs izmanto dažādus satura reprezentācijas veidus jeb SPMJ gadījumā dažādu tipu vēstures un informācijas avotus – rakstītos, vizuālos, audiovizuālos, audio, lietiskos. Svarīgi arī izzināt priekšstatus, kas skolēniem piemīt par dažādām norisēm sabiedrībā un gadījumos, kad tie ir maldīgi, tos pārveidot mācību procesa gaitā. Būtiski arī tas, lai skolēniem tiktu nodrošināta iespēja analizēt situācijas no dažādu indivīdu/ sabiedrības grupu skatu punktiem. Vēroto stundu analīzes procesā, izvērtējot to, kā tiek piedāvāts mācību saturs, tika izvēlētas šādas teorētiskā ietvara skolotāju snieguma vērtēšanai 21. gs. dimensijas 6.1.1., 6.1.2., 6.1.3., 6.1.4. Skat. 4. tabulā “Kā skolēniem tiek piedāvāts mācību saturs. Dominējošais un sagaidāmais sniegums”.

Skolotājam piedāvājot mācīšanās uzdevumus, kas veicina iedziļināšanos, domāšanu un radošumu, ir būtiski mācību uzdevumus, kas atbilst stundas vai stundu bloka dizainā paredzētā sasniedzamā rezultāta sasniegšanai. Šiem uzdevumiem jāpalīdz skolēniem saskatīt kopsakarības starp dažādās stundās vai stundu blokos apgūtajiem sabiedrībā notikušajiem / notiekošajiem procesiem. Jāsniedz skolēniem iespēju iesaistīties domāšanas procesā veicot produktīvus, radošus, apjomīgus un kompleksus uzdevumus. Turklāt iesaistot skolēnus sarunā, kas vērsta uz dziļāku mācību satura izpratni. Vēroto stundu analīzes procesā, izvērtējot to, kā skolēniem tiek piedāvātas iespējas iedziļināties mācību saturā, tika izvēlētas šādas dimensijas 2.1.1., 2.1.2., 2.2.1., 2.2.2. skat. 3. tabulā “Stundās novērotie snieguma līmeņi”.

Atbilde uz otro pētījuma jautājumu ir balstīta teorijā par vēsturisko spriešanu. Pētnieciskajā literatūrā kā divi būtiski vēsturiskās spriešanas lauki, tiek definēti - satura koncepti (tas, ko māca) un procesa koncepti (tas, kā māca) (Chapman, 2021; Thünemann, Köster, & Zülsdorf-Kersting 2019). Ņemot vērā, ka šajā rakstā atspoguļota viena lielāka pētījuma daļa, tas ir fokusēts uz to, kā tiek piedāvāts mācīt vēsturisko spriešanu jeb procesa konceptiem.

Pētījuma vajadzībām tika analizētas vēsturiskās spriešanas koncepcijas, kas aktuālas vairākās valstīs – Kanādā (Seixas & Morton, 2012), Nīderlandē, Anglijā, Austrālijā un Maltā (Zarmati, 2019).

Vēsturiskās spriešanas process vispārējās kognitīvās prasmes saista ar konkrētu SPMJ saturu un instrumentāriju, kas nepieciešams, lai izzinātu un izprastu procesus sabiedrībā pagātnē un mūsdienās. Vēsturiskā spriešana [...] ir svarīga, lai labāk izprastu gan vēsturiskas norises, procesus un sev zināmos vēsturiskos faktus, gan šobrīd pasaulē notiekošo. [...] spriešanas process iet roku rokā ar saturu – pieeja spriešanai cieši mijiedarbojas ar saturu, par ko tiek spriests. Un satura zināšanas ir neatņemama daļa no šī vienādojuma – tām ir būtiska loma, lai iemācītos “spriest vēsturiski”. (Hačatrijana & Namsone, sagatavošanā)

Raksta autoru pētījuma gaitā izmantotā vēsturiskās spriešanas konceptuālā ietvara izstrādei par pamatu tika izvēlētas Kanādā, “Vēsturiskās domāšanas projektā” izstrādātais “Big six” modelis jeb sešu vēsturiskās domāšanas konceptu modelis (Seixas & Morton, 2012). Modelis tika izvēlēts ņemot vērā šādas iezīmes - tā pamatā ir: 1) konstruktīvisma paradigma; 2) prasmju apgūšana, kuras savā darbā lieto arī profesionāli vēsturnieki; 3) piedāvā iespēju iegūt konceptuālu vēsturei un sociālajām zinātnēm būtisku jautājumu izpratni. Modelī definētie vēsturiskās spriešanas aspekti ir šādi - avotu analīze (Pallaske, 2022), pierādījumu izmantošana, nepārtrauktība un pārmaiņas, cēloņi un sekas, vēsturiskais nozīmīgums, vēsturiskā perspektīva, ētiskā dimensija (Seixas & Morton, 2012).

Pētījuma vajadzībām šis modelis tika apvienoti ar citās valstīs aktuāliem vēsturiskās spriešanas aspektiem: apstrīdamība – no Austrālijas, argumentācija (Osborne, Henderson, MacPherson, Szu, & Wild, 2016) no Nīderlandes un empātija (iekļauta (vēsturiskajā) perspektīvā) aktuāla Lévesque versijā un Austrālijas (ACARA, 2015) un Maltas standartos (Zarmati, 2019). Šie aspekti tika izvēlēti un apvienoti, lai izveidotu teorijā pamatotas saiknes starp dažādiem Latvijas SPMJ standartā integrētiem mācību priekšmetiem. Vispārējo kognitīvo prasmju sasaisti ar konkrētu SPMJ saturu un instrumentāriju demonstrē, piemēram, perspektīvu saskatīšanas kritērijs no teorētiskā ietvara skolotāju snieguma vērtēšanai 21.gs. prasmju mācīšanā (Bērtule et al., 2019).

1.tabula. Mācību saturs. Izvēlētā mācību satura skaidrība. Perspektīvu saskatīšanas dimensija (autoru veidota)

Table 1 Learning content, its clarity. Perspective taking dimension (made by authors)

Kritērijs	0	1	2	3	3+
6.1.4. Perspektīvu saskatīšana	Uzdevumiem ir tikai viens skatu punkts/perspektīva.	Dodu uzdevumu ieraudzīt situāciju no diviem dažādiem skatu punktiem/perspektīvām.	Rosinu skolēnus formulēt būtiskākās atšķirības starp diviem dažādiem skatu punktiem/perspektīvam, izmantojot piemērus, iepriekšējās zināšanas, pieredzi pamatošanai.	Rosinu skolēnus analizēt situāciju no vairākām atšķirīgām perspektīvām, salīdzināt tās (kopīgais/līdzīgais un atšķirīgais), raksturot katras perspektīvas vērtību, izmantojot analīzi un pamatošanai iepriekšējās zināšanas, jauno saturu, piemērus, tekstus.	Rosinu skolēnus novērtēt dažādās perspektīvas (to vērtības, ierobežojumus, kultūras un sociālos faktorus, kas tās var ietekmēt), kultūrvēsturiskā kontekstā.

Metodoloģija *Methodology*

Pētījuma mērķa sasniegšanai - ir analizēt novērotajās SPMJ mācību stundās (N=16) izvēlētā satura skaidrību un skolēniem piedāvātās iespējas tajā iedziļināties, secināt kā skolotāji attīsta vēsturiskās spriešanas spējas SPMJ priekšmetos un izdarītu provizoriskus secinājumus par kopējo situāciju mācību jomā – tika veiktas šādas darbības.

Pētījuma izlases veidošana - tika vērotas un analizētas 16 SPMJ stundas (Sociālās zinības un vēsture (4.kl.), Latvijas un pasaules vēsture, Sociālās zinības, Kristīgā mācība, Vēsture un sociālās zinātnes I) posmā no 4. -11. kl. septiņās Latvijas skolās, kas atrodas dažādās pilsētās. Stundas tika vērotas laika posmā no 2022. gada 23. septembra līdz 28. novembrim. Skolēnu skaits klasē bija sākot no 14 līdz 30. Pētījuma dati iegūti lauka pētījumā, 3 iepriekš apmācītiem ekspertiem vēroja un transkribēja N=16 mācību stundas skolās ar kurām skolotāju profesionālās pilnveides un pētniecības nolūkos sadarbojas LU SIIC. Pēc tam tika veikta atbilstoša analīze pēc noteiktas formas, aizpildot veidlapu un novērtējot sniegumu līmeņos atbilstoši “Skolotāja pašnovērtējuma snieguma aprakstā” (Bērtule et al., 2019). novērtēts skolotāja sniegums atbilstoši izvēlētā ietvara kategorijām piecos līmeņos (0., 1., 2., 3. un 3.+), kur 3. līmenis ir vēlamais - sagaidāmā labā prakse, nepieciešamības gadījumā uzrādot pierādījumus transkripcijā un komentārus, kāpēc snieguma raksturošanai izvēlēts konkrēts līmenis. Pirms stundu analīzes tika organizētas divas ekspertu fokusgrupas diskusijas, lai panāktu lielāku datu ticamību. Katrs eksperts individuāli analizēja vienu un to pašu stundu pēc tās transkripcijas, pēc tam diskusijā

vienojās par stundā redzamā snieguma līmeni. Vadošā pētnieka vadībā diskusijas rezultātā eksperti nonāca pie vienotas izpratnes par katra līmeņa deskriptora nozīmi stundas kontekstā.

Lai atbildētu, kā skolotājiem izdodas piedāvāt mācību saturu un iespējas iedziļināties tajā SPMJ stundās, praksē vērotais tika salīdzināts ar to, kas atbilst labai praksei. Šim nolūkam izmantoti atbilstošā kritērija dimensijas līmeņa apraksti (deskriptori). Izmantotais teorētiskais ietvars un snieguma līmeņu apraksti iepriekš validēti (Bērtule et al., 2019). Pētījuma nolūkiem izvēlētas kategorijas un to dimensijas (skat. 2. tabulā).

2.tabula. Izvēlētais snieguma izvērtēšanas kategorijas, apakškategorijas un dimensijas (autoru veidota)

Table 2 Selected performance evaluation categories, subcategories and dimensions (made by authors)

Kategorija	Apakškategorija	Dimensija	
KOGNITĪVA AKTĪVĪŠANĀ	2.1. Iedziļināšanās, domāšanas, radošuma veicināšana	2.1.1. Mācību uzdevumu izvēle – konteksts, situācijas jaunums	Kā tika piedāvāts
		2.1.2. Kompleksums	
	2.2. Saruna	2.2.1. Skolēnu iesaistīšana domāšanā	
		2.2.2. Izmantotie jautājumi sarunā, lai panāktu iedziļināšanos	
MĀCĪBU SATURS	6.1. Izvēlēta mācību satura skaidrība	6.1.1. Mācību satura reprezentācija (iesk. valodu) apjēgšanai	Kāds kognitīvais
		6.1.2. Kopsakarību, struktūru etc. veidošana	
		6.1.3. Darbs ar skolēnu idejām (priekšstatiem), to starp maldīgiem	
		6.1.4. Perspektīvu saskatīšana	

Lai atbildētu, kā ir iespējams noteikt, cik lielā mērā skolotājiem izdodas piedāvāt iespēju skolēniem attīstīt vēsturiskās spriešanas spējas SPMJ priekšmetos, stundās vērotais tika analizēts, izmantojot vēsturiskās spriešanas konceptuālā ietvara izstrādes 2. iterāciju. Konceptuālo ietvaru veidot vairākas sadaļas – satura koncepti, vēsturiskās spriešana, kā arī identitāte un vērtība. Šajā rakstā stundas analizētas nosakot to atbilstību vēsturiskās spriešanas aspektu raksturīgajām pazīmēm un to atbilstību gradējot skalā no 0 līdz 3+.

Pētījuma rezultāti Research results

Stundu analīzes aplūkotas atbilstoši izvēlētajām kritēriju dimensijām (skat. 2. tabulā) pēc novērotajiem snieguma līmeņiem (3.tab.).

3.tabula. Stundās novērotie snieguma līmeņi (autoru veidota)
Table 3 Observed performance levels (made by authors)

Kritērija dimensija	3. un 3.+līmenis	2. līmenis	1. līmenis	0. līmenis
2.1.1. Mācību uzdevumu izvēle – konteksts, situācijas jaunums	1	10	4	0
2.1.2. Kompleksums	2	4	9	0
2.2.1. Skolēnu iesaistīšana domāšanā	1	1	12	1
2.2.2. Izmantotie jautājumi sarunā, lai panāktu iedziļināšanos	0	7	8	0
6.1.1. Mācību satura reprezentācija (iesk. valodu) apjēgšanai	4	6	3	2
6.1.2. Kopsakarību, struktūru etc. veidošana	2	7	3	3
6.1.3. Darbs ar skolēnu idejām (priekšstatiem), to starp maldīgiem	1	0	1	13
6.1.4. Perspektīvu saskatīšana	1	2	4	8

N=16

RQ1 Kā skolotājiem izdodas piedāvāt mācību saturu un iespējas iedziļināties tajā SPMJ stundās?

Mācību satura piedāvāšana

Konstatēts, ka skolotāji dominējoši izvēlas mācību satura skaidrojumam atbilstošu reprezentāciju, korektu SPMJ atbilstošu valodu (6) un izvēlas būtisku, standartam atbilstošu saturu, bet strādā uz kādu atsevišķu jēdzienu (7). 0. līmenis dominē kritērija dimensijās darbs ar skolēnu priekšstatiem (13) un perspektīvu saskatīšana (8). Dominējošā prakse pret sagaidāmo labo praksi parādīta 4. tabulā.

4.tabula. Kā skolēniem tiek piedāvāts mācību saturs. Dominējošais un sagaidāmais sniegums (autoru veidota)

Table 4 How the learning content is administered. Dominant and optimal achievement (made by authors)

Kritērija dimensija	Vērotais dominējošais sniegums	Sagaidāmais sniegums (3.līmenis)
6.1.1. Mācību satura reprezentācija apjēgšanai	Izvēlas mācību satura skaidrojumam atbilstošu reprezentāciju; lieto korektu mācību priekšmeta valodu. (2.līmenis - 6 stundās)	Izvēlas mācību satura skaidrojumam vairākas vispiemērotākās reprezentācijas. Pārlicinās, vai izvēlētā mācību satura reprezentēšana un valodas lietojums, skolēnam ir skaidrs.
6.1.2. Kopsakarību, struktūru veidošana	Atsedzu kopsakarības, jaunā satura ietvaros. (2.līmenis - 7 stundās)	Satura apguve tiek virzīta uz būtisko, saistot jaunus jēdzienus esošajā jēdzienu sistēmā, atsedzot kopsakarības.
6.1.3. Darbs ar skolēnu idejām (priekšstatiem), to starp maldīgiem	Iespējama maldīgu priekšstatu veidošanās. (0. līmenis – 13 stundās)	Veidoju procesu, kurā notiek maldīgo priekšstatu pārveide par zinātniskiem viena mācību priekšmeta ietvaros.
6.1.4. Perspektīvu saskatīšana	Uzdevumiem ir tikai viens skatu punkts/perspektīva (0. līmenis - 8).	Rosīnu skolēnus analizēt situāciju no vairākām atšķirīgām perspektīvām, salīdzināt tās (kopīgais/līdzīgais un atšķirīgais), raksturot katras perspektīvas vērtību, izmantojot analīzi un pamatošanai iepriekšējās zināšanas, jauno saturu, piemērus, tekstus.

Kognitīvās darbības dziļums

Konstatēts, ka skolotāji dominējoši izmanto vairākus neliela apjoma un īslaicīgus uzdevumus (9). Skolotāju izvēlēto uzdevumu konteksts atbilst skolēna pieredzei, tas saistīts ar mācību priekšmeta saturu un piedāvātās situācijas skolēniem ir pazīstamas, prasa tiešu pārnesumu (10).

Skolotāji dominējoši uzdod jautājumus par atsevišķiem mācību satura elementiem (7), lai pārliecinātos par skolēnu zināšanām un uz jautājumiem ir viena pareizā atbilde. Dominē stundas scenārijs, kurā skolotājs jautājumus uzdod uz skaidro pats (12). Dominējošā prakse pret sagaidāmo labo praksi parādīta 5. tabulā.

5.tabula. *Kāds kognitīvās darbības dziļums tiek piedāvāts. Dominējošais un sagaidāmais sniegums (autoru veidota)*

Table 5 *Opportunities to think deeper. Dominant and optimal achievement (made by authors)*

Kritērija dimensija	Vērotais dominējošais sniegums	Sagaidāmais sniegums (3.līmenis)
2.1.1. Mācību uzdevumu izvēle konteksts, situācijas jaunums.	Izmanto uzdevumus, kuru konteksts atbilst skolēna pieredzei, tas saistīts ar mācību priekšmeta saturu; situācija skolēniem pazīstama, prasa tiešu pārnesumu. (2.līmenis – 10 stundās)	Izmanto uzdevumus, kur skolēnam jālieto savas zināšanas un prasmes iepriekš nepieredzētā kontekstā; tie prasa pārnesumu uz jaunu situāciju, viena mācību priekšmeta ietvaros.
2.1.2. Kompleksums	Izmanto uzdevumus, kas neprasa konstruēt jaunas zināšanas. Uzdevuma veikšanai nepieciešama kāda atsevišķa izziņas prasme. Izmanto vairākus neliela apjoma īslaicīgus uzdevumus. (1.līmenis - 9 stundās)	Izmanto kompleksu uzdevumu – tas prasa, lai skolēns pats konstruētu zināšanas liekot kopā gan priekšmeta specifiskās zināšanas un prasmes, augsta līmeņa izziņas prasmes. Uzdevuma veikšana aizņem lielāko daļu stundas.
2.2.1. Skolēnu iesaistīšana domāšanā	Praksē visbiežāk jautāju pats. Ja skolēni ātri nedod vajadzīgo atbildi, skaidroju pats; ļāju atbildēt tiem skolēniem, kuri vēlas. (1. Līmenis – 12 stundās)	Veidoju situāciju, lai skolēni jautātu par mācīšanās saturu; izmantoju jautājumus un dažādās skolēnu atbildes, nepieciešamības gadījumā tās pārfrāzējot, lai panāktu sarunas precīzāku virzību, padziļināšanu. Vienojos ar skolēniem par noteikumiem, kā katrs var iesaistīties sarunā.
2.2.2. Izmantoti jautājumi sarunā, lai panāktu iedziļināšanos	Uzdod jautājumus par atsevišķiem mācību satura elementiem, lai pārliecinātos par skolēnu zināšanām. Uz jautājumu ir viena pareizā atbilde. (1.līmenis - 8 stundās, bet 2. līmenī – 7 stundas)	Uzdod jautājumus par būtisko mācību saturā kopumā, lai, skolēni pamatotu savas izteiktās domas. Jautājumam nav viennozīmīgi pareizas atbildes.

RQ2 Kā ir iespējams noteikt, cik lielā mērā skolotājiem izdodas piedāvāt iespēju skolēniem attīstīt vēsturiskās spriešanas spējas SPMJ priekšmetos?

Šajā tabulā attēlots, kuri vēsturiskās spriešanas aspekti visbiežāk tika konstatēti vērotajās mācību stundās un kāds bija to īstenošanas līmenis.

6.tabula. *Vēsturiskās spriešana vērotajās mācību stundās (autoru veidota)*
Table 6 *Historical thinking in observed lessons (made by authors)*

	3. un 3.+ līmenis	2. līmenis	1. līmenis	0. līmenis
8.1. Avotu analīze	2	6	2	5
8.2. Pierādījumu izmantošana	2	2	4	7
8.3. Nepārtrauktība un pārmaiņas	0	0	3	12
8.4. Cēloņi un sekas	1	1	2	11
8.5. Ētiskā dimensija	1	1	3	10
8.6. Perspektīva	1	1	1	12
8.7. Nozīmīgums	0	2	2	11
8.8. Apstrīdamība	0	0	0	15

Secinājumi **Conclusions**

RQ1 Kā skolotājiem izdodas piedāvāt mācību saturu un iespējas iedziļināties tajā SPMJ stundās?

Mācību saturs

Skolotāji dominējošā skaitā gadījumu mācību saturu skaidro, izmantojot dažādus reprezentācijas veidus - stāstījumu, dažādu tipu avotus (rakstītie, vizuālie, audio, audiovizuālie) un uzskate līdzekļus, piemēram, kartes. Saturs, ko skolotāji piedāvā stundās lielākoties ir atbilstošs SPMJ standartam, bet pārsvarā notiek darbs ar atsevišķiem jēdzieniem, kas ierobežo iespējas skolēniem radīt izpratni par kopsakarībām un struktūrām, kas eksistē / ir eksistējušas sabiedrībā. Skolotāji nedarbojas ar skolēnu priekšstatu par apgūstamo saturu izziņāšanu, iespējamo maldīgo priekšstatu noteikšanu un to pārveidošanu, kā arī nepiedāvā skolēniem iespējas SPMJ aktuālus notikumus, procesus, personības u.c. analizēt no dažādiem skatu punktiem, tādā veidā ierobežojot skolēnu iespējas spriest kompleksi.

Kognitīvās darbības dziļums

Augstākam kognitīvās darbības dziļuma piedāvāšanai skolēniem stundās ir nepieciešami uzdevumi, kas prasa zināšanu un prasmju pārnesumu uz jaunu un nepieredzētu kontekstu, kā arī kompleksi uzdevumi.

Konstatēts, ka vērotajās stundās skolotājiem ir izaicinājums veidot tādu mācību procesu, kurā skolēniem strādāt ar mazāk pazīstamu kontekstu, jaunām situācijām, pakāpeniski palielinot uzdevumu apjomu, kā arī reti tiek izmantoti uzdevumi, kas prasa konstruēt zināšanas.

Konstatēts izaicinājums uzdot atvērtus jautājumus, uz kuriem ir iespējamas vairākas atbildes, kā arī skolēnu iesaistīšanā domāšanas procesā un šī procesa rezultātu demonstrēšanā.

RQ 2 Kā ir iespējams noteikt, cik lielā mērā skolotājiem izdodas piedāvāt iespēju skolēniem attīstīt vēsturiskās spriešanas spējas SPMJ priekšmetos?

Vēsturiskās spriešana vērotajās mācību stundās – dominējošais sniegums. Stundās tika novērti šādi dominējošie vēsturiskās spriešanas aspektu integrēšanas gadījumi:

- avotu analīzes gadījumā dominē prakse aicināt skolēnus noskaidrot avotu tapšanas laiku, kā arī ņemt vērā kontekstu, kurā avots tika radīts, tostarp laiks, vieta un kultūras un sociālais konteksts;
- pierādījumu izmantošanas gadījumā dominē skolotāju prakse piedāvāt skolēniem analizē vēstures / informācijas avotus un iegūtos pierādījumus izmanto, lai atbildētu uz izvirzītajiem jautājumiem;
- nepārtrauktības un pārmaiņu gadījumā tipiski tika piedāvāts ar piemēriem no dzīves un / vai sistemātiski skaidro, ka nepārtrauktība un pārmaiņas attiecas uz ideju, ka daži sabiedrības vai kultūras aspekti laika gaitā paliek nemainīgi, bet ir lietas, kas var mainīties laika gaitā;
- cēloņi un sekas tipiski stundu norisē tika iekļauti skaidrojot, ka viens notikums vai darbība var izraisīt citu notikumu vai darbību. Notikumi notiek 2 tipu faktoru dēļ - 1) cilvēki (indivīdi, grupas) kas rīkojas izraisot vēsturisku notikumu; 2) sociālie, politiskie, ekonomiskie un kultūras apstākļi, kuros šie cilvēki operē;
- ētiskā dimensijas gadījumā ar piemēriem tika skaidrots, ka veidojot naratīvus (stāstus) cilvēki tajos tiešā vai netiešā veidā iekļauj ētiskus spriedumus.

Šāda rīcība var kalpot kā pamats tālākam darbam ar šo spriešanas veida attīstīšanu darbā ar skolēniem.

Vēsturiskās perspektīvas, vēsturiskās nozīmīguma un apstrīdamības gadījumos nav iespējams aprakstīt dominējošos sniegumu.

Kopsavilkums

Summary

In Latvia, a recent education reform aims to equip students with transferable knowledge and skills for modern life. However, effectively teaching Social Studies and History poses challenges in terms of curriculum clarity and cognitive activation. Teachers need to use multiple representations, foster conceptual understanding, and encourage students to analyze situations from various perspectives. This study examines how teachers develop historical reasoning abilities in SCSA subjects and

what professional development support is needed. The research analyzes 16 observed lessons to draw preliminary conclusions.

The content taught by teachers generally corresponds to the SCSA curriculum. Teachers primarily use different types of representations, such as stories, various types of sources (written, visual, audio, audiovisual), and tools such as maps, to explain the subject matter. However they mostly work with individual concepts, limiting students' ability to create an understanding of the connections and structures that exist in society. The teachers do not typically work with the students' preconceptions about the subject matter and do not identify possible misconceptions. They as well do not offer opportunities for students to analyze current events, processes, personalities, etc. from different perspectives, thereby limiting students' ability to make complex judgments.

The article also discusses the importance of offering students tasks that require the transfer of knowledge and skills to new and unfamiliar contexts, as well as complex tasks, in order to increase the depth of cognitive activity in classrooms. However, the observed challenge for teachers is to create a learning process where students work with less familiar contexts and gradually increase the volume of tasks, as well as rarely using tasks that require the construction of knowledge. Furthermore, there is a challenge in posing open-ended questions that allow for multiple answers, as well as involving students in the thinking process and demonstrating the results of this process.

The article evaluates the dominant approach to historical reasoning based on observed lessons. The study identifies dominant aspects of historical reasoning integration, including source analysis, evidence use, continuity and change, causes and consequences, and ethical dimensions. The article suggests that these identified aspects can serve as a basis for developing historical reasoning skills among students. However, the study could not determine dominant performance in cases of historical perspective, historical significance, and controversy.

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INTEGRATED LEARNING IN A MODERN SCHOOL IN THE CONTEXT OF DISTANCE EDUCATION

Oksana Horbatiuk

Kamianets-Podilskyi Ivan Ohiienko National University, Ukraine

Svitlana Polishchuk

Kamianets-Podilskyi Ivan Ohiienko National University, Ukraine

Iryna Kuchynska

Kamianets-Podilskyi Ivan Ohiienko National University, Ukraine

Olena Blashkova

Mariupol State University, Ukraine

Abstract. *The article is aimed at defining the concept of integrated learning and features of the implementation of this educational technology in modern general education institutions. In defining the key concept, the mechanisms of integration between the basic disciplines, which are appropriate for the use of integrated learning in the modern school, are considered. It is noted that integration can be carried out by two key mechanisms, each of which is aimed at the perception of pupils of the surrounding world as a whole, regardless of which aspect of science is its knowledge.*

The article reveals the essence of the integrated approach to education, its significance and impact on changing the structure of a particular subject, which is an important element in improving the effectiveness of the educational process. In addition, the article describes in detail the action of mechanisms in the implementation of the basics of an integrated lesson, as well as the content and operation of didactic principles for implementing an integrated approach.

The main research methods are: Analysis of literature sources, observation, survey, generalization and statistical analysis.

The article focuses on identifying opportunities for introducing distance learning into Ukrainian education using an integrative approach.

The main results of the study give grounds for asserting that the active and professional use of distance education opportunities by teachers will contribute to solving the educational problems that have arisen in modern Ukraine. These changes will help build new ways of development and prospects for Ukrainian educators, based on the relevance and widespread use of online education.

The authors proposed their own definitions of the concepts "value orientations", "personal values", "value orientations of Ukrainian youth".

Keywords: *distance education, integrated learning, integration, interdisciplinary connections, modern school, online learning.*

Introduction

The 21 century is an age of active transformation, in which it is said that learning can be effective only if the educational process is as close to reality as possible, and the lesson is a part of reality that cannot exist on its own. Integration, that is, the process of bringing different subjects together and combining them, is one of the most effective ways to update the content and teaching methods of a modern school.

The state National Program "Education" (Cabinet of Ministers of Ukraine, 1993) formulated the following tasks: selection and structuring of educational material on the basis of differentiation and integration, providing alternative opportunities for education in accordance with individual needs and abilities; orientation to integrated courses, search for new approaches to structuring knowledge as a means of holistic understanding and knowledge of the world.

According to the new state standard of primary education (Cabinet of Ministers of Ukraine, 2018), integration is the main form of organizing the education of Primary School pupils.

So, the relevance of integrated learning in the conditions of distance education is due to the need to reformat traditional approaches to learning and form a holistic picture of the world among pupils, creating conditions for the formation of a child – an education applicant as an integral, comprehensively developed person.

This idea is not new in elementary school practice. Using it for the first time, K. D. Ushynskyi (1983) imagined how two types of skills are simultaneously formed in the literacy course: reading and writing. Integrated reading and writing lessons are still relevant for Primary School students today. But integration elements should be used in teaching absolutely all basic disciplines, in particular, when studying mathematics in primary school, children learn elements of arithmetic, algebra and geometry. While studying the natural science course, children get acquainted with the elements of chemistry, biology, geography, physics, and in art lessons they not only learn about the world of beauty, but also get acquainted with the historical background of the emergence of this beauty.

This gives us reason to argue that integrated lessons:

- increase motivation to learn;
- form students ' research interest;
- develop speech, ability to compare (analyze), generalize and draw conclusions;
- contribute to the formation of a comprehensively, harmoniously and intellectually developed personality.

When it comes to secondary and high schools, the priority direction of the NUS defines specialized training, which is based on the active implementation of integration mechanisms of educational activities in the educational process.

The purpose of the article is to highlight the essence of the concept of "integrated learning", to outline the features of implementing integrated learning in a modern school in the context of distance education.

The main research methods are: Analysis of literature sources, observation, survey, generalization and statistical analysis.

The theoretical background

The first historical riddles about integration in the study, dated 1855 in the United States. Today, the idea of integrating the content and forms of teaching attracts many practical teachers. The main provisions of the theory of intersubject relations in the integral learning process.

A number of scientific works by Baranovska O. (2018), Bulhakova N. (2009), Fedorenko V. (2009), Ivaniuk I. (2012), Kokhanko O. (2020), Kremen V. (2008), Mala I. (2022) have been devoted to the study of the possibility of distance learning in Ukraine.

Distance education in Ukraine was introduced gradually, but it gained practical use by teachers during the Covid-19 pandemic and after the start of a large-scale war on 24.02.2022. As Capone R., Lepore M. said: "Distance Learning at the time of COVID-19 is an educational methodology and it can be considered the only occasion to keep an educational connection between students and teachers" (Capone & Lepore, 2022).

It is worth noting that integrated learning using online learning occupies a significant place among teachers in Ukraine. After all, combining the possibilities of integrated distance learning contributes to the effective training of applicants for the education of any level. Gradual mastery of information capabilities during online training helps Ukrainian teachers and applicants to learn even though there is a war in the country.

At the present stage of formation and development of a new Ukrainian school, the problem of integrated education is studied in various aspects. In particular, Baranovskaya O. (2015), Zasekina (2000), Kronivets T. (2013), Kremen V. (2008), and others described a number of problems that they identified in the course of Secondary Education. Baranovskaya O. (2013, 2015), who are part of the Department of didactics of the Institute of Pedagogy of the National Academy of Sciences of Ukraine, speak about the need for training in the context of fundamentalization, technologization, integration of educational content (Baranovskaya O. (2015), Vaskivska H. (2013), Vaskivska H. (2015). Bolshakova (2014), Ivaniuk I. (2012) talk about thorough training of teachers who introduce elements of integrated learning into the educational process (Kokhanko, 2020).

Presentation of the main material

An integrative approach to education is an approach that leads to the integration of the content of education, that is, the correct unification of its elements into a whole (Kremen, 2008); it is a way to build the educational content in such a way that it obeys the solution of a system of internal and intrasubject problems (Bulhakova, 2009); it causes a change in the structure of a particular subject or a separate industry with the presentation of a new didactic model, which is based on a thorough combination of elements of different academic disciplines using integrated approaches to the organization of the educational process (Opachko, 2006).

This method of conducting a lesson is of interest not only to pupils but also to teachers. This is explained by the fact that by modelling cooperation and combining different disciplines, teachers thereby create not only a new educational meaning, look for new non-standard forms of combining material, but also improve their interaction and professional skills of the educational institution. This, in turn, contributes to the growth of its image and increases the competitiveness and market of educational services.

In other words, we can state that integration not only contributes to the development of pupils' worldviews and critical thinking but also establishes communication, cooperation and interaction between teachers (teachers).

The emergence of integration is the result of a high level of implementation of intersubject links, which imply not only the existence of a connection between branches of knowledge, but also the establishment of a deep connection between them. Integration is based on Knowledge Common to several specific scientific fields that allow us to comprehensively form a general idea of a person as a part of the surrounding world (Klymenko, 2017).

The purpose of integrated learning is:

- formation of a holistic view of the world around education applicants;
- bringing the Ukrainian education system to a qualitatively new competitive level;
- creating optimal conditions for the general, physical and mental development of the child with the formation of critical, logical and analytical thinking skills during the comprehensive study of academic disciplines in separate blocks;
- activation and development of cognitive activity and cognitive activity in educational applicants;
- effective implementation of the basics of educational work in the process of obtaining basic general education by schoolchildren (Ministry of Education and Science of Ukraine, 2020).

Despite the fact that the introduction of distance learning involves a certain level of qualification of teachers, V. Kukharenko and V. Bondarenko emphasize

that the creation of a distance course begins with planning, because it is necessary to clearly define the method of conducting distance learning:

- whether meetings are planned in real time (explanations of the material, answers to questions);
- distance learning is planned through interactive learning materials (videos, interactive videos, text, drawings) (Kukharenko & Bondarenko 2020).

This approach to the implementation of the learning process indicates its prospects, since it maximally contributes to the application of the acquired theoretical knowledge to their practical implementation.

I. Ivanyuk, studying the conceptual and terminological apparatus on the development of distance education, carried out a thorough analysis of this issue. The author noted that distance education in Ukraine has gone from education in the form of correspondence, using primarily printed materials, to the global movement of using the latest computer and media technologies (Ivanyuk, 2012).

According to I. Ivanyuk, the terminology regarding the interpretation of the concept of "distance education" is constantly being improved. Recent definitions include new interactive technologies, stress education that occurs at the same time, but in different places (Ivanyuk, 2012).

The integrative approach to school education gained popularity at the end of the twentieth century, primarily as a factor in changing the structure of the content of Education. Integrated programs with varying degrees of integration were actively developed: complex ones that combine several subjects, keeping them separate; fully integrated ones that form a new subject and differ in the degree and type of integration.

Along with the development of integrated learning, as noted by S. Koleboshin, V. Koleboshin, E. Ignatenko (2022), electronic learning tools related to the spread of information and communication technologies and the Internet in the world are also being rapidly introduced into the educational process of Ukraine. Teachers of various educational institutions create websites of classes and schools, courses, groups, which contain the necessary information of educational content (homework, links to additional sources for deepening the study of the subject content, the screen of academic performance of applicants). More often, e-mail and social networks are used to conduct intellectual scientific competitions and provide individual and group consultations, communication and training.

Interactive smart boards are actively used, because teachers have the opportunity not only to save the lesson content on electronic media, but also to make the lesson more vivid (Koleboshin, Koleboshin, & Ignatenko, 2022).

In Ukraine, these processes were carried out more intensively not only in primary schools, where not only integrated courses of purely scientific content

were developed, but also civil and social components were combined, in such subjects as "I and Ukraine", "environment", "Man and the world".

When implementing the basics of integrated education in the context of distance education in middle and high schools, integration is carried out according to two mechanisms:

- development and implementation of integrated courses in the educational process, which are based on organic interaction between different academic subjects and allow avoiding fragmentation when pupils receive information about a particular object. Integrated courses taught in middle and high schools include: "fundamentals of Health", "Natural Science", "Art";
- due to the use of educational material by the teacher in the classroom, which concerns not only the discipline being studied, but also other related branches of science.

According to V. Fedorenko, "varieties of the second type of intersubject integration differ in the intensity of use of material that is attracted from other subjects, and, in a generalized state, can be combined between two large groups" (Fedorenko, 2009). The first group of integrated lessons includes lessons that reflect cross-subject integration through the use of evidence from other areas. The second group defines integrated lessons, the main features of which are a clear definition of goals and the possibility of integrating educational content or methods of cognitive activity of pupils, scientific motivation for choosing didactic material to be integrated, determining a clear structure of the lesson, with a balanced approach to the introduction of individual elements of different industries in such a way that the perception of integrated educational material takes place holistically (Bolshakova, 2014).

The reform of modern education, as our research shows, lies on the way to overcoming the isolated teaching of academic subjects (in the domestic school) and creating fundamentally new curricula, where it is advisable to focus the educational process on a developing and productive integrative approach.

At the same time, we must remember that the implementation of integrated training in the context of distance education requires certain conditions to be met. Such conditions, of course, are:

- the objects of research are the same or quite close (then we study the object from different angles, using educational material from different disciplines);
- academic subjects use the same or similar methods of studying objects and phenomena (then we demonstrate a way to know reality using examples from different subjects);
- what is learned obeys the general laws that are studied in the lesson (that is, we generalize educational material from different academic disciplines and learn a more complex system) (Zasekina, 2020).

This approach to the introduction of integration into the educational process of the school in the context of distance education gives us grounds to assert that the integration of educational material in various academic subjects occurs, as a rule, either around a certain object or environmental phenomenon, or to solve a problem of an intersubject nature, or to create a creative product.

After meeting certain conditions associated with the introduction of integrated learning in the context of distance education, there is a direct process of implementing intersubject integration of the content of training, which includes a number of stages (from simple to complex), namely:

- introduction of intersubject connections in the lessons of related disciplines based on reproductive activity and elements of problem solving;
- setting intersubject educational problems and independently searching for their solution in separate lessons;
- systematic problem-based learning based on complicated intersubject problems within individual courses;
- inclusion of first bilateral and then multilateral links between different subjects based on coordination of the teacher's activities;
- development of a broad system in the work of teachers who carry out intersubject relations both in the content and methods, and in the forms of organizing training, including extracurricular work and expanding the boundaries of the program (Zasekina, 2020).

This gives us grounds to conclude that it is through multilateral intersubject relations that the foundation is laid for the formation of pupils' skills of a comprehensive vision, problems of real reality, and diverse approaches to their solution.

In addition to the above, you should pay attention to the fact that the implementation of integrated teaching methods in the context of distance education is based on compliance with certain principles.

The didactic principles of implementing an integrative approach include:

- design of integrated learning outcomes that cause conceptual changes in the purpose, structure and content of training, assessment methods, learning tools and technologies;
- designing the structure and content of school education as a continuous and integral education, which includes the development of an integral thematic structure of Sciences in accordance with certain cross-cutting topics, general subjects of study, coordination of the conceptual apparatus and mechanisms for the formation of basic knowledge and skills;
- formation of holistic knowledge about nature, technologies and technical means, acquisition of scientific research skills, value attitude to nature

and responsible actions in relation to it by selecting appropriate educational tools and technologies, development of proposals for pedagogical and methodological, methodological support for the professional activity of teachers (Zasekina, 2020).

In other words, we can say that the integrated approach plays an important role in improving the educational process, since it directly contributes to the combination of various forms and means of learning. Its advantage lies in the fact that, translating their theoretical achievements into practical application, pupils develop the process of thinking, expand their horizons, increase the level of their intersubject competence, the essence of which is the pupil's ability to apply to an intersubject range of problems: knowledge, skills, skills, methods of activity and attitudes that belong to a certain range of academic subjects and subject areas.

This gives us reason to say that the success of implementing integrated learning in the educational process largely depends on the introduction of distance education. Distance learning itself, as noted by I. Mala, provides educational applicants with access to non - traditional sources of information, increases the effectiveness of independent work, gives a new level of opportunities for creative expression, finding and consolidating new knowledge and skills; distance education-allows teachers to implement completely new forms and educational methods using conceptual and mathematical modeling of phenomena and processes. The evolution of distance learning will continue and improve with the development of internet technologies and the improvement of distance learning methods (Mala, 2022).

Also, as T. Kronivets notes, important first steps in the development of regulatory and legal regulation for the introduction of distance technologies in the educational process of higher educational institutions of Ukraine have already been taken. Over the years of using distance learning technologies, scientific, methodological, human and production potential, information resources and technologies have been accumulated, and there is a telecommunications infrastructure. The legal certainty of the distance education system is a step towards building an information society in Ukraine, our state's entry into the global educational space (Kronivets, 2013).

All types of educational activities can be combined in the distance learning system (LMS), which allows you to organize a full-fledged distance learning process.

In order to identify the effectiveness of integrated learning in the context of distance education, we conducted a survey among pupils regarding the effectiveness of the proposed Padlet online tool. The survey was conducted on the basis of a technology adoption model that allows us to determine subjective utility and subjective ease of Use (Nagy, 2018). This performance evaluation model is based on the concept that when using technology, it is important not only its effectiveness as a technical tool, but also its "clarity" to the user.

Pupils had to indicate their attitude to the statements made using the psychometric Likert scale: completely disagree; disagree; difficult to answer; agree; completely agree.

Statement on the definition of subjective utility:

- 1) using a virtual wall (VW) allows you to quickly present the results of your activities.
- 2) using VW increases the productivity of my work.
- 3) using VW makes my training more efficient.
- 4) the use of VW expands the possibilities of communication with the teacher and classmates.
- 5) using the VW allows you to objectively evaluate your own work and the work of others.
- 6) using VW is useful in training. The survey results can be viewed in Figure 1.

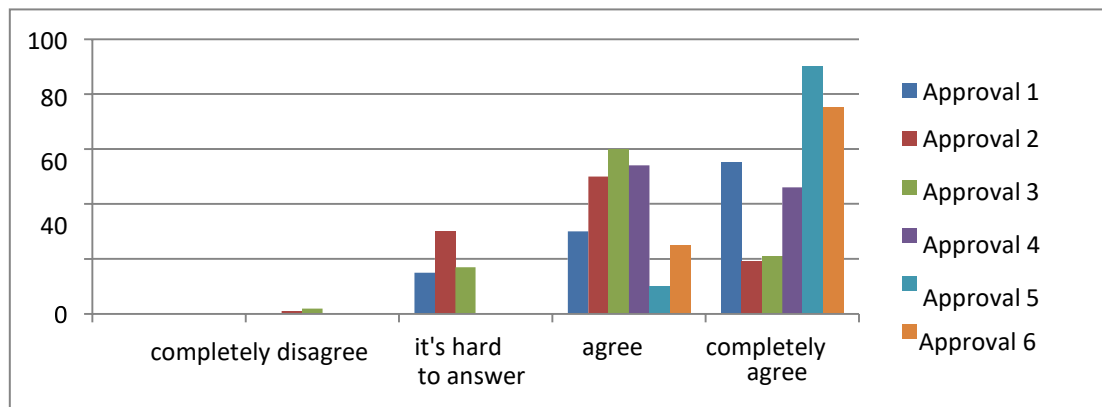


Figure 1 Results of pupil' responses to the definition of subjective utility (made by authors)

As you can see, individual utility questions were not entirely clear to pupils, so they chose the answer "difficult to answer". In general, everyone noted that the online tool can be useful in educational activities and simplifies the organization of the educational process.

Statement on the definition of subjective simplicity:

- 1) using VW is very easy.
- 2) it is very easy to present the results of your work using the VW tools.
- 3) the use of VW is clear and not complicated.
- 4) sun can be very easily integrated into the learning process.
- 5) I easily learned how to use all the functions.
- 6) VW is easy to use for anyone.

The survey results can be viewed in Figure 2.

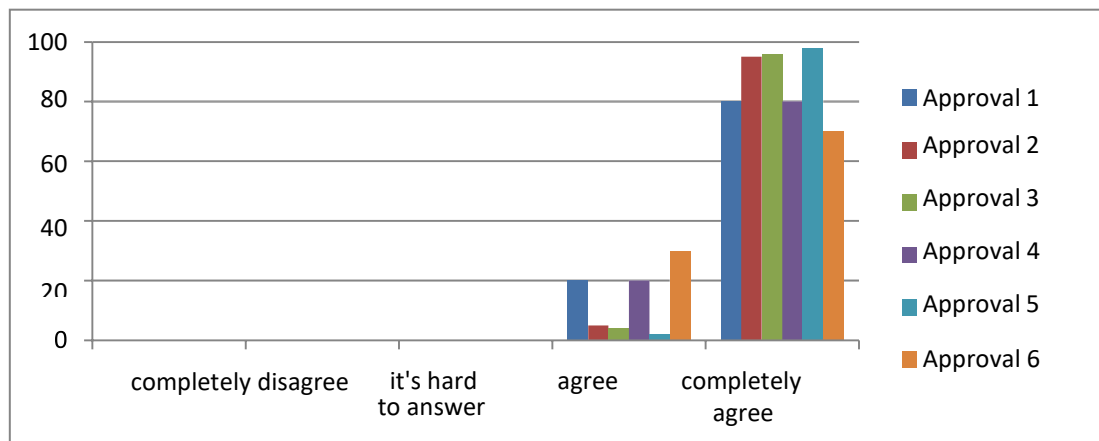


Figure 2 Results of pupil' responses to the definition of subjective simplicity (made by authors)

As you can see, the results of the definition of subjective simplicity show that using a virtual wall is extremely simple, all the functions presented in the environment are clear, the virtual wall is not burdened with a large number of settings, so it is perceived by students easily and does not require additional skills.

Conclusions

Conclusions integrated learning is learning that is based on the use of common components of individual Sciences holistically, which allows the applicant to form a holistic perception of the world around them. In a modern Ukrainian school, the integration of educational material is carried out by two mechanisms:

- when teaching integrated courses;
- through the use of reliable facts from one scientific field during the teaching of an academic discipline that has direct or indirect links with it, for example, the use of elements of physics during the teaching of biology, geography, chemistry lessons; the use of quotations from literary works in Ukrainian language lessons, etc.

Taking into account the transformation processes that determine the construction of a new Ukrainian school based on the principles of integrated education, it is worth noting that integrated courses have become more widespread in primary schools than in middle and high schools, but with the continuation of transformation processes, the integration approach will delve deeper into the educational sector.

The selection of online funds should be carried out in accordance with the purpose of their use and the organization of appropriate forms of activity. It is convenient to use the distance learning system as the main means of organizing the educational process, however, it is necessary to provide for the use of online

tools for performing other forms of educational activities. Thus, the use of online tools allows you to get wide opportunities for organizing training, carry out new interesting types of activities, control and communication that contribute to overcoming the "digital gap" between participants in the educational process.

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DEVELOPMENT OF COMPUTER-BASED DIAGNOSTIC ASSESSMENT SYSTEM: CASE STUDY OF EQUIVALENCE OF PAPER-AND-PENCIL AND COMPUTER-BASED TESTING

Ģirts Burgmanis

University of Latvia, Latvia

Marta Mikite

University of Latvia, Latvia

Ilze France

University of Latvia, Latvia

Dace Namsone

University of Latvia, Latvia

Abstract. *In the last two decades computer-based assessment has become an important part in support of teaching and learning. It is seen as a solution to implement assessment for learning in school and provide immediate feedback on students' performance in real-time. Research literature on computer-based assessment suggests that every measurement instrument developer before implementation of a test has to provide evidence that computer-based and paper-based versions are equivalent and provide consistent measures. There is a risk that properties of computer-based assessment including unfamiliarity with the system and proficiency level of digital skills can seriously affect students' performance. This paper focuses on computer-based diagnostic assessment system designed to support numeracy and literacy teaching and learning. The aim of this study is to confirm that literacy and numeracy learning measurement instruments elaborated in diagnostic assessment system provide consistent results as paper-based versions of both instruments. Data were collected administering four tests. Two of the assessments were computer-based literacy and numeracy diagnostic assessments and two were paper-based versions. By analyzing both versions of assessments using various statistical techniques we explore differences in students' performance. Our results showed that at this development phase of the computer-based diagnostic assessment system the students who completed computer-based test versions showed similar or better performance than their counterparts who completed paper-based versions.*

Keywords: *assessment, computer-based assessment, diagnostic, literacy, numeracy, paper-based assessment*

Introduction

In today's digital age, technologies are becoming more important in both everyday school lessons and assessment. A digital diagnostic tool was created that measures students' numeracy and literacy in different subjects. Digitized assessment has many advantages as well as several significant risks. There is no unequivocal answer in previous studies about in which test mode students demonstrate higher performance, or how significant is the difference (Gallagher, Bridgeman, & Cahalan, 2002, McDonald, 2002). The research question investigated in this study is whether literacy and numeracy learning measurement instruments elaborated in computer-based diagnostic assessment system provide consistent results as paper-based versions of both instruments.

Literature review

The main advantages of computer-based tests (CBT) are that they are location independent, they provide immediate grading, can offer dynamic and individualized assessment, and can also help students with disabilities (Way, Davis, Keng, & Strain-Seymour, 2015). CBT also have some limitations due to external factors such as system problems, loss of electricity or internet. There are also limitations in task design and there is a risk that test mode affects student performance (Smolinsky, Marx, Olafsson, & Ma, 2020; McClelland & Cuevas 2020; McDonald, 2002). It must be assured that they reflect on a student's content proficiency, not on computer proficiency (including typing versus handwriting), because it affects the construct being measured and the interpretation of the obtained results can be misleading (Puhan, Boughton, & Kim, 2007; Gallagher et al., 2002).

Bennett describes the three stages of technology-based assessment (TBA) development (Bennett, 1998; Bennett, 2015). First-generation TBA is mostly related to the development of an appropriate infrastructure which includes a huge investment in computer hardware. Equally essential in technology staff to install and troubleshoot testing software, and training teachers to administer and manage online exams, including on how to deal with technology failure. (Bennett, 2015; Drasgow, Luecht, & Bennett, 2006). The tests themselves at this level are simple and a very similar to paper-pencil tests. In this generation, adaptive tests are being developed, which means that students' answers influence next test items. Adaptive tests can be designed to improve both measurement quality and measurement efficiency (Weiss, 1982). In second generation CBT are used to measure key competences, like information literacy (Bennett, 1998; Bennett, 2015). The need to measure new constructs leads to a change in the design of items from traditional to more interactive. Second-generation tests include qualitative (but incremental) change and efficiency improvement become the driving goals (Bennett, 2015).

The third generation of TBA can be characterized by three key elements: (1) these assessments serve both institutional and individual-learning purposes, (2) they are designed from cognitive principles and theory-based domain models, and (3) the assessments use complex simulations and other interactive performance tasks. In the third generation, the differences between instruction and assessment becomes blurred as continuous assessment occurs throughout the learning process (McDonald, 2002). What was, at first, an evolution driven primarily by technology becomes driven by content (Bennett, 2015).

The long evolution of technology-based assessment has led to a wide range of item types. In addition to multiple-choice and essay type items, there are increasingly used sophisticated TBA solutions such as game-based assessment and simulation-based assessment. In research (Popp, Tuzinski, & Fetzer, 2015.) authors explore issues that test developer should consider choosing between three most common test formats: text, video, and animation. There are four areas to consider when developing new simulation in framework developed by them: (1) psychometric, (2) applied, (3) contextual and (4) logistical. Others (Parshall & Harmes, 2008) proposes that the following aspects be considered when introducing innovations: (1) assessment structure, (2) response action, (3) media inclusion, (4) interactivity, (5) complexity, (6) fidelity, and (7) scoring method. Each element relates to important decisions that test developers must make when designing innovative items and their associated interfaces Parshall & Harmes, 2008; Popp et al., 2015). In general, the most promising benefit to any type of innovation is the potential to improve the measurement of the underlying construct (Parshall & Harmes, 2008).

During this transitional stage when technology is becoming commonplace in schools, but state, districts and schools have not made a complete switch to computerized assessments, CBT and paper-based test (PPT) co-exist. Comparability in their assessment of student performance is crucial. To be able to say with certainty that a CBT really measures what it is intended to, an analysis is needed that compares the results to PBT (Smolinsky et al., 2020). This is essential for validating the diagnostic results and for creating further tests. Previous studies have been conducted to determine comparability between the test modalities and some indicate that CBT and PPT scores are comparable, while others indicate a performance advantage for either CBT or PPT (McClelland & Cuevas, 2020).

Has been identified (McDonald, 2002) two fundamental types of equivalence which need to be examined: (1) score equivalence and (2) eligibility to the underlying construct. Equivalence in scoring can be observed by an examination of central tendency and score distributions, showing that score of 100 on a PBT test may be equivalent to a score of 90 on an apparently identical CBT (McDonald, 2002). Unlike differences in scoring which can be resolved relatively easily, differences in the constructs being measured cannot be resolved by

statistical methods, although they can be identified by analyzing statistical parameters like Rank ordering of test takers, reliability coefficients and the factor structure of the tests (McDonald, 2002).

Statistical investigations of equivalence have largely ignored the fact that in presenting a test on computer, a qualitatively different testing experience is created (McDonald, 2002). For example, “Given that writing is a cognitively complex and socially situated activity, it is clearly impossible to achieve complete equivalence between the two conditions.” (Chan, Bax, & Weir, 2018). There is evidence that lower - performing individuals will be disadvantaged when carrying out computer-based assessment, in opposite of high-attaining students who performed better in CBT than PBT (Clariana & Wallace, 2002; Noyes, Garland & Robbins, 2004). These factors influencing the comparability of CBT and PBT are subject to constant and significant change as technology availability and usage patterns change. It is therefore particularly important to check the validity of CBT. When comparing CBT and PBT, it should not be forgotten that there are also physical differences between CBTs and PBTs, e.g. PBTs display all questions on a sheet, while CBTs often display questions one by one. CBT also has limited possibility to go back to previous questions or skip questions, while it can be done freely in PBTs (McDonald, 2002).

Computer-based diagnostic assessment system

First version of computer-based diagnostic assessment system which we test in this study was built in 2021 by Interdisciplinary Centre for Educational Innovation of University of Latvia and ‘Izglītības sistēmas’ owner of largest digital school management system ‘e-klase.lv’ in Latvia. The system is designed for diagnostic purposes to assess students’ literacy and numeracy learning in grade 4, 7 and 10.

In present form system is a technology-based, learning-centred and integrated assessment system consisting of four modules: (1) test editing module, (2) online test delivery module, (3) scoring module, (4) feedback module.

The tests can be ran by students using computers with equipped with an internet browser, keyboard, mouse and screen. To access test students need to login in system using their ‘e-klase.lv’ user login details. Each test can be administered by teachers who can choose the day and time when students have access to test and complete it. The system is designed for both automated and human scoring.

The items were written and saved in open source software GeoGebra applet and linked with system’s test editing and item delivery module using applet ID generated by GeoGebra. It means that students respond to items in GeoGebra environment elaborated in system. Thus, the focus of the present study is to examine does choice of GeoGebra environment for item delivery module have

any effect on students' performance and may affect assessment validity and reliability.

Research Methodology

Participants

In April 2022, PBT and CBT literacy and numeracy tests were completed in nine secondary schools in Latvia. To ensure representative study sample all schools for both study samples were selected based on schools' overall performance in previous year's (2021) national level assessment in grade 6th in Latvian language and mathematics. The sample of study to test equivalence of PBT and CBT *literacy* tests included 766 students from grade 7. 519 students from five secondary schools each completed diagnostic assessment consisting of three CBT tests examining literacy skills in literature, history and science contexts. The same tests in PBT version completed 247 7th grade students from four other schools.

The sample of study to test equivalence of PBT and CBT numeracy tests included 712 students from grade 7. 505 students from 5 secondary schools each completed three CBT tests examining numeracy skills in mathematics (2 tests) and science contexts. 236 7th grade students from four other schools completed the same tests in PBT version.

Procedure

At the beginning of CBT tests, students were provided with instructions about the use of the system and allowed to familiarize its functionality completing several training items. PBT tests took place in the schools' ICT labs using the available school infrastructure. Both PBT and CBT testing sessions were supervised by teachers. Teachers can choose how to administer tests, i.e., one test per day or all tests in one day. Two experts separately based on previously developed and evaluated marking scheme scored all students' responses on test items. If scores for student's response on item for both experts differed then they agreed on the score.

Instruments

Each of PBT and CBT tests were prepared to be completed in 45 minutes. However, if some of students cannot complete the test in time teacher allowed to complete it. Literacy knowledge and skill diagnostic assessment consisted of 45 items in total, i.e., literature test consisted of 22 items, history test included 15 items and science test – 8 items. Numeracy learning diagnostic assessment consisted of 37 items. First test of mathematics consisted of 13 and second test 17 items as well as science test of 7 items. Each test consisted of multiple-choice items and constructed response items.

Analysis

To examine research question we compared students' performance in CBT version items and in PBT version items. Figure 1 shows the same item in different modes. In our analysis we selected 11 items from which were 6 multiple-choice items and 5 constructed response items. Three of multiple-choice items were from literacy diagnostic assessment tests and three from numeracy assessment tests. Each item represented one test with particular context (literacy – history, literature, science; numeracy – mathematics: numbers, mathematics: ratios and relationships, science). Items were selected based on the number of students' responses. Items with higher number of responses were included in test sample. The similar approach was used to select constructed response items. However, in case of literacy only two items were selected, i.e., from history and science contexts.

The screenshot displays a web-based assessment interface. On the left, a sidebar titled "Darbs" (Work) shows the user's progress: "Darbs izpildes laiks" (Work completion time) is 09.02.2023, 19:32 - 20:15; "Uzdevumu skaits darbā:" (Number of tasks in work) is 9; "Izpildīti uzdevumi:" (Completed tasks) is 1 no 9; "Maksimālais laiks:" (Maximum time) is 43 minūtes; and "Atlikušais 41 minūtes" (Remaining 41 minutes). The main area shows "Uzdevums 2 no 9" (Task 2 of 9) with a "Iz" (Exit) button. The task instructions are: "Izlasi tekstu un izpildi uzdevumus!" (Read the text and solve the tasks!). The text describes Latvian forest tree species: "Lielāko daļu no Latvijas mešiem atņem sīkju koki. No tiem 34% mežu veido priežu, 18% – egļu. Pārējā platībā kļāta ar lapu koku mešiem, no kuriem visvairāk izplatītas bērzu audzes – 30%, kā arī apšu (7%) un melnalkšņu (3%) audzes. Neļūtas platības atņem baltalkšņu (7%) un pūrīgo lapu koku (1%) audzes. Meži bieži veido divus stāvus. Pirmo stāvu veido audzes augstākie koki, pie otrā stāva pieder tie koki, kuru augstums ir robežās no 50 % līdz 75 % no audzes vidējā augstuma. Tos kokus, kas nezarnie: 50 % no audzes vidējā augstuma, pieskaita pamešam. Pamešā aug tādi koki un krūmi, kas nekad nekļūs par kokiem – lazdas, pīlādži, krūķji un citi. Arī zemsegā parasti izdala divus stāvus – sīku krūmu un lakstaugu stāvu un sīku un jērgļu stāvu." (Most of Latvian forests are deciduous. Of them, 34% of forests are pine, 18% – spruce. In the remaining area, there are forests of broadleaved trees, of which the most widespread are beech stands – 30%, as well as ash (7%) and hornbeam (3%) stands. Coniferous areas are occupied by hornbeam (7%) and deciduous broadleaved trees (1%) stands. Forests often form two layers. The first layer consists of the tallest trees in the stand, and the second layer consists of trees whose height is in the range of 50% to 75% of the average height of the stand. Trees that do not grow: 50% of the average height of the stand, are counted as deadwood. Deadwood includes such trees and shrubs that will never become trees – hazels, hornbeams, and others. In the undergrowth, there are usually two layers – a layer of small shrubs and a layer of small and herbaceous plants). Source: <http://latvijas.daba.lv/>. The task asks: "Kokaugus pēc to lapu veida iedala divās grupās. Izmantojot tekstā doto informāciju, diagrammā pieraksti koku veidus, atbilstoši to izplatībai Latvijas mežos. (Identificētas krāsas teksta lodziņiem)." (Divide tree heights by leaf type into two groups. Using the information in the text, write in the diagram the tree types, corresponding to their distribution in Latvian forests. (Identified colors in the text boxes)). Below the text is a pie chart titled "Latvijas mežu sastāvs" (Composition of Latvian forests) showing a light grey section and a dark grey section. To the right is a diagram with two horizontal bars. The top bar has a light grey segment on the left and a white segment on the right with an input box. The bottom bar has a dark grey segment on the left and a white segment on the right with an input box. A large letter "A" is positioned at the bottom right of the diagram.

1. uzdevums.

Izlasi tekstu un izpildi uzdevumus!

Lielāko daļu no Latvijas mežiem aizņem skuju koki. No tiem 34% mežu veido priede, 18% – egle. Pārējā platība klāta ar lapu koku mežiem, no kuriem visvairāk izplatītas bērzu audzes – 30%, kā arī apšu (7%) un melnalkšņu (3%) audzes. Nelielas platības aizņem baltalkšņu (7%) un pārējo lapu koku (1%) audzes.

Meži bieži veido divus stāvus. Pirmo stāvu veido audzes augstākie koki, pie otrā stāva pieder tie koki, kuru augstums ir robežās no 50% līdz 75% no audzes vidējā augstuma. Tos kokus, kas nesasniedz 50% no audzes vidējā augstuma, pieskaita pamežam. Pamežā aug tādi koki un krūmi, kas nekad nekļūst par kokiem – lazdas, pīlādži, krūķji un citi. Arī zemsegā parasti izdala divus stāvus – sīku krūmi un lakstaugu stāvu un sīmu un ķērpju stāvu.

Izmantots <http://latvijas.daba.lv/>

1.1. uzdevums.

No teksta izraksti vienu skuju koka nosaukumu un divus lapu koku nosaukumus.

.....

.....

1.2. uzdevums.

Kokaugus pēc to lapu veida iedala divās grupās. Izmantojot tekstā doto informāciju, diagrammā pieraksti koku veidus, atbilstoši to izplatībai Latvijas mežos.

**B**

Figure 1 Example of literacy diagnostic assessment science test item (the same item for both versions: A – CBT version item, B – PBT version item) (created by authors)

To compare students' performance in CBT version and PBT version we align students' scores in PBT version constructed response items with CBT version of the same items. In CBT version, multiple-choice items as well as constructed response items were scored 0 or 1 where 1 were scored for constructed response items only when student responses were fully correct. At the same time in PBT version constructed response items were scored using marking scheme including other scores than 0 and 1. Thus, we rescored PBT version constructed items similarly as in CBT version.

Statistical analysis was performed for each assessment separately.

Research results

The equivalence between PBT and CBT versions developed for our diagnostic assessment system was confirmed by independent samples t-test. Table 1 illustrate the differences in students' performance in PBT and CBT versions of literacy diagnostic assessment. Foremost, we tested hypothesis stating that students' performance differs when they respond to multiple-choice items in PBT version and the same items in CBT version.

From Table 1, it can be seen that students' performance was significantly higher for PBT version only when they responded to multiple-choice item in

literature context. In other two contexts, there were no significant differences in students' performance between PBT and CBT version multiple-choice items.

Table 1 T-test results: students' performance in CBT and PBT versions of literacy diagnostic assessment items (created by authors)

	CBT		PBT		p
	M	SD	M	SD	
MC L Item	0,19	0,39	0,30	0,46	0,001**
MC S Item	0,60	0,49	0,66	0,47	0,204
MC H Item	0,74	0,44	0,75	0,44	0,897
CR H Item	0,54	0,50	0,38	0,49	0,001**
CR S Item	0,17	0,38	0,18	0,39	0,767

Note: **significant at level $p < 0,05$. Type of item – MC: multiple-choice item, CR: constructed response item; Context of test – L: literature, S: science, H: history.

For numeracy, assessment students' performance is higher only for multiple-choice item from PBT version of mathematics test on ratios and relationships context (see Table 2). Students who completed PBT version of item show higher performance than students who responded the same item in CBT version. Furthermore, results show that students' performance who completed CBT versions of multiple-choice items from other two tests are similar to those who completed PBT version or higher (science).

Table 2 T-test results: students' performance in CBT and PBT versions of numeracy diagnostic assessment items (created by authors)

	CBT		PBT		p
	M	SD	M	SD	
MC S Item	0,17	0,38	0,08	0,28	0,008**
MC MT1 Item	0,92	0,27	0,91	0,28	0,656
MC MT2 Item	0,59	0,49	0,73	0,44	0,004**
CR S Item	0,57	0,49	0,65	0,48	0,109
CR MT1 Item	0,04	0,19	0,12	0,33	0,011**
CR MT2 Item	0,14	0,35	0,12	0,32	0,632

Note: **significant at level $p < 0,05$. Type of item – MC: multiple-choice item, CR: constructed response item; Context of test – MT1: mathematics/numbers, MT2: mathematics/ratios and relationships S: science.

Next, we tested the effect of test version on student performance same in case of constructed response items. Table 1 reveal that students who completed literacy diagnostic assessment in CBT version show higher or similar performance for constructed response items than students who completed the same items in PBT version. For numeracy diagnostic assessment only in mathematics test on numbers context constructed response item were answered more correctly in PBT version than CBT version. At the same time students'

performance were similar for PBT and CBT versions for constructed response items in both other tests.

Conclusions

Development of computer-based assessment is important to support learning and teaching and provide immediate feedback on students' performance in real-time. However, there is still a question does CBT version of assessment can provide consistent evidence with PBT version of assessment. This study focused on computer-based assessment system developed by Interdisciplinary Centre for Educational Innovation of University of Latvia and 'Izglītības sistēmas' to test students learning of literacy and numeracy knowledge and skills. In this study, we examined and compared CBT and PBT versions of diagnostic assessment of both skills. The results of our study will be applied in further improvement of system. Our study revealed that in most cases CBT versions of multiple-choice items and constructed response items provide similar results as PBT versions. Moreover, this pattern did not differ between literacy and numeracy diagnostic assessments. In some cases, CBT versions of items were responded better than the same PBT versions. However, the study also showed that some items should be purified in CBT version to provide more consistent results with PBT version. Thus, we can confirm that GeoGebra environment elaborated in item delivery module have little negative effect on students' performance and in some cases can even help to get better results.

Finally, we can conclude that existing CBT versions of both diagnostic assessments can be used as example for development of similar diagnostic instruments to measure literacy and numeracy skills in other grades in future.

Acknowledgements

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**LASĪTPRASMES MŪSDIENU AKTUALITĀTE:
ATTĪSTĪŠANAS ŠĶĒRŠĻI UN IEGUVUMI MĀCĪBU
PROCESĀ PAMATSKOLĀ NO 7. LĪDZ 9. KLASEI**
*The Contemporary Relevance, Barriers and Benefits of the
Development of Reading Interest in Lower Secondary Education*

Agnese Laškova

Liepaja University, Latvia

Maija Ročāne

Liepaja University, Latvia

Abstract: Nowadays the importance of reading is increasing, emphasised and valued not only in the field of education, but also in the context of the development of the knowledge society. If an individual is not able to understand the meaning of a text, he is not able to analyse, critically evaluate and verify the information and facts it contains as well as to formulate own opinion. This also undermines the growth of society, because in the 21st century forming one's own opinion is a prerequisite and a cornerstone for the existence of a democratic society. It must be admitted that students' interest in reading in Latvia is decreasing rapidly: only 13% of respondents aged 15-18 read a book every day or every other day. Therefore it is important not only to put emphasis on developing reading skills, but also to promote students' interest in reading and individual reading behaviour. The aim of this publication is to describe the possibilities of promoting reading in lower secondary school as well as the theoretical and empirical aspects of students' individual interest in reading.

Keywords: interest in reading, reading, reading behaviour, reading skills, students.

Ievads

Introduction

Lasīšana attīsta iztēli un radošumu, pilnveido komunikācijas prasmes un koncentrēšanās spējas. 21. gadsimts ir arī viltus ziņu laikmets, līdz ar to sabiedrībā aizvien vairāk tiek akcentēta un novērtēta lasītprasmes nozīme, jo lasītprasme ir cieši saistīta ar medijpratību – informācijas iegūšanu, saprašanu, analizēšanu un izvērtēšanu (Klētnieks, 2021).

Ir svarīgi, lai indivīds spētu ne tikai izlasīt informāciju, bet arī kritiski izvērtēt tajā iekļauto saturu. Svarīgs lasītprasmes priekšnoteikums ir skolēnu individuālās intereses veicināšana par lasīšanu. Mērķus, kādēļ cilvēks izvēlas lasīt konkrētu tekstu, var klasificēt šādās grupās: akadēmiskie mērķi lasīšanā (angļu: *academic purposes*) un rekreatīvie mērķi lasīšanā (angļu: *recreational purposes*) (Buzetto-

More et al., 2007). Akadēmisko mērķu lasīšanā īstenošana balstās nepieciešamībā iegūt kādas konkrētas zināšanas, piemēram, skolā vai arī universitātē, taču viennozīmīgi akadēmiskos mērķus var asociēt arī ar prieka un gandarījuma gūšanu atkarībā no lasītāja attieksmes. Teksti akadēmisko mērķu sasniegšanai lasīšanā var būt gan paša lasītāja izvēle, gan arī obligāts uzdevums kāda uzdevuma izpildei. Taču var uzskatīt arī, ka akadēmisko mērķu izvirzīšanas rezultātā sasniegtais rezultāts visbiežāk tiek arī ārēji kontrolēts (referāti, pārbaudes darbi u.c.), piemēram, no skolotāja puses. Savukārt rekreatīvo mērķu lasīšanā sasniegšana lielā mērā ir paša cilvēka izvēle, visbiežāk, lai atpūstos un gūtu gandarījumu, kā arī iegūtu jaunas zināšanas. Tādējādi var uzskatīt, ka kontroles aspekts ir vairāk asociējams ar akadēmiskajiem mērķiem lasīšanā, savukārt brīvā izvēle ar rekreatīvajiem mērķiem lasīšanā, kas visbiežāk ir *neobligāta*, paša lasītāja vadīta aktivitāte, ko parasti veic brīvajā laikā (McKenna et al., 2012). Publikācijas autoru profesionālā darba pieredze un novērojumi liecina, ka vairumā gadījumos skolēni lasa tikai gadījumos, kad kāds teksts viņiem ir jālasa obligāti un diemžēl tikai ļoti nelielam skolēnu skaitam lasīšana ir viņu izvēle, kuras rezultāts ir prieka un gandarījuma gūšana pašam lasītājam. Pētījums “*Bērni lasa mazāk nekā jebkad agrāk*” (Ferguson, 2020) par skolēnu lasītprasmi atklāj, ka tikai 26% jaunieši vecumā līdz 18 gadiem katru dienu pavada kādu laiku posmu lasot. Pētījums atklāj, ka aizvien mazāk bērnu lasa, un šis rādītājs samazinās, bērnam augot. 5 līdz 8 gadus veci bērni ar gandarījumu lasa divas reizes vairāk nekā 14 līdz 16 gadus veci jaunieši.

Savukārt Latvijas Kultūras akadēmijas Zinātniskās pētniecības centra “Pētījums par Latvijas iedzīvotāju grāmatu lasīšanas paradumiem” atklāj, ka tikai 13% respondentu vecumā no 15 līdz 18 gadiem lasa grāmatu katru dienu vai katru otro dienu (Latvijas Kultūras akadēmijas Zinātniskās pētniecības centrs, 2018).

Publikācijas mērķis ir apkopot teorētiskās atziņas, aktualizējot pētījumus par skolēnu lasītprasmes pilnveidošanas aspektiem 21. gadsimtā, fokusējoties uz interesi kā būtisku faktoru lasīšanas sekmēšanā, kā arī veikt skolēnu intereses par lasīšanu empīrisko izpēti. Pētījumā izmantotās metodes: pedagoģiskās un psiholoģiskās literatūras analīze, lai apkopotu teorētiskās atziņas, kā arī empīriskās izpētes metodes: skolēnu aptaujas, kvantitatīvās datu apstrādes un analīzes metodes (datu grafiska attēlošana, datu analīze, izmantojot IBM 81 SPSS v.22. prognozējošās analītikas un statistiskās analīzes programmatūras pakotni).

Intereses par lasīšanu un lasīšanas paradumu veidošanās teorētiskie aspekti *Theoretical aspects of the development of interest in reading and reading behaviour*

Publikācijas autores rakstā aktualizē skolēnu intereses par lasīšanu teorētiskos un empīriskos aspektus tieši 7.-9. klasē, jo šajā vecumposmā interese par lasīšanu samazinās. Arī OECD PISA 2015 un IEA PIRLS 2016 pētījumu

rezultātu salīdzinājums atklāj ievērojamas atšķirības Latvijas vispārizglītojošo skolu pirmā sākumizglītības posma un 5.-9. klašu skolēnu vidējos sasniegumos lasītprasme. Secināts, ka 5.–9. klasē notiek straujš intereses par lasīšanu kritums (Geske & Grīnfelds u.c., 2020). Savukārt vecumposms no 14. līdz 16. gadiem ir laiks, kad jaunijs atrodas starpposmā starp bērnu un pieaugušo. Šajā vecumposmā mācīšanās motivāciju veicina gan vēlme izpētīt savas personīgās spējas, gan arī sāncensība (Šteinberga, 2013). Lasīšana ir daļa no mācību procesa, tādēļ svarīgi ir veicināt jauniešu motivāciju lasīt, kā arī sekmēt viņu interesi par lasīšanu.

Lasīšana ietver cilvēka afektīvās, kognitīvās un uzvedības tendences attiecībā uz objektu, notikumu vai uzdevumiem, kas saistīti ar lasīšanu (Hidi et al., 2004). Lai veicinātu skolēnu lasītprasmi, svarīgs priekšnoteikums ir viņus ieinteresēt lasīt vispār. Lasīšanas interese ir daudzdimensionāla. To raksturo – sajūtas (piemēram, gandarījums, dažādas emocionālās reakcijas, sajūta, ka esi “uz viļņa”); izziņas iespējas lasot (vērtības, autonomija, kompetence, pārliecība, piederības izjūta u.c.); uzvedības faktors (uzmanība, izpēte, pieredze) (Putro, Lee, 2017). Lasīšanas interese ikvienam izpaužas atšķirīgi, piemēram, kāds var izjust prieku un aizrautību, bet kāds cits lasot var iegūt mieru un emociju pašregulāciju (McKenna et al., 2012).

Svarīgi ir skolēnu iesaistīt savu mērķu izvirzīšanā saistībā ar lasīšanu. Čehlova (2002) norāda, ka pedagoģiski pareizi organizēta mērķa izvirzīšana ietekmē skolēna pašvadītas mācīšanās sekmīgu norisi. Savukārt Rune (2003) uzsver nepieciešamību ievērot pašizpaušmes un radošo aspektu tekstu izvēlē, jo būtiski ir “attīstīt skolēnu prasmi sevi izteikt intelektuāli un emocionāli – domas, pārdzīvojumi, pieredze, iztēlotais. Tādējādi skolēni apgūst savas vērtību sistēmas veidošanās prasmi” (Rune, 2003, 198).

Skolēna intereses pamatā nozīmīgs var būt arī skolotāja un vienaudžu atbalsts. Ir svarīgi, ka, aktualizējot interesi par kaut ko, skolēni dalās ar saviem vienaudžiem, kas var būt ievērojams motivācijas avots. Taču, sadarbībā ar citiem, skolēnam ir arī jāapzinās savas vērtības, interese un jāizvirza sev nozīmīgi mērķi (Ročāne, 2019).

Skolēnu intereses par lasīšanu veicināšanā nozīmīgi ir dažādi, tai skaitā skolas organizēti pasākumi. Piemēram, zibakcija "*Lasīt ir stilīgi*" Latvijas skolās. Skolēnus lielā mērā motivē arī izaicinājuma faktors, kad viņi tiek motivēti izlasīt pēc iespējas vairāk un noteiktā laika posmā (Mujib & Setyawan, 2022). Skolēnu interesi par lasīšanu var veicināt arī "*lasīšanas stūrīša*" izveide klasē (Wijaya, Zulela, & Edwita, 2022). Nozīmīgs un aktuāls izaicinājums skolām ir priekšnoteikumu apzināšanās lasīšanas kā skolēna ikdienas ieraduma veicināšanai, jo sistemātiski atkārtojot darbības, tiek nostiprināti paradumi. Īpaši nozīmīgs paradumu veidošanās posms ir agra bērnība (Špona, 2001), tādējādi aktuāla kļūst arī vecāku iesaistīšanās skolēnu intereses par lasīšanu veicināšanai, piemēram, regulāri lasot bērniem priekšā, jo lasīšanas paradumu (angļu: *reading*

behaviour) sekmēšanai ir nepieciešama sistemātiska atkārtošana. Vecāki ir tie, kas var savos bērnos veicināt interesi par lasīšanu, ieradumu apmeklēt grāmatu veikalus un bibliotēkas. Ja paši vecāki nemitīgi skatās televīziju, lūkojas viedtālruņos, tad arī bērns šo ieradumu pārņems. Tātad vecākiem jārada piemērs (Lazdiņa, 2019).

Taču lasīšanas paradumu veicināšanai aktuāla kļūst arī tādas vides radīšana, kurā lasīšana ir bērna brīva izvēle, nevis uzspiesta darbība. Šādu vidi sekmē pieejamais grāmatu klāsts, kā arī pieaugušie, kas rāda priekšzīmi bērnam, un arī cieņa pret citiem lasītājiem un viņu interesēm tekstu izvēlē sekmēšana (Pieper, 2017).

Skolēnu intereses par lasīšanu veicināšanā svarīga loma ir skolas bibliotēkām, kuras sagatavo un piedāvā skolēnu vecumam atbilstošu lasāmvielu (Rune, 2003). Azhari & Ramadan (2022) uzskata, ka bibliotēkas ir nenovērtēts resurss skolēnu intereses par lasīšanu veicināšanā. Tiek izvirzīts jautājums, kā sekmēt bibliotēkas apmeklēšanas regularitāti, jo, regulāri apmeklējot bibliotēku, skolēns vairāk pievēršas lasīšanai.

21. gadsimts tiek saukts arī par digitālo gadsimtu, kad jaunieši labprātāk laiku pavada lūkojoties savu viedtālruņu ekrānos. Tādēļ skolai un skolas bibliotēkai ir jāspēj pielāgoties, piedāvājot skolēniem iespēju lasīt elektroniskās grāmatas. Tas ir viens no veidiem, kā saglabāt un pat, iespējams, veicināt skolēnu interesi par lasīšanu (Dwipayana, 2021). Grāmatas digitālā formātā izceļas ar savu ērtumu un ātrumu, kā pie tām tikt (Buhanovska, 2021).

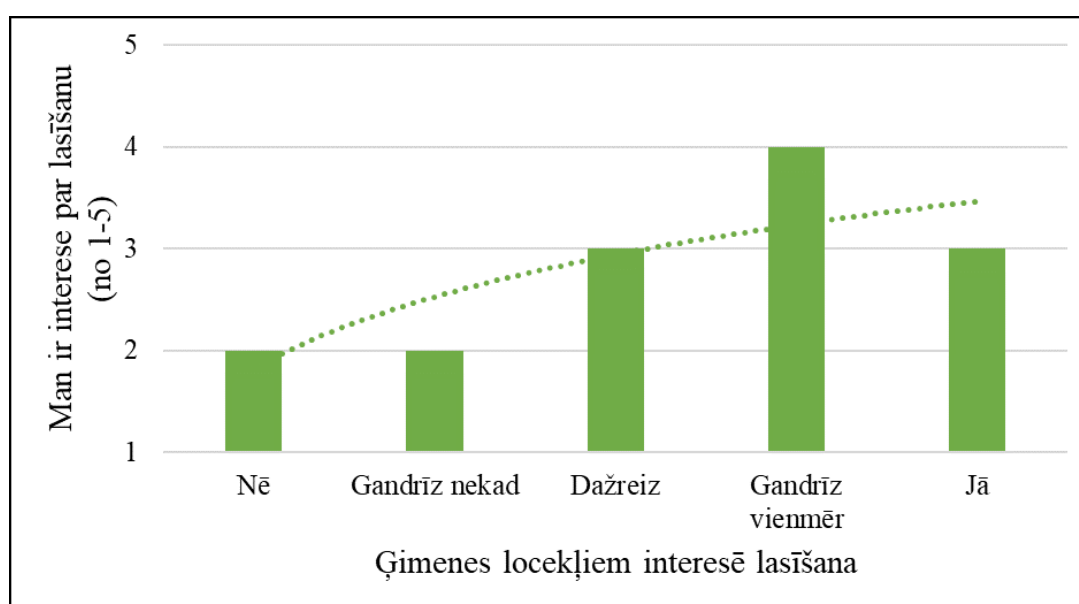
Skolēnu intereses par lasīšanu empīriskā izpēte ***Empirical research on students' interest in reading***

Pētījumā tika izvēlēta datu ieguves metode - aptauja, jo „aptaujas specifiska pazīme ir iespēja rakstiski uzdot arī lielāku skaitu jautājumu un saņemt atbildes no lielāka skaita pētāmo” (Kamerāde, Mārtinsons, & Pipere, 2016, 215). Aptaujas datu pamatotībai tika īstenota datu statistiskā apstrāde ar prognozējošās analītikas un statistiskās analīzes programmatūras pakotni (IBM 81 SPSS v.22). Aptauja norisinājās pētījuma bāzes skolā no 2022.gada 1.decembra līdz 2023.gada 7.janvārim ar mērķi veikt skolēnu intereses par lasīšanu empīrisko izpēti, kā arī noskaidrot priekšnoteikumus intereses par lasīšanu sekmēšanai, kā arī analizēt iespējamus šķēršļus lasītprasmes attīstīšanai. Kopumā uz aptaujas jautājumiem atbildēja 109 respondenti-skolēni no 7. līdz 9. klasei. No tiem 46,7 % bija respondenti-zēni un 53,3 % - respondentes-meitenes.

Tikai 37 (33,9%) no visiem respondentiem atzīmēja, ka lasa grāmatas ikdienā. Savukārt Manna Vitnija tests norāda, ka sieviešu dzimuma respondentiem nedaudz vairāk patīk lasīt grāmatas (no 1 līdz 5; Mediāna 3; IQR 1.25) nekā vīriešu dzimuma respondentiem (Mediāna 2; IQR 2; $p=0.022$). Ir

jāatzīst, ka tikai nedaudz vairāk par vienu trešo daļu respondentu ikdienā lasa grāmatas, kas liecina par nepieciešamību intereses par lasīšanu sekmēšanai.

Pieper (2017), Lazdiņa (2019), Špona (2001) akcentē audzināšanas procesa nozīmīgumu ģimenē un vecāku ietekmi uz bērnu paradumu sekmēšanu, tādējādi arī lasīšanas paradumu sekmēšanu. Novērtējot apgalvojumu par lasīšanas interesi ģimenē, mērķis bija noskaidrot, vai tas ietekmē paša interesi par lasīšanu, un, veicot Spīrmena rangu korelāciju, tika atklāts, ka piekrišana apgalvojumam, ka ģimenes locekļiem interesē lasīšana, statistiski ticami pozitīvi korelē ar piekrišanu apgalvojumam, ka pašam respondentam interesē lasīšana ($\rho=0.276$; $p=0.004$). Tātad viens no ārējiem faktoriem, kas var ietekmēt skolēnu interesi par lasīšanu, ir ģimenes piemērs (sk. 1.att.).

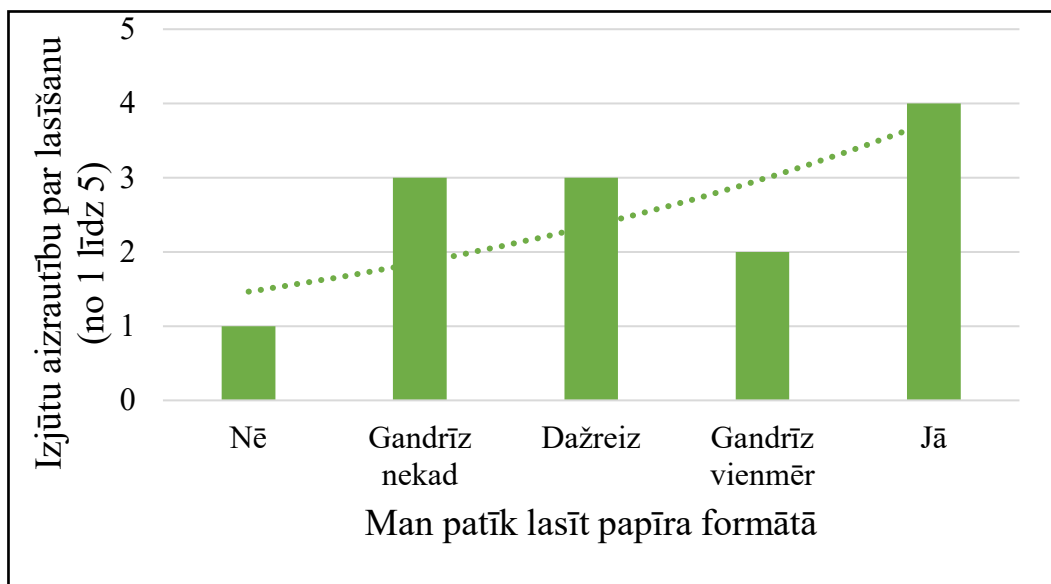


1.attēls. Skolēna intereses par lasīšanu korelācija ar ģimenes interesi par lasīšanu (N=109)
(autoru veidots)

Figure 1 Correlation of student interest in reading with family interest in reading (N=109) (made by authors)

Skolēniem tika uzdots jautājums, vai ir bijusi situācija, kad viņi grib lasīt, bet nav piemērotas lasāmvielas. Manna Vitnija U tests norāda, ka respondenti, kuri saskaras ar šādu situāciju, vairāk piekrīt apgalvojumam, ka jūt aizrautību pret lasīšanu (Mediāna 3; IQR 2) nekā respondenti, kuri ar šādu situāciju nesaskaras (Mediāna 2; IQR 2; $p=0.001$). Tādējādi tiek aktualizēta teorētisko izziņas avotu izpētē gūtā atziņa par skolu bibliotēku nozīmīgumu (Rune, 2003; Azhari & Ramadan, 2022).

Kaut arī mūsdienās aizvien vairāk piedāvājumā parādās elektroniskās grāmatas, veicot Spīrmena rangu korelāciju tika atklāts, ka patika lasīt papīra formātā statistiski ticami pozitīvi korelē ar piekrišanu apgalvojumam, ka respondents izjūt aizrautību un interesi par lasīšanu ($\rho=0.509$; $p<0.001$).

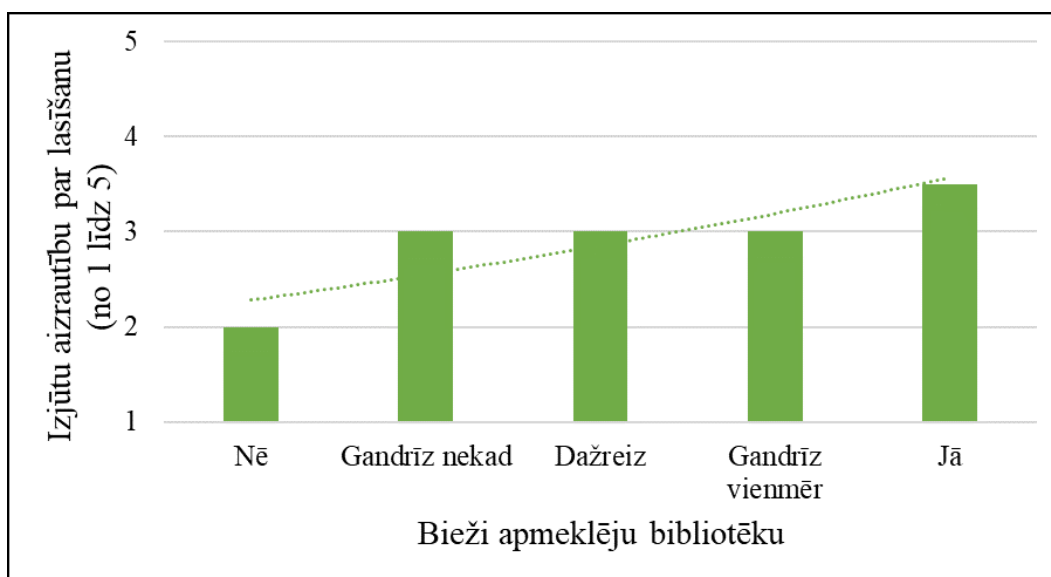


2.attēls. Aizrautības un intereses izjušanas par lasīšanu korelācija ar patīku lasīt grāmatas papīra formātā (N=109) (autoru veidots)

Figure 2 Correlation of excitement and interest in reading with enjoyment to read paper books (N=109) (made by authors)

Šāda korelācija nav novērojama respondentiem, kuriem patīk lasīt elektroniskā formātā ($p=0.413$). Tas liek secināt, ka skolēni, kam ir interese par lasīšanu, vairāk tomēr izvēlēsies grāmatas papīra formātā (sk. 2. att.).

Savukārt, veicot Spīrmena rangu korelāciju, tika atklāts, ka bieži bibliotēkas apmeklējumi statistiski ticami pozitīvi korelē ar piekrišanu apgalvojumam, ka respondents izjūt interesi un aizrautību par lasīšanu ($\rho=0.381$; $p<0.001$) (sk. 3. att.).



3.attēls. Aizrautības un intereses par lasīšanu izjušanas korelācija ar bibliotēkas apmeklējumu (N=109) (autoru veidots)

Figure 3 Correlation of excitement and interest in reading with library attendance (N=109) (made by authors)

Uz atvērto jautājumu, kur tiek iegūtas grāmatas lasīšanai, visvairāk respondentu (41%) norādīja bibliotēku. Citas respondentu atbildes bija: *Iegādājos grāmatu, lai ir ko lasīt; Atrodu citu nodarbi vai atveru internetu un atrodu kaut kur ko lasīt; Pajautāju draugiem, lai iesaka man grāmatas; Meklēju grāmatu elektroniski; Mēģinu skatīties dažādas filmas, kas balstītas uz grāmatu motīviem; Izmantoju telefonu; Neko, eju lauka; Tad nelasu; Diemžēl padodos un beigās nelasu vispār* u.c. Tādējādi pētījuma autores vēlas aktualizēt bibliotēkas kā lasīšanu veicinošas vides nepieciešamību.

Secinājumi Conclusions

Mērķus lasīšanā var klasificēt kā akadēmiskos mērķus un rekreatīvos mērķus. Kontroles aspekts (visbiežāk kāda cita (ne paša skolēna) izvēlēti/ieteikti teksti) ir vairāk asociējams ar akadēmiskajiem mērķiem lasīšanā, savukārt brīvā izvēle ar rekreatīvajiem mērķiem lasīšanā, kas ir neobligāta, paša lasītāja vadīta aktivitāte, ko parasti veic brīvajā laikā ar mērķi gūt gandarījumu. Diemžēl mūsdienās interese par lasīšanu mazinās un skolēnu, kuri paši izvēlas brīvajā laikā lasīt, skaits mazinās.

Lasīšanas interese ir daudzdimensionāla. To raksturo gandarījums, dažādas emocionālās reakcijas, individuālās mācīšanās vajadzībās balstītas izziņas iespējas lasot, ietverot vērtības, autonomiju, kompetenci, pārliecību u.c. Lasīšanas interese ikvienam izpaužas atšķirīgi, piemēram, kāds var izjust prieku un aizrautību, bet kāds cits lasot var iegūt mieru un sekmēt emociju pašregulāciju.

Lasīšanas paradumu veicināšanai aktuāla kļūst arī tādas vides radīšana, kurā lasīšana ir bērna brīva izvēle, nevis uzspiesta darbība. Šādu vidi sekmē pieejamais grāmatu klāsts. Arī empīrisko izziņas avotu analīze atklāj, ka respondenti, kuri saskaras ar situāciju, kad ir vēlme lasīt, bet nav grāmatu, vairāk piekrīt apgalvojumam, ka jūt aizrautību pret lasīšanu, nekā respondenti, kuri ar šādu situāciju nesaskaras. Tādējādi tiek aktualizēta teorētisko izziņas avotu izpētē gūtā atziņa par skolu bibliotēku nozīmīgumu. Arī veicot Spīrmana Ro korelāciju, tika atklāts, ka bieži bibliotēkas apmeklējumi statistiski ticami pozitīvi korelē ar piekrišanu apgalvojumam, ka respondents izjūt aizrautību par lasīšanu.

Gan teorētisko, gan empīrisko datu analīze atklāj, ka bērnu lasīšanas paradumu veicināšanu lielā mērā sekmē ģimene, jo respondentu piekrišana apgalvojumam, ka ģimenes locekļiem interesē lasīšana, statistiski ticami pozitīvi korelē ar piekrišanu apgalvojumam, ka pašam respondentam interesē lasīšana. Vecāki ir tie, kas var savos bērnos veicināt interesi par lasīšanu, piemēram, jau no mazotnes lasot bērniem grāmatas un attīstot ieradumu apmeklēt grāmatu veikalus un bibliotēkas. Taču, ja paši vecāki nemitīgi skatās televīziju, lūkojas viedtālruņos, tad, iespējams, arī bērns šo ieradumu pārņems.

Empīriskajā izpētē neapstiprinājās teorētisko izziņas avotu analīzē izvirzītais pieņēmums, ka digitālās grāmatas varētu sekmēt skolēnu interesi par lasīšanu. Veicot Spīrmana Ro korelāciju tika atklāts, ka patika lasīt papīra formātā statistiski ticami pozitīvi korelē ar piekrišanu apgalvojumam, ka respondents izjūt aizrautību par lasīšanu. Šāda korelācija nav novērojama respondentiem, kuriem patīk lasīt elektroniskā formātā.

Summary

Today, education is facing different challenges as students prefer to spend their time on their mobile phones and computers. This in turn affects the level of literacy of students. Various studies around the world on students' behaviour and interest show the decline in students' interest in reading, which is occurring especially between the ages of 14 and 16. Reading purpose can be classified as academic purpose and recreational purpose of reading. The control aspect can be more associated with academic reading purpose, while free choice is associated with recreational reading purpose, which include optional, self-directed activities, usually done in leisure time in order to enjoy the process. Unfortunately, interest in reading is declining and the number of students who choose to read in their free time for enjoyment is declining. Reading interest is multidimensional. It can be characterised by satisfaction, different emotional reactions, individual learning needs, including values, autonomy, competence, confidence, etc. The interest in reading is expressed differently for everyone, for example, someone may experience joy and excitement, while another may gain peace and self-regulation of emotions through reading. Creating an environment, in which reading is a free choice rather than a forced activity, is also becoming an issue for promoting reading habits. The range of books available contributes to such an environment. The analysis of empirical data also reveals that respondents who have faced a situation when they would like to read, but do not have a book they would like to read, are more likely to agree with the statement that they feel passionate about reading than the respondents who have not faced such a situation. This highlights the theoretical insights gained within the research on the importance of school libraries. Also, the Spearman's rank correlation revealed that frequent library visits statistically significantly positively correlate with agreement with the statement that the respondent feels enthusiastic about reading.

Analysis of both theoretical and empirical data reveals that the family is a major contributor to children's reading habits, as respondents' agreement with the statement that family members are interested in reading statistically significantly positively correlates with agreement that the respondent is interested in reading. Therefore, parents are the ones who can foster their children interest in reading as well.

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MEDIATION AS A SKILL IN FOREIGN LANGUAGE CLASSES IN SECONDARY EDUCATION

Ingrida Eglė Žindžiuvienė
Vytautas Magnus University, Lithuania

Abstract. *Although the importance of mediation tasks was introduced in Common European Framework of Reference for Languages: Learning, teaching, assessment (CEFR) in 2001, the development of mediation skills was finally legitimized in the recent edition of CEFR (Council of Europe, 2020). However, the development of this “fifth” language skill during the language classes remains a problematic issue: contrary to the other four language skills (reading, writing, speaking and listening), teachers often face the dilemma of how and when to introduce mediation activities and to what extent mediation should be applied in the process of foreign language teaching and learning. The aim of the research is to survey language teaching policies in Lithuania, Latvia and other EU countries from the aspect of the development of mediation skills in language classes in secondary education. Teaching programs of the English language in senior classes of the secondary school are surveyed from the aspect of mediation skills as defined in the newest edition of CEFR. The research results show that mediation activities are still not adequately included in foreign language classes: first of all, language syllabuses must be adjusted to the revised edition of CEFR. The research has proved the necessity of mediation skills to be included in the secondary education programs of foreign languages. Therefore, the selection of textbooks used in senior classes of foreign languages in secondary education must follow the recommendations outlined in CEFR, where the development of mediation skills is especially emphasized due to the present needs. It has been determined that mediation activities can develop students’ multilingual and plurilingual skills and raise students’ awareness of the peculiarities of both the native language and the foreign one.*

Keywords: *language interaction; language teaching programs; mediation; multilingual and plurilingual skills; secondary education.*

Introduction

The research into mediation as a skill to be developed in foreign language classroom has been inspired by a new emphasis on mediation in the updated edition (Council of Europe, 2020) of *Common European Framework of Reference for Languages: Learning, teaching, assessment (CEFR)*. The set guidelines determine a significant role of mediation activities in foreign language classrooms. A variety of suggested activities concerns the problems related to transfer of oral/written message and its meaning from one language/culture to another. Translation and/or interpretation belong to a variety

of mediation practices. With on-going market demands and increasing needs for translators/interpreters, major problems appeared in many European countries: despite the declared focus on the development of socio-cultural competence, many documents regulating secondary education still disregard the importance of mediation in foreign language classes. Most national documents regulating teaching and learning of foreign languages (for example, *General Curriculum for General Education School in Lithuania and General Education Standards for Grades XI-XII: The Syllabus for Foreign Languages* (Nacionalinė švietimo agentūra, 2011) (further referred to as “GC”) of English as a foreign language (further “EFL”)) were prepared in accordance with the previous edition (Council of Europe, 2001) of *Common European Framework of Reference for Languages: Learning, teaching, assessment* (further “CEFR”). As the curriculum of Lithuanian schools for teaching languages suggests, “the main competence to be developed is the communicative one” (Nacionalinė švietimo agentūra, 2011, 84; here and further the author’s translation from Lithuanian). Following the national document, the communicative language competence “consists of other three competences: linguistic, sociolinguistic and pragmatic,” (Nacionalinė švietimo agentūra, 2011, 84) activated in the performance of the various language activities, as defined in *CEFR* - reception, production, interaction or mediation (in particular interpreting or translating)” (Council of Europe, 2001, 14). The document *Languages in Secondary Education: An Overview of National Tests in Europe – 2014/15* (European Commission, 2015) provides significant results of foreign language assessment methods and techniques in many EU countries. Apart from statistics of foreign language testing, this document demonstrates the fact that the on-going testing usually involves only the usual four main language skills (reading, writing, speaking and listening). The latter situation also explains the rising need for renewed detailed research into mediation practice in secondary education.

At present, discrepancy between the national curriculum and the new directions set in the recent edition of *CEFR* (Council of Europe, 2020) can be noticed. Moreover, the updated European guidelines for teaching and learning languages open the gaps between the on-going teaching process and market needs. The latter aspect leads to the problem of this research: in many cases, the rigid systems of national education programs need to be adjusted to the updated European guidelines. During the process of learning foreign languages students acquire knowledge about the world, other cultures, share information and cultural values and develop as personalities. However, very often the teaching aims (especially, during the last two years of secondary education) are mostly directed towards *The State Examination of English*, without much reference to the market needs. Such situation can be noticed in Lithuania, Latvia, and Poland, although in the case of the latter country, definite progress in this aspect has been noticed in the period of the last decade (Kemere & Samuseviča, 2013;

Žindžiuvienė & Slauzys, 2015). In many EU countries, teaching/learning activities during the last two years of secondary education become the replica of examination tasks; however, significant communicative activities, which build up the overall language competence, are disregarded (Nacionalinė švietimo agentūra, 2022). One of these, very often dismissed as supplementary or secondary, activities happen to be mediation: mediation activities are either seldom organized in EFL classes or are not clearly defined and outlined in the language syllabus.

The aim of the research is to examine the suggested range of mediation activities in the updated edition of *CEFR* (Council of Europe, 2020) and to determine the scope of mediation activities in EFL classes (Grades 11-12) in Lithuanian secondary schools. The following research objectives were set: (1) To analyze the description of mediation practices as outlined in *General Curriculum for General Education School in Lithuania and General Education Standards for Grades XI-XII: the Syllabus for Foreign Language* (Nacionalinė švietimo agentūra, 2011); (2) To define and discuss the meaning of mediation activities as described in the updated edition of *Common European Framework of Reference for Languages: Learning, teaching, assessment* (Council of Europe, 2020); (3) To compare description of mediation in both editions of *CEFR* (Council of Europe, 2001, and Council of Europe, 2020); (4) To examine the use of mediation activities in EFL classes (Grades 11-12) in Lithuanian secondary schools; (5) To suggest recommendations for possible mediation activities in EFL classes.

The research was carried out in order to reveal the types and frequency of teaching/learning mediation in EFL classes in Lithuanian secondary schools. First, the theoretical fundamentals of teaching mediation will be analyzed and descriptive research into the updated edition of *CEFR* will be carried out by outlining major changes of the role of mediation in the process of teaching and learning languages; then, qualitative and quantitative research into mediation practices at Lithuanian secondary schools will be discussed. Presentation, explanation, description and use of mediation activities in foreign language classes in Lithuanian secondary schools will be surveyed.

Description of Mediation in National and EU Documents and Sources

The importance of foreign language learning and teaching has increased largely: languages have been understood as a means of communication between different countries, cultures and people. According to *General Curriculum for General Education School in Lithuania and General Education Standards for Grades XI-XII: the Syllabus for Foreign Language* (Nacionalinė švietimo agentūra, 2011), the knowledge of foreign languages develop students as personalities, helps them to communicate with the world, to know other cultures,

to share information and social-cultural values with other nations, to build up linguistic competence and to form a general culture of language (Nacionalinė švietimo agentūra, 2011, 84). Foreign language studies widen student's knowledge about diverse cultures and help them develop as personalities: foreign language studies help to represent culture, build up one's knowledge of different lifestyles, ways of thinking and feelings, which will help to overcome self-absorption and ethnocentrism (Nacionalinė švietimo agentūra, 2011, 85). The knowledge of other cultures and comparison with the native one allows the development of cultural awareness. Nowadays, the world market requires independent, versatile and creative people; thus, when people choose a professional career, foreign language skills become a significant factor that may determine or influence their choice.

General Curriculum for General Education School in Lithuania and General Education Standards for Grades XI-XII: the Syllabus for Foreign Language (Nacionalinė švietimo agentūra, 2011) describes the student's essential abilities and skills with a special emphasis on communicative language competence, which includes several types: linguistic, sociolinguistic and pragmatic (Nacionalinė švietimo agentūra, 2011, 84). These types consist of different components (*subcompetences*), such as sociocultural and cross-cultural, strategic, and others (Nacionalinė švietimo agentūra, 2011, 84-85). *Sociocultural* subcompetence acts in understanding the socio-cultural context of a given language and regulates the acquisition of cultural knowledge and understanding the target culture: "ordinary life, habits, traditions, ethnical culture, art (music, architecture, art etc.), technology, history, religion, geography, economy, politics and many other features" (Nacionalinė švietimo agentūra, 2011, 84). The most important issue related to the latter subcompetence is to present the basic features of the target culture and to show its relationship to the mother-tongue (L1). Following *General Curriculum for General Education School in Lithuania and General Education Standards for Grades XI-XII: the Syllabus for Foreign Language* (Nacionalinė švietimo agentūra, 2011), cultural subcompetence functions in the process of building up self-confidence and inspires the wish to communicate in different social situations (Nacionalinė švietimo agentūra, 2011, 85). In other words, diverse social situations may appear all the time in real-life; thus, students must be taught life-skills that will help them later integrate successfully into the world market.

The relationship between a foreign language and L1 is equally significant: "for foreign language teachers it is not only important that student's foreign language skills would improve but also that general linguistic competences will be developed together with a better understanding and appreciation of the mother-tongue language" (Nacionalinė švietimo agentūra, 2011, 3). Students can transfer their knowledge and experience from one language to another.

Thus, previously acquired knowledge and experiences in their mother-tongue are most important and useful for learning other languages and other communicative abilities. Moreover, foreign language as a subject should be related to other school subjects, such as history, geography, ethics, religious studies, the basis of civil society, art and many others, which can be similarly integrated into foreign language teaching and learning.

The first edition of *Common European Framework of Reference for Languages: Learning, teaching, assessment* (Council of Europe, 2001) explains that “the language learner/user’s communicative language competence is activated in the performance of the various language activities, involving reception, production, interaction or mediation (in particular interpreting or translating)” (Council of Europe, 2001, 14). Thus, the first edition of *CEFR* defined mediation as possible communicative practice in foreign language classes. The goal of teaching mediation was seen as preparation of the students for cross-cultural communication. As *CEFR* (Council of Europe, 2001) suggests, “in both the receptive and productive modes, the written and/or oral activities of mediation make communication possible between persons who are unable, for whatever reason, to communicate with each other directly” (Council of Europe, 2001, 14). As it was mentioned earlier, people need to translate or mediate in real-life while they are communicating (in written and/or spoken form): for example, writing a letter of application for a job, constructing a CV (*curriculum vitae*) in the target language, etc. Thus, mediation (translation or interpretation) is an important part of communication in real-life: a mediator acts as a channel of communication between two or more persons who, for some reasons, cannot communicate directly. *Common European Framework of Reference for Languages: Learning, teaching and assessment* (Council of Europe, 2001) suggests that “the language user is not concerned to express his/her own meanings, but simply acts as an intermediary between interlocutors who are unable to understand each other directly – normally (but not exclusively) speakers of different languages” (Council of Europe, 2001, 87). Mediating activities include spoken (oral) and written mediation. Oral mediation activities include simultaneous interpretation (conferences, meetings, formal speeches, etc.); consecutive interpretation (speeches of welcome, guided tours, etc.); informal interpretations (for example, of foreign visitors in own country or of native speakers when abroad; in social and transactional situations for friends, family, clients, foreign guests, etc.; of signs, menus, notices, etc.) (Council of Europe, 2001, 87). Written mediation activities include exact translation (of contracts, legal and scientific texts, etc.); literary translation (novels, drama, poetry, libretti, etc.); summarizing gist (newspaper and magazine articles, etc.) in a foreign language or in L1; paraphrasing (specialized texts for lay persons, etc.) (Council of Europe, 2001, 87). In brief, examples of mediating activities include spoken (oral) interpretation and written translation; it may also be

summarizing and paraphrasing texts in the source and target languages, when the language of the original text is not understandable to the intended recipient.

CEFR states that “mediation strategies reflect ways of coping with the demands of using finite resources to process information and establish equivalent meaning” (Council of Europe, 2001, 87). These strategies are planning, execution, evaluation, and repair (Council of Europe, 2001, 87). Following *CEFR* (Council of Europe, 2001, 88), the process of teaching and learning mediation may include some pre-planning to arrange and maximize resources (developing background knowledge; locating supports; preparing glossary) as well as consideration of how to deal with the task (considering the interlocutors’ needs; selecting the size of interpretation unit). During the process of interpretation, glossing, or translation, the mediator needs to take into consideration what has just been said and what is coming next, to deal with both of them at once because it is important in order to translate correctly (previewing).

As it has been already noticed, the updated edition of *CEFR* (Council of Europe, 2020) places much emphasis on mediation activities during foreign language classes. It is stated that “In mediation, the user/learner acts as a social agent who creates bridges and helps to construct or convey meaning, sometimes within the same language, sometimes across modalities” (Council of Europe, 2020, 90). Therefore, in mediation activities special skills are promoted: for example, constructing new meanings and forms, passing on new information, etc. (Council of Europe, 2020, 90). In the document, mediation is explained by separating mediation activities and mediation strategies, both of these spheres being equally significant. Mediation activities involve relaying specific information, explaining data, processing texts, translating a written text, note-taking, expressing a personal response to creative texts, facilitating collaborative interaction, managing and encouraging interaction, facilitating pluricultural space, acting as an intermediary, etc. (Council of Europe, 2020, 90). Mediation strategies include such activities as adapting language, breaking down complicated information, amplifying a dense text or streamlining a text (Council of Europe, 2020, 90). The description of mediation activities as outlined in *CEFR* (Council of Europe, 2020) suggests a new shift from a student-focused activities to the development of overall intelligence, or “empathy for the viewpoints and emotional states of other participants in the communicative situation” (Council of Europe, 2020, 91).

Apart from the guidance through mediation scales, the section on mediation raises new teaching aims for contemporary language classes and offers new possibilities for cooperative teaching and learning. Moreover, the edition of 2020 presents an in-depth discussion of all the possible mediation activities, describes the scales, outlines characteristics of mediation skills in these activities and outlines key concepts included in each type of mediation activities.

Although the document contains a prescriptive aspect, the section on mediation can be viewed as an aid for language teachers: this section provides guidelines on planning mediation activities in language classes. In addition, the descriptors may help to better understand and foresee the expected teaching and learning outcomes.

In comparison to the first edition of *CEFR* (Council of Europe, 2001), the new edition (Council of Europe, 2020) places emphasis on cognitive mediation and collaboration during mediation activities. Some of newly introduced scales reflect “the notion of creating a shared space between linguistically and culturally different interlocutors” (Council of Europe, 2020, 114). In this way, the students are “engaged as a cultural mediator: creating a neutral, trusted, shared “space” in order to enhance communication between others” (Council of Europe, 2020, 114). Such activities “expand and deepen intercultural understanding between participants” and help to “avoid and/or overcome any potential communication difficulties arising from contrasting cultural viewpoints” (Council of Europe, 2020, 114). The above aspects disclose a more profound meaning of mediation skills and signal the reference of these skills to the needs of the society.

To sum up, mediation is a significant real-life skill which needs to be developed at different age and on different language proficiency levels. As it has been already mentioned, people need to translate or mediate in real-life while they are communicating (in written and/or spoken form) in various real-life situations. The latter fact best describes the new role of mediation activities in language classes. *Common European Framework of Reference for Languages: Learning, teaching, assessment* (Council of Europe, 2001, and Council of Europe, 2020) and *General Curriculum for General Education School in Lithuania and General Education Standards for Grades XI-XII: the Syllabus for Foreign Language* (Nacionalinė švietimo agentūra, 2011) demonstrate a need for a more profound implementation of mediation activities in language syllabuses.

Methodology and Research Results

Research was carried out in order to reveal the types and frequency of teaching/learning mediation in EFL classes in Lithuanian secondary schools. The research continues the study into mediation, carried out by Žindžiuvienė and Slauzys in 2014-2015 which focused on mediation practices in Lithuania and Poland (Žindžiuvienė & Slauzys, 2015, 51-75). One of the aims of the present research (2020-2022) was a follow-up to the previous study. Due to the circumstances, the research started in 2020 and continued until March 2022. The research was interrupted several times because of acute pandemic situation of Covid-19. Online interviews with language teachers and a questionnaire for the

students in senior classes of secondary schools needed more time and effort than expected. Both semi-structured interviews with teachers and the questionnaire aimed at the practice of mediation in secondary education. However, the main aim was to trace any possible changes in teaching and learning mediation in a contemporary language classroom, especially following the updated edition of *CEFR* (Council of Europe, 2020). A specially designed questionnaire for foreign language students in Lithuanian secondary schools was used to achieve the aim of the empirical research. The questionnaire was intended to rate whether mediation activities and which of them are used in EFL classes (Grades 11-12) in Lithuanian secondary schools. Moreover, the textbooks for Grades 11-12 in Lithuanian secondary schools were analyzed. The content of activities in these textbooks was presented and grouped. In addition, mediation activities were also grouped according to the results of the survey data. The research was carried out with 140 foreign language students of Grades 11-12 in 9 Lithuanian secondary schools. The questionnaires were completed and returned representing 92% response rate. However, the intended scope of the research was minimized due to the social situation. In this aspect, a further insight into the researched area will be necessary in the nearest future.

The majority of students (74%) have 5 classes per week, while 22% of them have 4 and only about 4% have only 3 EFL weekly classes. Following the descriptions of mediation activities, spoken mediation activities include formal speeches, conferences, debates, discussions, simulation activities, role plays of translation/interpretation, etc. The research showed that spoken mediation activities are sometimes practiced in language classes, although most teachers (44) who participated in semi-structured interviews were not able to define exact types of mediation activities or even mediation practice. Similarly, some students may have misunderstood the question and/or the concept of mediation in general: for example, not all of the students were able to define activities representing oral or written mediation. Moreover, the research results show that written mediation activities are more seldom used than the spoken ones: 68% of participants declared that they very rarely participated in written mediation activities and even 32% of respondents stated that they never practiced written mediation activities in their EFL classes. The latter results must have been influenced by a blurred understanding of mediation. As it was stated earlier, written mediation activities may include translation of poetry or fiction, extracts from newspapers, contracts etc. They are more precisely defined than spoken mediation activities, so it might have been easier for students to respond to the questions on oral mediation activities. Written mediation activities, the same as spoken ones, were divided into two types: written mediation activities included in the textbooks and written mediation (additional) activities presented by the teacher and carried out in class. However, the majority of the respondents (89%) stated that they did not practice or very rarely practiced written mediation

activities in their EFL classes. Written mediation activities that are presented by the teacher are still not very frequent. However, some discrepancies between the syllabus and the students' responses were noticed. One type of mediation activity "Explaining data (in graphs, diagrams, etc.)" (Council of Europe, 2020, 97) is a recurrent activity in some textbooks; however, possibly, not adequately labelled/introduced in language syllabuses.

Qualitative and quantitative analysis of eight EFL textbooks helped to determine the most popular mediation activities. Due to ethical reasons and taking into consideration the shortcomings of the previous research (2014-2015) into mediation, the titles of the textbooks are not named in the research of 2020/2022. The textbooks were analyzed according to the number of mediation activities in these books. Mediation activities were grouped, according to the types of the activities as outlined in *CEFR* (Council of Europe, 2001) and secondly, according to the types of the activities outlined in *CEFR* (Council of Europe, 2020). The content analysis demonstrates a need for a better formulation of mediation tasks both in national programs of foreign languages and in EFL textbooks. Only 34 % of the obvious mediation tasks include the exact type of mediation activities (outlined in *CEFR* (Council of Europe, 2001) or *CEFR* (Council of Europe, 2020)). The following reasons must have influenced this result: (1) the formulation of the mediation tasks (as outlined in both editions of *CEFR*) was disregarded by the authors of the EFL textbooks; (2) the updated edition (Council of Europe, 2020) of *CEFR* has been undergoing the implementation processes; therefore, language educators, program designers and textbook publishers need more time to adjust syllabuses to the updated recommendations; (3) continuously altering social demands and corresponding teaching and learning aims.

Conclusions and recommendations

This paper presented a significant problem in secondary schools: more emphasis on mediation skills is still needed in secondary education. Moreover, coordination between the updated edition of *CEFR* (Council of Europe, 2020) and national programs and syllabuses of foreign languages must be taken into consideration. The existing discrepancy between the EU document (Council of Europe, 2020) and national syllabuses may hinder the general layout of language activities. Mediation tasks are seen as useful activities in the development of other language skills such as expanding students' vocabulary and speaking skills, applying their grammar knowledge in practice, developing students' cognitive skills or promoting collaboration. The research results show that a majority of the respondents are unsure whether mediation activities exist in their language classes, which may lead to the understanding that mediation practices are not clearly defined and/or not promoted in language classes. Apart from the

fact that mediation task is included in the State Examination of English, most students are still unable to name types of mediation activities. The latter issues prove the fact that mediation activities have not been properly defined in syllabuses. In addition, foreign EFL textbooks do not initiate or emphasize mediation practice, which partly results in students' ignorance of types of mediation activities. Very often mediation is used synonymously to translation; however, according to the variety of mediation tasks as outlined in both editions of *CEFR*, such concept is not always adequate.

Considering the processes of globalization, mediation activities have become important in the overall structure of teaching/learning English as a foreign language in secondary education. Thus, more investigation has to be carried out to prove the necessity and ways of application of this language skill. Teachers in language classes could easily incorporate various types of spoken mediation activities (conferences, debates, discussions, etc.). EFL teachers can also use simulation activities or role plays of mediation (for example, processing a text, mediation concepts, facilitating collaborative interaction with peers, collaborating to construct meaning, managing interaction, mediating communication, facilitating pluricultural space, adapting language, amplifying a dense text, mediating a text, etc. (Council of Europe, 2020, 91-121). Mediation tasks can be useful activities in language classes and can strengthen the cross-disciplinary approach in teaching/learning process. Types of mediation strategies and/or mediation activities might be displayed on the wall of the classroom or on different Internet platforms for students to facilitate reference to the types and methods of activities. Special modules of mediation as part of language education can enhance mediation skills.

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DEVELOPING A CULTURE OF MINDFUL LEARNING: CHALLENGES, BENEFITS, AND OPPORTUNITIES

Maija Ročāne

Liepāja University, Latvia

Alīda Samuseviča

Liepāja University, Latvia

Abstract. *Learning is an individual process for each student. People can be aware of own learning or do not think about it at all in the diverse situations of life. However, in the pedagogical reality, the awareness of students' learning is essential as it contributes to self-regulation of behaviour and self-reflection of actions, striving towards continuous self-development. It is important to be aware of oneself mentally and physically, understanding and accepting own thoughts or feelings. The integration of all areas of personal development becomes relevant, as changes in one area are linked to changes in another. Awareness of own learning directs the learner towards the social, emotional and academic dimension, including not only awareness of the knowledge and acquired skills, but awareness of own goals, motivations, emotions, interests, the personal relevance of the learning content and also the variability of the current situation, strategies for future learning, and other elements of the learning process. Mindfulness can also be seen as a powerful 'antidote' to common mental health problems, e.g. fatigue, exhaustion, apathy, anxiety and difficulty in concentrating. Mindfulness practices can be implemented at schools as an element of the lesson, but it is also important to purposefully create a culture of mindfulness at the institutional level, which can be greatly facilitated by the professional development of teachers. Mindfulness is a mental state of being reflective in the present moment. It provides the ability to live intensely in the present moment, acceptance of own thoughts and feelings, a sense of perspective and the ability to cope with stressful situations through conscious concentration. The aim of this publication is to analyze the theoretical aspects of mindfulness, the possibilities of facilitating the learning process through mindfulness practices, as well as to carry out empirical research evaluating 16-19-year-old students' self-awareness skills, the phenomenon of the presence of mindfulness in their learning process and its impact on their learning outcomes.*

Keywords: *mindfulness, mindful learning, mindfulness practice, positive changes, self-awareness skills, self-regulation, student's personal growth.*

Introduction

Learning occurs continuously throughout our lives. However, to bring positive change in the person's life, and to contribute to positive change in the society, there is a need for personal significance of the learning process (Fink,

2013). Thus, guiding the learner towards the identification of personal learning goals, interests, motivation and learning needs gain importance. Not only measuring students' learning through assessment becomes pedagogically relevant, but also learner's understanding of own learning process and the ways its productivity should be enhanced.

Teaching activities in the lesson often are focused on cognitive processes, including acquiring the learning content of particular subject and preparation for the tests, while social and emotional learning (ability to recognize and regulate emotions, development of skills, e.g. problem-solving skills, having positive relationships with others, etc. (Zins & Elias, 2007)), is often called the *missing component* of the lesson. Social and emotional learning (SEL) and positive environment gains importance in bringing mindfulness to the learning process. Mindfulness, which leads to awareness and acceptance of the present (Bishop, Lau, Shapiro, Carlson, Anderson, & Carmody, 2004), and SEL, which includes the development of essential life skills, e.g. self-confidence, self-management, social awareness, interpersonal skills and responsible decision-making (Gayl, 2018), have become important tools for the 21st century education as students have to learn to slow down as the speed of the technology that they will use in their lifetime “is beyond the comprehension” (Mussey, 2019, 17).

Recent research has revealed significant impact of the social-emotional environment on learning outcomes as well. The harmful effects of various factors such as poverty; various forms of violence; intoxicants; environmental toxins; etc., which can lead to the risks to brain development, can also be highlighted (Osher, Cantor, Berg, Steyer, & Rose, 2018). Learning supporting environment provides a sense of belonging, healthy relationships and positive emotions. It is also important that the teacher believes that all students have the capacity to learn, however, learning process is individual and depends on experience, relationships and environment of each student. It is also important to recognise that the learning process is not uniform or linear: it is individual and each student's actions have their own strengths and weaknesses (Osher et al., 2018). Cantor, Osher, Berg, Steyer & Rose, (2018) in their research “*Malleability, plasticity, and individuality: How children learn and develop in context*” highlight the plasticity of the human brain, its openness to change and the magnitude of the impact of human experience on brain flexibility, which is far more influential than it was thought previously. This accentuates the importance of SEL, mindfulness practice, learning-supporting environment, teacher's belief that each student can be successful, as well as the awareness of own learning needs and progress.

Immordino-Yang, Darling Hammond, & Krone (2018) compare learning to a social exercise, putting a particular emphasis on how learning can be enhanced or impaired by students' emotional experiences. While high levels of emotional distress and social conflicts can delay student's state of readiness for cognitive activity. Physical development, social development and emotional development

are also important milestones in students' cognitive development. Mussey (2019) defines mindfulness as the state of being aware of own physical, social, and emotional space. The integration of these developmental areas become relevant as the changes in one area are linked to the changes in the other.

A well-organised and stimulating learning environment is important for all children, but especially for those who face poverty and other challenges outside the classroom (Turkheimer, Haley, Waldron, d'Onofrio, & Gottesman, 2003). A teacher can create learning-supporting environment in a conscious and meaningful way for students' development or can be unaware of the importance of the environment and ignore the vital role of environmental conditions.

Behavioural problems and learning difficulties often emerge during adolescence, which can sometimes be described as '*typical adolescent behaviour*' that *will somehow pass with the time* (Kaufman, 2019). Learning is a choice, although each person learns and develops differently depending on gender, biological, genetic, cultural, environmental, social and other factors. Students make very important decisions every day, including the choice of subjects, e.g. advanced courses in grade 12, as well as their future career and university choices. The decisions they make in their daily lives can have a positive, or conversely a negative, impact on the rest of their lives.

Learning can occur consciously and unconsciously. Awareness of own learning facilitates self-reflection and self-regulation, including self-regulation of emotions. Mindfulness: recognizing and accepting their present thoughts and emotions, can be seen as an 'antidote' to common mental health problems such as anxiety and concentration difficulties. Mindfulness practices can also be implemented in schools as an element of the lesson, but it is important to create a culture of mindfulness at schools, which can be greatly facilitated by the development of teacher's professional competence. Mindful learning is directed towards the social, academic and emotional dimensions, involving not only thinking about the knowledge and skills acquired, but also awareness of one's own goals, motivations, emotions, interests, the personal relevance of the learning content and also the variability of the current situation, strategies for future learning, etc.

The aim of this publication is to analyse the theoretical aspects of mindfulness, the possibilities of facilitating the learning process through mindfulness practices, as well as to carry out empirical research evaluating 16-19-year-old students' self-awareness skills, the phenomenon of the presence of mindfulness in their learning process and its impact on their learning outcomes. The research methods were: the analysis of scientific and methodological literature; data gathering method: survey and data processing and analysis methods: quantitative data processing with data mathematical statistical analysis and predictive analytics methods and quantitative data interpretation.

Mindful learning culture: opportunities for its promotion

A student does not have to adopt or conform to the interests and goals of others, but changing and developing, in close collaboration with the teacher and peers, becoming aware of own values, interests, motivation to learn, set personally meaningful goals and become aware of the uniqueness of other people (Rogers, 1961, 21). However, the first step of becoming mindful is becoming aware of own goals, values, interest, motivation and uniqueness.

Gayl (2018) emphasizes the necessity to focus on all three dimensions of the learning process - social, academic and emotional, highlighting that the important aspects of social, academic and emotional learning are: student-centred learning; positive communication; student choice and responsibility for learning; support and positive attitudes; cooperative learning strategies; the balance between self-directed learning and cooperative learning; self-reflection and self-assessment; the belief that everyone can be successful in learning and competency-based learning.

Mussey (2019) emphasizes: “The world needs mindfulness. (..) We must learn to pause in the midst of the dizzying chaos of our lives and ask, *What is going on here? How are things going? How are you? How am I?*” (Mussey, 2019). Mindful learning can be characterized by setting goals and being aware of the obstacles in the process of achieving them. Hofmann, Baumeister, Förster, & Vohs (2012) believe that people who are more likely than others to identify and overcome obstacles to achieving their goals also have better self-awareness skills, which include managing own emotions and reactions. Bishop et al. (2004) stresses that the definition of mindfulness is awareness and acceptance of the present. It is a state of being in the present moment. It gives a sense of perspective, acceptance of one's thoughts and feelings, the ability to live in the moment and the ability to cope much better with stressful situations. It is necessary to be aware of oneself mentally and physically, understanding and accepting own thoughts or feelings. It is also important to understand that situations, thoughts and feelings change - like inhaling and exhaling. Mussey (2019) compares mindfulness with “an intentional state of doing nothing”, a moment when person is “aware of physical, social, and emotional space” (Mussey, 2019, 15). While Duval & Wicklund (1972) emphasize that self-awareness is a state in which a person becomes the object of one's own attention. However, not only individual self-awareness traits (focusing on oneself, one's feelings, thoughts and behaviour), but also public image (tendency to focus on how a particular individual is perceived by society, e.g. one's public image, appearance) can be manifested (Fenigstein, Scheier, & Buss, 1975).

Kaufman (2019) names the main benefits of mindfulness, which are: stress reduction; understanding of the variability of the situation; awareness of own goals, motivation, learning progress and needs, etc.; changing response to a

stressful situation; improving concentration skills; fostering creativity, empathy and compassion; improved relations; reducing concerns about the future; strengthening and training the brain: the human brain is an organ that changes and constantly restructures based on experience (neuroplasticity).

Today, the importance of mindfulness practices is driven by the fast pace of life, constant change, and the shift in emphasis from face-to-face communication to an internet-based form of communication. These factors can contribute to negative outcomes, e.g. addictions, unhealthy eating habits, sleep deprivation, ignoring mental and physical signs of stress. Mindful learning involves focusing on the thoughts and emotional reactions that arise in each moment. During mindfulness practice, the mind is simultaneously relaxed and attentive. Through continuous mindfulness practice, students learn to focus on the task, without allowing the mind to be distracted or diverted. This practice creates a state of calm, giving students a new perspective and facilitating thinking about learning (López-González, Amutio, Oriol, & Bisquerra, 2016). Similarly, a number of researchers (Zenner, Herrnleben-Kurz, & Walach, 2014) have demonstrated the usefulness of mindfulness practices for activating students' inner resources and potential. However, some of the most important benefits of mindfulness practice are: improved concentration and self-control of emotions (Kaufman, 2019). Mindfulness practices also help develop problem-solving skills, as problems may seem unsolvable only at a given moment, but once we accept the idea that things are changing, we start looking for solutions, as it is the awareness of the problem, which is crucial. Similarly, with stress, which can sometimes seem impossible to escape. Through mindfulness practices, people also become less judgmental of others (Kaufman, 2019, 8). Mindfulness practice involves focusing on: breathing, which reduces feelings of stress and anxiety; breathing exercises, which become especially important when preparing for tests or exams; switching off smart devices; concentration: paying attention to sounds and thoughts to begin to calm and focus the mind; self-awareness: becoming aware of own goals, motivation, interests, values, etc.; compassion, which promotes emotional intelligence and well-being and kindness, focusing on understanding oneself and others; stress reduction (Kaufman, 2019, 23).

It can be concluded that although distress, poverty, various forms of violence, addictive substances, social conflicts, etc. can delay student's state of readiness for cognitive activity, awareness of the problem is crucial, because people who identify and overcome obstacles to achieving their goals, have better self-awareness skills. Mindfulness, which leads to awareness and acceptance of the present, occurs intentionally. It also develops ability to set achievable goals, self-confidence, self-management, social awareness, interpersonal skills and responsible decision-making.

Empirical research findings

The aim of the survey was to evaluate the connections between 16-19-year-old students' self-awareness skills (managing own emotions and reactions), the phenomenon of the presence of mindfulness in their learning process (setting goals and being aware of the obstacles in the process of achieving them (Hofmann, Baumeister, Förster, & Vohs, 2012); coping with negative stressors, acceptance of one's thoughts and feelings (Mussey, 2019); awareness of own goals, motivation, learning progress and needs, etc., improving concentration skills (Kaufman, 2019, 13-21)) and their impact on learning outcomes. Predictive analytics methods were implemented through processing SPSS (*Statistical Package for the Social Sciences*). There were semi-open questions in the questionnaire: *Are you aware of your goals in your teaching?; Have you thought about why you study?; Have you ever been in a situation where you didn't set a higher goal because you weren't sure you would achieve it?; Do you have difficulty concentrating on a particular activity during your studies?; Have you ever been in a situation where a problem seemed unsolvable to you?; How safe do you feel in the school environment?; To what extent do your classmates show respect for each other?; To what extent do teachers show respect?*. There were also Likert scale questions: *To what extent do you agree with the statement (the assessment was being done using Likert scale: from 1 strongly disagree-10 strongly agree)*:

- *Learning is my choice;*
- *I know how I can learn more effectively;*
- *Going to school is more important to my parents than to me;*
- *I try to avoid extra study work.*

Descriptive statistics:

There were 53 (47.7%) male students and the number of respondents was 111 (15-19 years-old students). All the respondents study in one secondary school of Liepāja (Latvia). Most of the respondents (81.9%) indicated that they are thinking about the reasons why they are learning. Respondents mostly agreed with the statement that they feel safe at school (the median of 7 (range 1-10)) and that learning process is their choice is (the median of 7 (range 1-10)).

Analytical statistics:

The Mann Whitney U test indicates that the respondents who admit knowing why they learn are more likely to think about learning on the daily basis (the median of 7 (range 1-10)) than respondents who do not know why they learn (the median of 5 (range 1-10)), which highlights thinking about learning and mindfulness practices in the goal-setting process.

The Mann Whitney U test also indicates that the respondents who have experienced a situation in which they did not set a higher goal because of their lack of the confidence in their ability to achieve it, were more likely to say they

know why they are learning (the median of 7 (range 1-10)) than respondents who have not experienced this situation (the median of 6 (range 1-10)). The authors of the publication believe that this can be the result of self-regulated learning and presence of mindful learning, which can be characterized by setting achievable goals and being aware of the drawbacks in the process of achieving them (Hofmann, Baumeister, Förster, & Vohs, 2012). This include thinking about own learning goals and the own ability and capacity to reach them. Theoretical research also highlights that people who are more likely than others to identify obstacles to achieving their goals, have better self-awareness skills as well (Hofmann, Baumeister, Förster, & Vohs, 2012).

Spearman's rank correlation reveals that agreement with the statement that the respondent clearly knows his/her learning goals correlates with the statement that the respondent does not face concentration difficulties in the learning process ($\rho=0.342$; $p<0.001$) (see Figure 1). Kaufman (2019) emphasizes that one of the main benefits of mindfulness is the improvement of concentration skills.

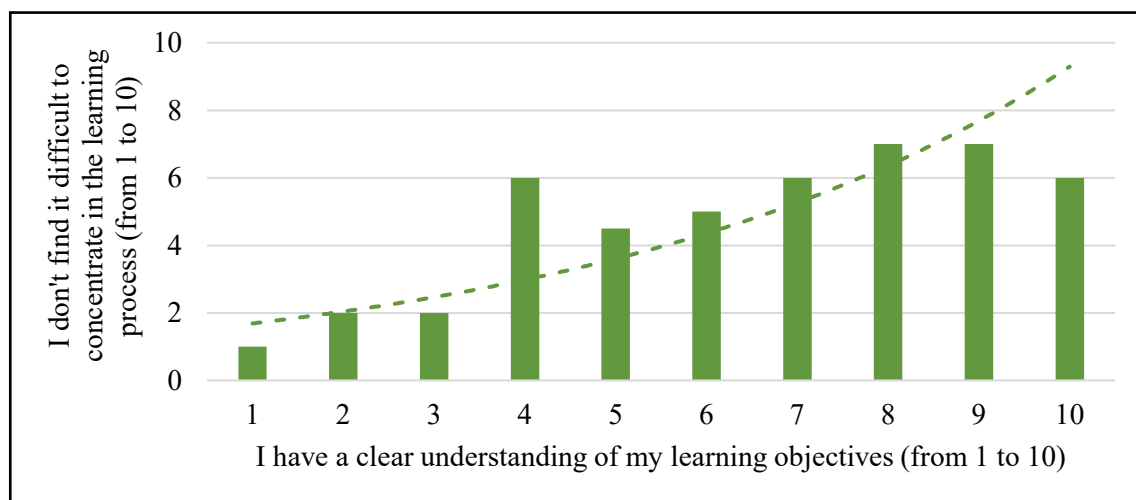


Figure 1 Data collection on the understanding of own learning goals and the possibility of concentration difficulties in the learning process (N=111) (made by Authors)

Theoretical analysis shows the necessity of positive emotional environment in the process of bringing mindfulness to the learning (Bishop et al, 2004), thus developing problem-solving skills as well (Zins & Elias 2007). The empirical analysis reveals the close link between positive emotional background, mindfulness and development of problem-solving skills: Spearman's rank correlation showed that students' feeling safe at school correlates with the statement that the respondent does not face situations which seem unsolvable ($\rho=0.221$; $p=0.024$) (see Figure 2).

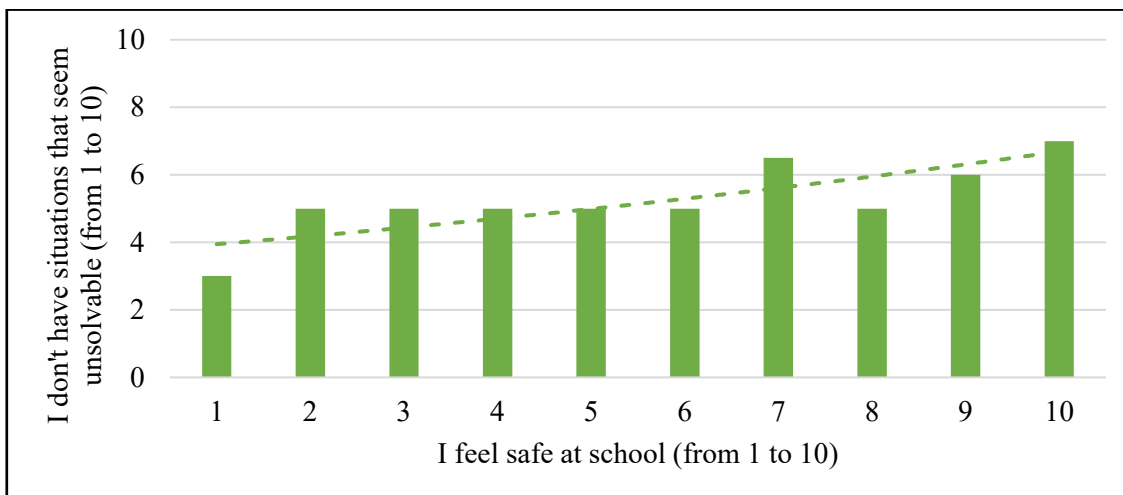


Figure 2 **Data collection on the attitude towards the unsolvable situations and feeling safe at school (N=111) (made by Authors)**

Mindfulness practice promotes healthy relationships (Kaufman, 2019, 13-21). Empirical research shows the connection between having healthy relationship and respondents' feeling safe at school: Spearman's rank correlations reveal a three-way correlation. Respondents' respect towards classmates correlates with respondents' respect towards teachers ($\rho=0.424$; $p<0.001$) and respondents' respect towards classmates correlates with the respondents' feeling safe at school ($\rho=0.346$; $p<0.001$), as well as the statement that respondents' are respected by teachers correlates with the statement that the respondents feel safe at school ($\rho=0.315$; $p=0.001$).

Spearman's rank correlation revealed that agreement with the statement that learning is the respondent's choice correlates with the statement that the respondent does not face situations that seem unsolvable ($\rho=0.201$; $p=0.040$) (see Figure 3).

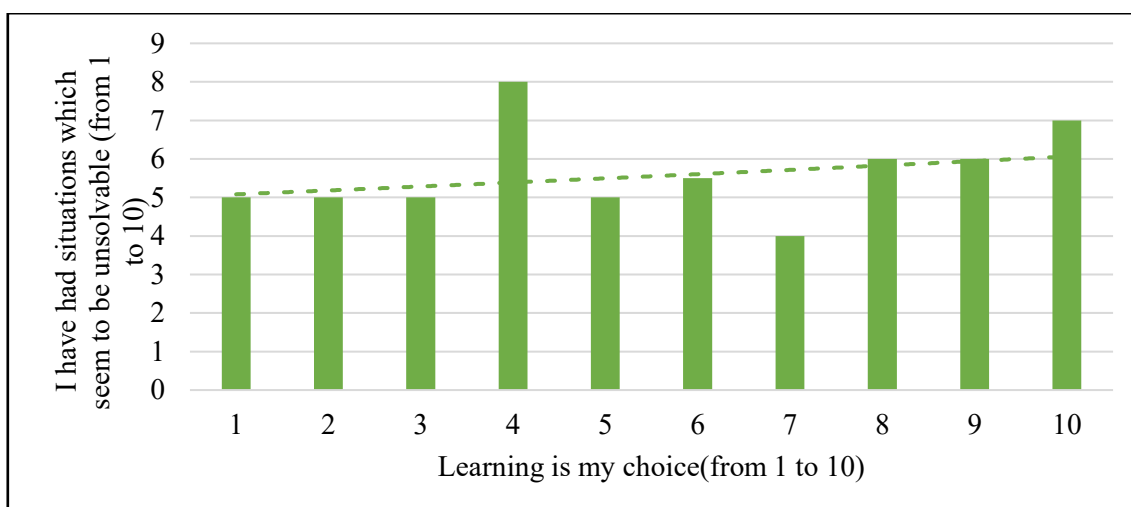


Figure 3 **Data collection on the agreement with the statement that learning is the respondent's choice and the attitude towards the unsolvable situations (N=111) (made by Authors)**

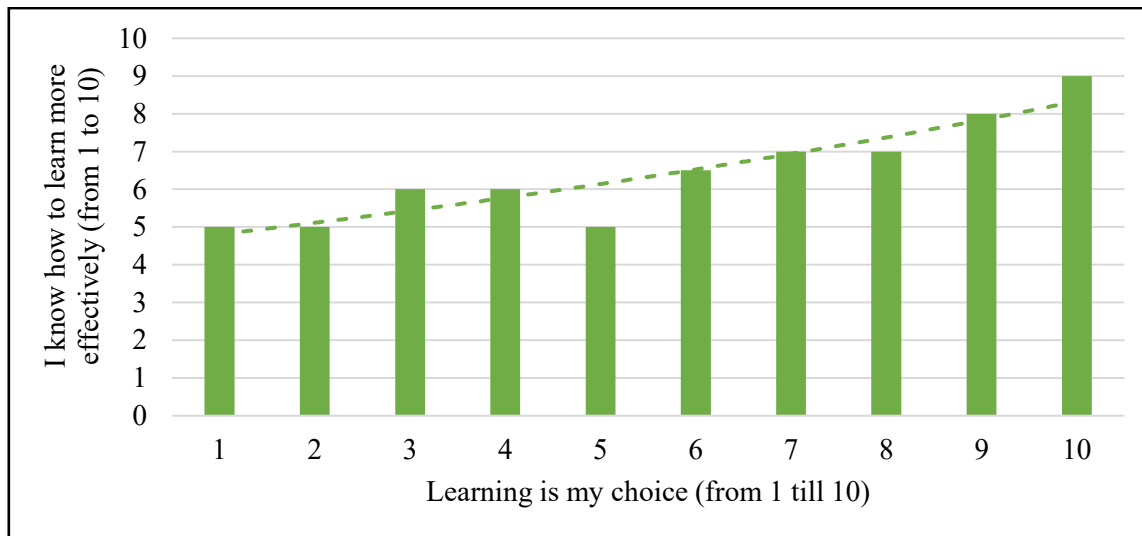


Figure 4 Data collection on the agreement with the statement that learning is the respondent's choice and knowing how to learn more effectively (N=111) (made by Authors)

Spearman's rank correlation revealed that agreement with the statement that learning is a choice of the respondent correlates with the statement that the respondent knows how to learn more effectively ($\rho=0.440$; $p<0.001$) (see Figure No.4). While Gayl (2018) emphasizes the importance of student choice to implement all three dimensions of the learning process - social, academic and emotional.

Conclusions

Learning, which leads to personal development is based on respectful relationships and expectations and free from emotional violence. Learning can be described as a set of choices: decisions students make, which can have a positive, or conversely a negative impact on the rest of their lives. However, are students always aware of the choices they make and their consequences?

Mindfulness is a mental state of being reflective in the present moment and the acceptance of the present as well. Mindful learning activates students' inner resources and potential; improves attention and concentration; planning and self-regulation skills; reduces emotional reactivity; behavioural problems; anxiety and depression, so that students have fewer potential barriers to learning. Mindful learning can be promoted by implementing mindful practices in the learning process. Mindfulness practice involves breathing exercises; switching off smart devices; concentration and self-awareness activities, e.g. becoming aware of own goals, motivations, interests, values, etc.

Creating a culture of mindfulness at the institutional level can be greatly facilitated by learner's understanding of own learning process and the ways its productivity should be enhanced. However, learning process is not uniform or linear: it is individual as each person learns and develops differently.

The survey analysis highlights that the respondents who admit knowing why they learn are more likely to think about learning on the daily basis and face less concentration difficulties, which are one of the main benefits of mindfulness. The respondents who have experienced a situation in which they did not set a higher goal because of their lack of the confidence in their ability to achieve it, were more likely to say they know why they are learning than respondents who have not experienced this situation, which can be the result of mindfulness in their learning process, thus, setting achievable goals and being aware of the drawbacks in the process of achieving them. The empirical analysis also reveals the close link between positive emotional background, having healthy relationships with peers and teachers, mindfulness in the learning process and development of problem-solving skills.

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SKOLĒNI JAUNIEBRAUCĒJI: IZAICINĀJUMI UN PERSPEKTĪVAS PEDAGOGA DARBĀ

Newly arrived Students: Challenges and Perspectives for Teachers

Baiba Birzniece
Liepājas Universitāte, Latvia

Abstract. *The rapidly changing political situation in the world puts an impact on education. After the invasion of Russia in the territory of Ukraine on the 24th of February 2022, the number of refugees in Latvia increased significantly and newly arrived students from Ukraine started learning in the schools of Latvia. In order to facilitate the successful integration of newcomers, Amendment No 48 was accepted by the Cabinet of Ministers of Latvia, which states that newcomers receive their education in Latvia in the state language of Latvia. Therefore, newly-arrived students started learning in schools of Latvia receiving instructions in Latvian. The aim of this publication is to describe the situation of integrating newly arrived students in schools of Latvia from the perspective of a teacher, focusing on difficulties and challenges for a teacher who has no or relatively little experience (ethnic minority students or children of re-migrants) in working with students who have no or relatively poor Latvian language skills at the same time ensuring an inclusive and meaningful educational process.*

Keywords: *newly arrived students, school education, teacher expectations, teacher satisfaction, working conditions at school.*

Ievads *Introduction*

Pasaulē daudz spriests par izglītību. Centrālā loma kvalitatīva izglītības procesa nodrošināšanā ir skolotājam. Mūsdienų mainīgajā vidē, kad bieži grūti definēt, kas būs pēc gada vai pieciem, pedagoga darbs saistāms ar jauniem uzdevumiem un izaicinājumiem.

Mūsdienų situācijā skolotājam jāprot strādāt ne tikai ar skolēniem, kuriem ir dažāds zināšanu, prasmju, iemaņu līmenis, bet arī ar izglītojamo, kuram var nebūt valsts valodas zināšanu. Valoda nav tikai priekšmetu un jēdzienu nosaukumi, tā ir sistēma, ar kuras palīdzību visi tās elementi tiek apvienoti funkcionējošā valodas organismā, tas ir saturs, ko uztveram, sazinoties citā valodā, iesaistoties citā kultūrā, citā dzīvesveidā (Protasova, 2002), savukārt Latvijas Republikas Izglītības likuma

(Latvijas Republikas Saeima, 1998) 3.pants nosaka, ka ikvienam ir tiesības uz kvalitatīvu un iekļaujošu izglītību.

2022. gadā, sākoties karam Ukrainā, strauji palielinājās bēgļu skaits Latvijā, līdz 2023.gada februārim Latvijas pašvaldībās pēc palīdzības bija vērsušies 35 865 bēgļi, no kuriem lielāka daļa bija sievietes un bērni (Eiropas Savienības Padome, 2023). Savukārt 2022. gada 26. maija Saeimas Grozījumi Ukrainas civiliedzīvotāju atbalsta likumā (13.pants) nosaka: „Nepilngadīgam Ukrainas civiliedzīvotājam tiek nodrošināta iespēja iegūt izglītību valsts valodā.” (Latvijas Republikas Saeima, 2022). Tādējādi Latvijā skolās ar latviešu mācībvalodu nonāca liels skaits jauniebraucēju bērnu bez latviešu valodas zināšanām. Līdztekus konceptuālās izpratnes, analītiskās un valodas prakses attīstīšanai jauniebraucējiem vienlaikus ir arī jāpielāgojas jaunai valstij, jaunai mācību sistēmai un jaunai valodai (Schmida & Chu, 2016). Un šo procesu veiksmīga realizācija ir skolotāju pārziņā.

Raksta mērķis ir analizēt pašreizējo situāciju Latvijas vispārizglītojošās skolās ar latviešu mācībvalodu un izaicinājumus un perspektīvas pedagoga darbā saistībā ar trešo valstu valstspiederīgo bērnu, sevišķi ukraiņu, integrāciju Latvijas skolu vidē un multikulturālajā Latvijas sabiedrībā.

Lai to noskaidrotu, tiek izvirzīti šādi pētījuma jautājumi:

1. Kā skolotāji vērtē skolēnu jauniebraucēju integrācijas procesa norisi skolās ar latviešu mācībvalodu?
2. Kādas ir galvenās problēmas un izaicinājumi skolotāja darbā ar skolēniem jauniebraucējiem?
3. Kāda palīdzība un atbalsts nepieciešams skolotājam darbā ar skolēniem jauniebraucējiem?

Literatūras apskats

Literature Review

Pēdējos gados Latvijas sabiedrībā vērojama paradigmu maiņa, tas nesis izmaiņas daudzās dzīves sfērās. Izglītība šai ziņā nav izņēmums.

Paradigmu maiņa izglītībā rada pārmaiņas arī skolotāja darbā, kura mērķis balstās uz domāšanas un darīšanas integrēšanu, pārmaiņu nodrošināšanu mācīšanas un mācīšanās darbībās, skolotāja lomā izglītības iestādē un ārpus tās.

21.gadsimtā izglītība ne tikai fokusējas uz indivīda intelektuālo aspektu, tā ietver emocionālo, fizisko, sociālo, estētisko un garīgo dimensiju (Miķelsone & Odiņa, 2020). Kā norāda A. Špona (2019), tad „mūsdienās skolotājs atbild valstij par mācīšanās un audzināšanas kvalitāti un kopā ar katru bērnu atbild par viņa līdzsvarotas attīstības sekmēšanu”, kā arī mūsdienās pedagogs tiek uzskatīts par svarīgāko posmu inovatīvo izglītības reformu īstenošanā (EU Commission, 2012).

Ja vērtējam skolēna jauniebraucēja ienākšanu skolā, tad veiksmīga iekļaušanās skolas vidē ir liels izaicinājums ne tikai jauniebraucēju ģimenei un bērnam, bet arī skolas vadībai un pedagogiem, kam savā darbā jānodrošina daudzveidīgu vajadzību atzīšana un cieņa pret konkrētā bērna īpašajām interesēm un vajadzībām (Zankovska-Odiņa, 2014).

Palielinoties sabiedrības gaidām no skolotāja kā profesionāļa, palielinās izaicinājumu īpatsvars pedagogam. Jauni izaicinājumi šajā mācību gadā saistās ar skolēnu jauniebraucēju integrēšanu skolās ar latviešu mācībvalodu. Eiropas Komisija, sadarbojoties ar Apvienoto Nāciju Organizācijas Augsto komisāru bēgļu jautājumos (UNHCR), Apvienoto Nāciju Organizācijas Bērnu fondu (UNICEF), izglītības ministriju pārstāvjiem, ieinteresēto personu organizācijām, ir izstrādājusi rekomendācijas jauniebraucēju veiksmīgai integrēšanai uzņemošās valsts izglītības sistēmā. Dokumentā ir izklāstīti apsvērumi par sešs jomām, tie ietver skolēnu jauniebraucēju uzņemšanas procesu organizēšanu, izglītības iestāžu un izglītības personāla sagatavošanu, sadarbību ar skolēna ģimeni un kopienu un palīdzību pārvietotajiem bērniem saglabāt saikni ar dzimteni, kā arī ilgtermiņa pasākumus, lai veicinātu iekļaujošu izglītību (EU Commission, 2022). Šai dokumentā Eiropas Komisija iesaka ieviest dažādus mehānismus skolēnu jauniebraucēju izglītošanā, iesaistot pensionētos skolotājus, studentus, kas studē pedagogiju, atvieglojot valsts valodas zināšanu prasmju līmeni pedagogiem, kas nāk no trešajām valstīm, tai skaitā Ukrainas.

Tieši izglītības vides organizācijas veids veido cilvēka lingvistisko pieredzi un to, kā vēlāk, dzīvē, tiek lietotas dažādas valodas. Protasova izglītības vides organizāciju saista ar izglītības lingvistiskajiem un sociālajiem mērķiem, mācību programmas kontekstu, mācību mērķu sasniegšanai izmantoto materiālu un metožu piemērotību, kā arī izglītībā deklarēto principu pieejamību pedagogiem (Protasova, 2002).

Jaunajos apstākļos ir nepieciešams zinošs pedagogs ne tikai savā mācību priekšmetā, bet arī starpkultūru izglītības un iekļaujošās izglītības jautājumos. Pedagogam ir jāizprot latviešu valodas apguves pamatprincipi un pieejas. Latviešu valodas kā svešvalodas mācību pieredze Latvijā nav pārāk bagāta – par tās aizsākumiem var runāt tikai kopš pagājušā gadsimta 50. gadiem, bet lielāku ievērību ieguvusi tikai pēdējos divdesmit trīsdesmit gados, kad aktualizējies bēgļu un patvēruma meklētāju jautājums (Šalme, 2011). Pētījuma Latviešu valodas kā svešvalodas apguve Eiropas augstskolās rezultāti parādīja, ka vairumā gadījumu šie cilvēki latviešu valodu vēlas apgūt mācību un darba vajadzībām (Šalme, 2008).

Skolotājam ikdienas darbam būtu vajadzīga sistematizētā veidā uzrakstīta metodika, ja skolotāji skolā izmantotu vienotu pieeju un kārtību jauniebraucēju

izglītošanas organizācijā, tad skolēniem būtu vieglāk iejusties jaunajā kontekstā un jaunajā valodas situācijā (Calderon, 2020).

Metodoloģija *Methodology*

Pētījumā izmantota empīriskā informācijas ieguves metode – anketaptauja ar mērķi veikt kvalitatīvu un kvantitatīvu datu ieguvu. Aptaujājot respondentus, šajā pētījumā pedagogus, aptaujā izmantoti strukturētie un atvērtie jautājumi, lai pētītu motivāciju un vajadzības darbā ar skolēniem jauniebraucējiem. Aptaujas mērķis bija noskaidrot pašreizējo situāciju un vajadzības skolās ar latviešu mācībvalodu skolēnu jauniebraucēju integrācijas procesu nodrošināšanā Latvijas izglītības sistēmā.

Pētījuma bāzi veido pedagogi. Izvēloties aptaujas dalībniekus, tika izvirzīti aktuālie kritēriji, tie ir, respondentam jābūt nozares pārstāvim, jāstrādā skolā ar latviešu mācībvalodu, jāīsteno skolēnu jauniebraucēju izglītošana atbilstoši Latvijas likumdošanai.

Aptaujā tika uzdoti jautājumi par to, kāpēc skolēniem jauniebraucējiem atbilstoši MK noteikumiem būtu jāmacās vispārīzglītojošās skolās ar latviešu mācībvalodu, nevis mazākumtautību skolās, kādi riski pastāv šiem skolēniem, ar kādām grūtībām nācies saskarties pedagogiem, kādi atbalsta pasākumi pedagogam būtu nepieciešami valstiskā un pašvaldību līmenī, cik kompetents pats pedagogs jūtas šajā situācijā.

Aptauja tika veikta 2022.gada decembra mēnesī, tas ir, 2022. / 2023.mācību gada 1. semestra beigās vispārīzglītojošās skolās ar latviešu mācībvalodu. Aptaujas anketa tika nosūtīta 3 skolām Liepājā, Tukumā un Preiļos. Kopā tika iegūtas 42 aizpildītas anketas.

Rezultāti *Results*

Demokrātiskā sabiedrībā valsts nodrošina visiem līdztiesīgu izglītību. Skola kā šī procesa īstenotāja balstās uz nacionālo valodu, kultūru, vērtību sistēmu. Mūsdienu pārmaiņas prasa no skolotāja inovatīvu pieeju, kas balstās iekļaujošās izglītības īstenošanā, kurā, kā norādīts Eiropas izglītības attīstības aģentūras publikācijā (2012), skolotāju gaidas ir vienlīdz augstas par visu izglītojamo sasniegumiem. Skolēnu jauniebraucēju izglītošana ir viens no iekļaujošās izglītības aspektiem.

Datu analīze atklāj, ka 30 pedagogi no 42 uzskata, ka skolēniem jauniebraucējiem būtu jāmacās skolās ar latviešu mācībvalodu, jo tā ir iespēja ātrāk apgūt latviešu valodu. Pētījumi gan pierāda, ka otrās un visu turpmāko valodu apguve

dzīves laikā nav iespējama gluži tādā pašā veidā kā pirmā valoda (Šalme, 2011). 30 respondenti uzskata, ka tā ir jauniebraucēju iespēja ātrāk pielāgoties dzīvei Latvijā un veiksmīgāk integrēties Latvijas sabiedrībā. Tikai 1 respondents norāda, ka latviskā mācību vide ir daudz drošāka un labvēlīgāka vide jauniebraucēju bērniem nekā vide mazākumtautību skolās. Šeit būtiski ir mācību vides garīgie apstākļi, ko veido labvēlīgas savstarpējās attiecības klasē, pedagogu darba stils, izglītības procesā radītās mācību situācijas, emocionālā pārdzīvojuma klātesamība (Raituma, 2009).

Kā būtiskāko barjeru integrācijas procesa veiksmīgai norisei 39 pedagogi min valodas barjeru. Tikai 5 respondenti kā šķērslī norādījuši nespēju iejusties klases kolektīvā atšķirīgu dzīves vērtību un pieredzes dēļ. Kā norāda pētnieki (Laķis, 2000), tad multikulturālā sabiedrībā mūsdienās vēl neiztikt bez spriedzes un konfliktiem, taču tie jārisina atklātā un konstruktīvā veidā.

Iegūto datu analīze parādīja, ka 38 pedagogi uzskata, ka viņu skola ir piemērota mācību iestāde jauniebraucēju izglītošanai. Norādot, ka skolā cenšas nodrošināt vidi, lai jauniebraucēji sekmīgi iekļautos mācību procesā, sniedz atbalstu, ir labi organizēts skolas atbalsta personāla darbs, tiek izstrādāti individuālā darba plāni skolēnam, un skolotāji cenšas nodrošināt individuālu pieeju. Kāds no skolotājiem norāda, ka „manuprāt, skola ir izveidojusi atbalsta sistēmu skolēniem, sniedzot papildus konsultācijas latviešu valodas apgūvē, atbalsta personāls pārzina krievu valodu, kas sniedz papildus atbalstu skolēniem. Ir, protams, sarežģītāk klases audzinātājam, ja skolēns nepārzina latviešu valodu, bet arī vecāki ir pretimnākoši, un ir iespēja visu sarunāt”.

Savukārt uz jautājumu, cik pats pedagogs ir gatavs darbam ar šiem bērniem, atbildes vairs nebija tik viendabīgas. Tikai 3 pedagogi norādīja, ka ir kvalificēti šādu procesu īstenošanai un darījuši to jau iepriekš, piemēram, darbā ar skolēniem reemigrantiem, skolēniem, kas pārnākuši no mazākumtautību skolām (pārsvarā vidusskolas posmā) un kuru valsts valodas zināšanu līmenis bijis nepietiekams. Lielākais vairums (26 respondenti) atzīmēja, ka kā pedagogs jūtas ieinteresēts skolēnu veiksmīgākai integrācijai Latvijas skolu sistēmā un jūt atbildību par sava darba rezultātiem. Tikai 2 pedagogi norādīja, ka nav piemēroti šim darbam, bet spiesti to darīt. Šeit jānorāda, ka pasaulē veiktie pētījumi par skolotāja labizjūtu skolā rāda, ka apmierinātība ar darbu ne tikai ir cieši saistīta ar pedagoga noturēšanu skolā, bet arī veicina skolotāju un viņu skolēnu labsajūtu, vispārējo saliedētību skolā un skolotāja profesijas statusa uzlabošanos, kā arī skolotāju motivācijas pašvērtējumu (Toropova, Myrberg, & Johansson, 2020). Tādēļ arī turpmāk būtu vēlams monitorēt pedagoga labbūtnību skolā, lai procesi, kas saistāmi jauniebraucēju integrēšanu un ietver skolēnu valodas, lasīt un rakstīt prasmes un zināšanu kompetences attīstību apstākļos, kad pedagogam trūkst teorētisko zināšanu, pieredzes, arī starptautiskās, nekļūtu par trauksmes līmeņa paaugstināšanās un izdegšanas sindroma iemeslu.

Pedagogi, analizējot savu līdzšinējo darbu, minējuši gan pozitīvo, gan negatīvo pieredzi darbā ar skolēniem jauniebraucējiem. Kā pozitīvie piemēri minēti grupu darbi, kad, strādājot kopā ar citiem skolēniem, arī tiem, kuri pārvalda starpniekvalodu, tiek veicinātas jauniebraucēju sadarbības, komunikācijas un mācīšanās prasmes. Kāds no pedagogiem norādījis, ka „ar iedrošinājumiem un pamudinājumiem izdevies iesaistīt skolēnu stundas darbā”, tiek norādīts uz skolēna mentora lielo lomu, tam jābūt skolēnam ar labām starpniekvalodas prasmēm. Tomēr šajā situācijā pedagogam jābūt tā trauklā robeža, kad tas nelabvēlīgi sāk ietekmēt pašu skolēnu mentoru. Izglītības likuma (1998) 3. pants, kas regulē tiesības uz izglītību, nosaka, ka, „aizliegts tieši vai netieši radīt personai nelabvēlīgas sekas”, šajā gadījumā skolēna mentora tiesības uz kvalitatīvu izglītību. Skolotāji norādījuši, ka arī pašam skolotājam jāprot starpniekvaloda, šajā gadījumā krievu valoda, tad ir iespēja skaidrot individualizēti, norādīt uz kļūdām un vēl apgūstamo.

Kā negatīvais tiek minēts jauniebraucēju motivācijas trūkums apgūt latviešu valodu, arī apstākļi, ka esot Latvijā, kā primārā bieži tiek izvēlēta interešu izglītība, vispārīglītojošā skola – sekundāra. Tiek norādīts, ka paralēli mācībām Latvijas skolā, visbiežāk tieši jauniebraucēji no Ukrainas mācās arī Ukrainas tālmācības programmā, kas kopā rada pārlietu lielu slodzi bērnam, ka ne vienmēr sakrīt izglītības programmas šeit un mītnes valstī.

Svarīgi sadarboties ar skolēna ģimeni, būtu jāizzina vecāku pieredze, nostāja izglītības jautājumos un nākotnes plānos, kā arī ģimenes materiāli ekonomiskās iespējas, sevišķi, ja ģimene Latvijā ieradusies nesen, tomēr tiktāl, cik tas attiecas uz izglītības ieguves procesu izglītības iestādē.

Uz jautājumu „Kādi atbalsta pasākumi Jums kā skolotājam būtu nepieciešami veiksmīgākam darbam ar skolēniem jauniebraucējiem?”, 29 pedagogi norādīja, ka nepieciešama būtu plašāka informācija par izstrādātajiem un pieejamajiem labās prakses piemēriem, metodiskajām izstrādātnēm, un kā būtisks negatīvais faktors ikdienas darbā minēts tieši laika trūkums skolotājam, kas nepieciešams kvalitatīvu darba materiālu sagatavošanai, kas izmantojami darbā gan ar skolēniem, kas labi pārvalda valsts valodu, gan jauniebraucējiem.

Šajā jomā jau daudz darījusi Latviešu valodas aģentūra (LVA), izveidojot vietni *Māci un mācies latviešu valodu*, centra metodiķi un pētnieki ir izstrādājuši latviešu valodas prasmes līmeņa noteicēju (Auziņa, Laizāne, Priedīte, & Šalme, 2021), 70 stundu Latviešu valodas apguves programmu jauniebraucējiem A0–A1 līmenim (Bernāne, Dambe, Krastiņa, Pamiļjane, & Vaivade, 2022). Tomēr līdz šim par valodu apguves jautājumiem vairāk spriests mazākumtautību izglītības sakarā, līdz ar to skolotāji, kas strādā skolās ar latviešu mācībvalodu, maz zina par valodu apguves procesa norisi, iespējām to īstenot visos mācību priekšmetos, pedagogiem trūkst pieredzes, tas veicina nedrošības un noraidošas attieksmes veidošanos pašos

pedagogos. Tādēļ 20 respondenti norādījuši, ka būtu nepieciešams metodiskais atbalsts skolas, pilsētas (novada) mērogā. 13 padagogi norāda uz nepieciešamību iepazīties ar citu valstu pieredzi darbā ar skolēniem jauniebraucējiem, kā potenciālās minot Skandināvu valstis.

Izvērtējot aptaujas rezultātus, tika konstatēts, ka pedagogi, kas strādā skolās ar latviešu mācībvalodu, ir pozitīvi noskaņoti īstenot Latvijas Republikas Saeimas pieņemtos Grozījumus Ukrainas civiliedzīvotāju atbalsta likumā (2022). Visām iesaistītām pusēm jāsaprot, ka valsts valodas apguve nav svarīga tikai izglītībai, bet arī darba tirgum un plašākai sabiedrībai ilgtermiņā.

Secinājumi **Conclusions**

Neskatoties uz to, ka jauniebraucēju izglītošana pasaulē pētīta jau ilgāku laiku, Latvijā tas kļuvis aktuāli pēdējo desmitgažu laikā. Īpaši aktuāls šis jautājums kļuva 2022.gadā, kad strauji palielinājās jauniebraucēju (sevišķi ukraiņu) skaits, kad jauniebraucēju bērni uzsāka mācības Latvijas skolās ar latviešu mācībvalodu, lai gan, kā rāda aptaujas dati, daļa izglītības darbinieku un iestāžu nebija tam gatavi.

Lai gan valodas prasme ir būtisks faktors, lai veiksmīgi noritētu skolēnu jauniebraucēju integrācija Latvijas izglītības sistēmā, tieši skolēnu valodas barjeru pedagogi saskata kā lielāko traucēkli un izaicinājumu savā pedagoģiskajā darbībā.

Lai mazinātu straujā un metodoloģiski nesagatavotā skolēnu jauniebraucēju integrācijas procesa norisē radušos apjukumu, svarīgi ļaut pedagogam sajust, ka viņš šai procesā nav viens, ka ir daudz institūciju, kas var viņam palīdzēt. Šai jautājumā būtu vēlama lielāka sadarbība ar vietējās pašvaldības speciālistiem, kas varētu skaidrot un mācīt kā strādāt ar skolēniem, kuriem nav valsts valodas zināšanu. Skolotājiem, sevišķi tiem, kas nav valodu jomas skolotāji, trūkst metodoloģijas zināšanu par latviešu valodas kā svešvalodas apguves specifiku un gaitu.

Pētījums arī atklāja pedagogu lielo ieinteresētību un motivāciju veiksmīgā integrācijas procesa norisē skolā. Skolotāji ir gatavi papildināt savas zināšanas iekļaujošās un starpkultūru izglītības jautājumos, gatavi noskaidrot, ko skolēns jauniebraucējs jau zina, jo var nesakrist izglītības programmas Latvijas un mītnes zemes valstī, piemēram, šāda situācija veidojas angļu valodas stundās, mācot jauniebraucējus no Ukrainas, kur angļu valodas mācības uzsāk vēlāk kā Latvijas skolās. Skolotāji ir vēlmes pilni uz klausīt un atbalstīt, un mācīt neapgūto. Būtu vēlama lielāka skolas administrācijas, metodiķu, psihologu un atbalsta personāla iesaiste jauniebraucēju mācību procesā, skolas kopīgas nostādnes izveide. Tas mazinātu iesaistīto pedagogu trauksmi par savu darbu un lielo atbildības slogu.

Lai veicinātu starpkultūru sapratni, ko skolotāji norādījuši kā vienu no traucējošiem faktoriem klases mikrovides izveidē, kā arī skolēnu sociālo prasmju pilnveidi, būtu ieteicamas ārpusklases aktivitātes, skolēnu jauniebraucēju iesaiste dažādos skolas pasākumos, tas veicina empātiju un savstarpējo toleranci. Ārpusklases neformālā atmosfēra tam lieliski piemērota.

Pedagoga darbs mūsdienu pieaugošās globalizācijas apstākļos izvirza jaunas un daudzveidīgas prasības. To starpā arī prasmi pārvarēt problēmsituācijas, kas rodas, kontaktējoties ar personām, kas Latvijā nonākušas dažādu politisku un ekonomisku norišu rezultātā. Pieaug pedagoga metodoloģisko, starpdisciplināro un valodas zināšanu nozīme. Līdz ar to nepieciešamas būtiskas izmaiņas skolotāju izglītībā un atbalsta sistēmā, veicinot pedagoģu spēju un prasmi pielāgoties darbam multikulturālā sabiedrībā. Jāsāk tas ar jaunu studiju kursu izveidi un realizāciju augstākajā izglītībā, izglītojot jaunus pedagoģus.

Summary

Despite the fact that the topic of newcomers has been studied for a long time, in Latvia it has become topical in the last few decades. The issue became particularly topical in 2022, when the number of newcomers increased rapidly, when children of newcomers started their education in schools of Latvia with Latvian as the language of instruction.

The language is the collection of names, objects and concepts. It is the system which consists of elements combined into a functioning linguistic organism; the content we perceive when we communicate in another language, engage in another culture or another way of life. Language proficiency is therefore an essential factor for the successful integration of newly-arrived students into the education system of Latvia. It must be admitted that educators highlight the language barrier as the biggest obstacle and challenge in their pedagogical work with newly arrived students. It is important to make the teacher feel that he/she is not alone in this process and there are many institutions that can help him/her. More cooperation with local experts who could explain how to work with students who do not speak the national language would be welcomed. Quite often teachers, especially non-language teachers, lack methodological knowledge about the specifics and process of learning Latvian as a foreign language.

The literature analysis emphasize a high level of interest and motivation among teachers in the success of the integration process at school. Teachers are ready to improve their knowledge on inclusive and intercultural education, ready to find out what are newcomers already know, because the curricula in Latvia and in their home country do not always coincide, and to teach what they have not learned. More

involvement of the school administration, methodologists, psychologists and support staff in the process of teaching newcomers, and the creation of a common school policy becomes topical. This would reduce the anxiety of the involved teachers.

To promote intercultural understanding, which teachers have identified as one of the hindering factors in the classroom environment, social skills development, extra-curricular activities, the involvement of newcomer students in various school activities would be recommended, as this promotes empathy and mutual tolerance. Tensions and conflicts are possible in contemporary multicultural society, and they need to be solved in an open and constructive way. The informal atmosphere outside the classroom is ideal for this.

Nowadays teaching occurs in increasingly globalised world bringing new and diverse demands. Among them there is the ability to cope with the problematic situations that arise when coming into the contact with people who come to Latvia because of various political and economic challenges. The importance of teacher's methodological, interdisciplinary and linguistic understanding is growing. This calls for significant changes in teacher education and offering support systems, enhancing teachers' capacity and skills to adapt to their work in a multicultural society.

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HOW FUTURE PEDAGOGUES (PEDAGOGY STUDENTS) UNDERSTAND WHAT IS GOOD FEEDBACK

Gintautė Žibėnienė

Vilnius university of applied sciences, Mykolas Romeris University,
Lithuania

Abstract. *The aim of this article is to reveal what is good feedback in the opinion of future teachers (pedagogy students). The topic received a lot of attention in the scientific literature due to the training process being carried out during the COVID-19 pandemic. It was researched which form of feedback is better. However, a few studies have been made on how pedagogy students understand what constitutes good feedback. 23 students of pedagogy who are future teachers in schools or kindergartens participated in the research for this paper. The data was collected in January-March, 2021. This is a qualitative study, based on the methodological approaches of social constructivism.*

When analyzing the peculiarities of good feedback identified by pedagogy students, we can distinguish the following subcategories: creating a pleasant, safe and benevolent environment; positive effects; helping or encouraging self-assessment; clear feedback; other observations. Future educators, when talking about good feedback, paid attention to the emotional, benevolent environment being created during the feedback; methodological aspects of providing feedback (clear recommendations for improvement, encouraging self-assessment), but did not mention the appropriate choice of the type of feedback at all.

Keywords: *feedback, feedback types, future pedagogues (pedagogy students).*

Introduction

In the study process, feedback provides opportunities for the students to find out what they need to improve. The students receive useful information about what and how they understood, what and why they did not understand, what mistakes they made, how to do better, and they receive recommendations for more successful studies. Thus, feedback aims to encourage students and educators to discuss teaching and learning activities together and their consequences. In the education reports initiated by the European Commission for the European Union, great attention is paid to formative assessment and feedback, stating that it is particularly important for improving the results of education, as well as for creating good relations between teachers and students in pedagogical interaction. There is a call to look for practices to organize feedback in better ways (Cefai, Downes, & Cavioni, 2021; Siarova, Sternadel, & Mašidlauskaitė, 2017).

In the pedagogical literature, a lot of attention is paid to discussing different types of feedback, analyzing what is good feedback, and looking for advanced feedback practices. Not only is feedback discussed in the pedagogical methodological literature, but it is also explored in scientific research. It was investigated, which feedback strategies are used by science teachers in the classroom setting with it being noted that “science teachers were found to most often use praise statements in the classroom setting” (Ozkale & Kanadh, 2021). This study revealed that science teachers were found to most frequently use praise statements in the classroom setting. However, they should focus more on using effort-based¹ feedback statements in the classroom. Following a constructivist approach, teachers need to prefer feedback statements that can facilitate students’ learning and transfer them to new learning situations. „Teachers are therefore recommended to use less negative feedback and protect gender balance when giving effort-based feedback” (Ozkale & Kanadh, 2021). However, another study investigates direct written corrective feedback with metalinguistic explanations and concludes that the findings suggest that metalinguistic explanations provided as part of the feedback to language learners’ writing is conducive to a higher level of cognitive engagement and leads to better learning outcomes (Bozorgian & Yazdani, 2021). Other publications note that students take too little care of feedback, they show too little involvement. Hast (2021) notes that especially in the COVID-19 situation, it was important to think about organizing feedback, to decide what kind of feedback would be appropriate, and how to involve students in providing remote feedback. In his paper “Higher Education in Times of COVID-19: Giving Online Feedback Implementation Another Look”, when making some recommendations on how to organize feedback, the author recommends further exploring the aspect of “how student engagement with online feedback might be fostered further, in the hopes of mitigating the interference emphasizing the current global situation” (Hast, 2021, p. 6). These studies and theory of pedagogy make it clear that the educator must not only be able to organize feedback, but also to respond flexibly to the general situation (e.g. COVID-19) and to find good feedback practices. Analyzing the themes of the published articles, it appears that the COVID situation (where students and teachers did not have face-to-face contact) has encouraged researchers to explore feedback more, as more diverse published studies have appeared.

When preparing future teachers, one of the goals in the study process is for them to experience various feedback practices during their studies, not only to learn about feedback theory. However, it is not clear what concept of feedback the future pedagogues personally form. So it is important to explore different concepts of student feedback to help the students understand the importance of

¹ “Effort-based feedback points out to the student’s efforts or desires in the process of showing up the desired performance or things the student needs to do to achieve the desired performance (e.g. You are a real hard-worker)”. (Ozkale & Kanadh, 2021, p. 440).

feedback and to help them understand what good feedback is. This will allow for more effective feedback and engagement of students too.

Therefore, *the aim* of this article is to reveal what is good feedback in the opinion of future teachers (pedagogy students). In order to achieve this goal, two tasks are set: 1) to reveal essential features of feedback, based on theoretical literature; 2) to introduce the concept of what is good feedback to future teachers (pedagogy students). *The object* of the article is the concept of good feedback for future educators. The following questions are raised: what concept do future educators have of good feedback, and what features of feedback are important to them. The research methods used were an analysis of academic literature and educational documents, and structured interviews. The criteria for research participants are as follows: a student of pedagogical studies who has studied for at least half a year (semester); studied at least one semester remotely (COVID-situation). The data was collected in January-March, 2021.

Theoretical aspects about feedback

Analyzing the literature, it can be observed that a lot of attention is paid to feedback, believing that if it is well organized, the quality of education and the learning results of students will improve. “Portfolios, holistic scoring rubrics and formative feedback can be helpful for formulating goals, monitoring student progress and assess broad competences. The systematic development of these methods should be supported” (Siarova et al., 2017). This explains that feedback improves student motivation and teacher-student communication. Cefai et al. gave even more importance to feedback: “The feedback received by students from teachers and peers in their daily interactions during the learning process, is one of most powerful learning processes” (Cefai et al., 2021). Feedback is studied in various aspects.) Another study investigated how automated feedback can be integrated into traditional teacher feedback by analyzing the focus of teacher and Grammarly feedback² through a written feedback analysis of language and content-related issues (Thi & Nikolov, 2022). Grammarly feedback makes the teacher's job easier, but there are still no confirmations that it fully meets the attributes of good feedback.

There are more studies which show that technology-assisted feedback is not as good as that, which is organized by a qualified teacher without any special technology. The study by Penn & Nicola (2022), concludes that “here is insufficient empirical evidence to suggest that screencast feedback is more effective than text feedback at enhancing student learning”. However, there are other research results, like an interesting study from the representatives of German Information and Technology sciences which states that “with in-depth knowledge

² “Grammarly feedback through a written feedback analysis of language- and content-related issue”. (Thi & Nikolov, 2022, p. 767).

of JavaScript, complex feedback models such as those of Hattie and Timperley as well as advanced didactic feedback concepts such as feedback literacy can be implemented in a digital self-learning environment” (Knaut et al., 2022).

Feedback helps learners understand learning goals and anticipate areas for improvement; student feedback has a direct impact on a teacher’s professional development which obliges educators to make appropriate choices about activities and questions that provide information about the effectiveness of their teaching (Hattie & Timperley, 2007). Feedback is an important component of the formative assessment process (Brookhart, 2008). In terms of feedback strategies and content, these are important features and recommendations: timing, a provision of immediate feedback for knowledge of facts (right/wrong); amount (choose points that relate to major learning goals); mode (interactive feedback, talking with the student); audience; focus (comment on the student’s self-regulation if the comment will foster self-efficacy); comparison (use criterion-referenced feedback for giving information about the work itself); function; valence; specificity (identify errors or types of errors, but avoid correcting every one); tone (choose words that communicate respect for the student and the work) (Brookhart, 2008). These signs of good feedback are perhaps the most comprehensive.

Garber highlights the importance of teacher-student interaction during feedback and clearly reveals how many aspects affect the quality of feedback (Garber, 2014). The variable for both the giver and the receiver of feedback will be determined by the perceptions of the participants. (Fig.1).

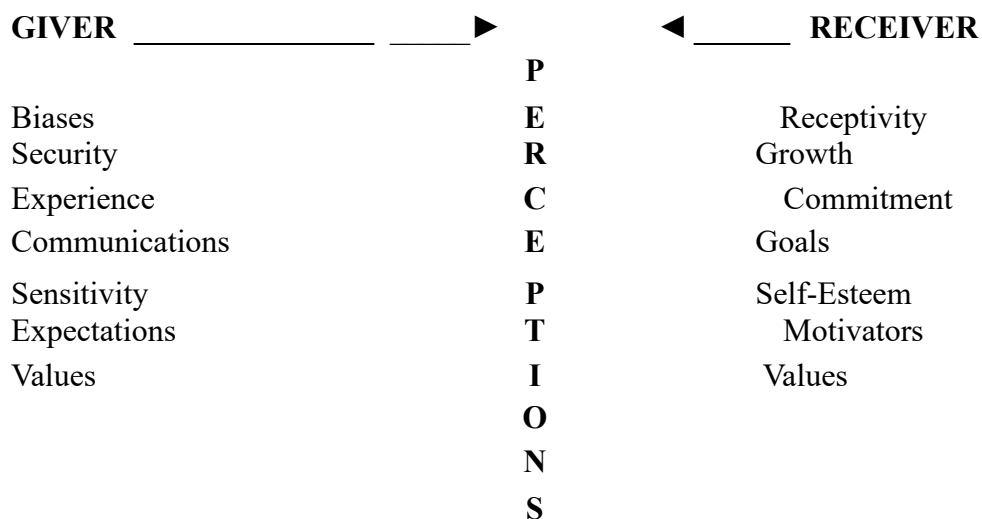


Figure 1 *Feedback Model by P.R. Garber* (Garber, 2014)

“Each person has their own “perceptual filters” that “color” the feedback they receive.” (Garber, 2014). P. R. Garber's feedback model clearly shows what characteristics of the teacher and the student affect good feedback (Fig.1). This model perfectly illustrates the dependence of feedback quality on a variety of

factors. For example, if a student wants to learn, is motivated, has the goal of learning from his mistakes, then he will listen carefully to the teacher. However, this may fail if the teacher will provide the student with uncertain, incomprehensible information or violate the pupil's self-esteem (e.g. you never do well) when providing feedback, not being sensitive. If the teacher and the student are differently aware of the feedback purpose, it complicates the quality of feedback. For example, if a pupil wants to receive feedback where the teacher just tells them the correct answer. However, the teacher may want to tell the student how to find out what the correct answer is (e.g. what rule to apply, etc.) during feedback.

These different approaches prevent feedback from seeing feedback value. Therefore, scientists pay a lot of attention to name what is important to organize good feedback. After making conclusions from literature sources, we can state that any credible feedback should be based on these criteria:

- positive comments are given first;
- provided immediately after or during the work;
- confirms what is being done correctly;
- mistakes and gaps are identified;
- clear recommendations for improvement are provided;
- is identified in a clear, specific, reasoned and reasoned manner;
- talking about how the student feels when receiving feedback;
- it is about attitude, personal activity, but not about the person;
- choosing a right type of feedback and how to handle it;
- empathetically listened, adjusted and answered;
- feedback's quality and what effected it; duration and time; the volume of feedback; feedback form; feedback participants; voice tone; eye contact; environment and situational circumstances; level of confidentiality; other circumstances (Indrašienė & Žibėnienė, 2014; Garber, 2014; Knaut et al., 2022).

Research design and ethics

This is a qualitative study, based on the methodological approaches of social constructivism (for people their personal understanding is not the mirror image of the knowledge or skills transmitted to them, but their personal reflection and the theoretical assumptions of social constructivism) (Creswell, 2009; Kukla, 2000).

The data was collected in January-March, 2021. 23 students of pedagogy who are future teachers in schools or kindergartens participated in the research. These are students who already have a higher education diploma and study in a one-year pedagogical study program that grants the qualification of an educator and the right to work in their pedagogical work. Students are from different study groups.

Each interview took about 15-20 minutes, and due to the COVID-19 situation, took place online. The interview questions covered the following parts: what is good feedback; what feedback is inappropriate; what kind of feedback should be in high school and in school (peculiarities, differences, similarities). This article puts emphasis on the first part of the interview – how pedagogy students (future pedagogues) indicate what is good feedback.

The research methods used were: analysis of academic literature and educational documents, structured interviews. The student selection was made according to the following criteria: a student of pedagogical studies who has studied for at least half a year (semester); studied at least one semester remotely (COVID-situation).

The qualitative content analysis was used to analyze the interview data, which allowed to draw conclusions based on the analyzed text. This method of analysis was based on systematic analytical steps: multiple readings of records (an audio record was made using a phone, some records using the Zoom software), systematic interpretation of distinguished categories and subcategories and their justification based on the evidence from the transcribed texts – the confirmatory statements. According to the qualitative research methodology, the confirmatory statements are extracts from answers provided by the participants which cannot be changed by the researcher; therefore, they are quoted exactly as given by the participants. The initial interview data was handled in such a way as to ensure that it was impossible to identify the persons involved in the study. The answers of the future educators were coded, each person was assigned the letter S and a number, according to the order of analysis, for example S1.

The research was organized, data analysis was carried out and presented based on the principles of qualitative research ethics: ensuring the respect for individual privacy, confidentiality and anonymity, with goodwill and justice (Miller, Birch, Mauthner, & Jessop, 2012).

Research results

The informants have already studied about what kind of feedback is good, and they have already had their first pedagogical practice where they watched experienced educators' lessons. They have personally shared feedback (after receiving feedback from the educator) during their studies. It is important to find out what future educators consider as good feedback. The sound recordings were transcribed and the transcribed texts were read and analyzed many times. When analyzing the text, the following principles of data analysis were followed (Dahlgren & Fallsberg, 1991): 1. Familiarization with the research data – transcribed texts were read several times separately by each researcher, in order for each of them to form an opinion on the obtained research data. 2. Compilation of responses – the most significant elements of each research participant's

responses were identified, focusing on similarities and differences in the selected extracts. 3. Data reduction – the aim was to clarify the meaning of each response. 4. Grouping – responses that described similar phenomena were combined into groups, preliminary categories were identified, which could be reviewed and responses could be re-grouped. A preliminary list of categories was created. 5. Preliminary comparison of categories – the boundaries of the categories were defined and it was assessed whether the selected preliminary categories accurately reflected the participants' experiences. 6. Naming of categories – based on their internal features and characteristics, the key focus of these categories was highlighted and corresponding names were given to the categories.

According to the statements of students, the following categories could be distinguished for what constitutes good feedback (source table 1).

Table 1 Signs of good feedback in distance learning based on the concept of future pedagogues (created by the author)

Category	Subcategory
Signs of good feedback that correspond to the mentioned in pedagogical scientific and methodological literature.	A pleasant, safe and benevolent environment is created. Positive effects for student. Helps or encourages self-assessment. Clear feedback.
Signs of feedback (based on future the opinion of the educators' subject).	Other observations.

A pleasant, safe and benevolent environment is created. It seems very important for future educators to create a pleasant environment by providing feedback <...> when it improves mood <...> (S4)³; <...> can feel free and feel sincerity <...> (S11); <...> you are not afraid to ask and you know that everyone is benevolent <...> (S7); <...> safety ... to feel the goodwill of the teacher <...> (S16); <...> sincere and personal <...> (S18). In summary, prospective educators, when talking about good feedback, named their expectations to be pleasant and emotionally safe during the feedback. When it comes to a benevolent environment, this is expected from both the teacher and classmates.

Positive effects for students. The informants mentioned the positive effect, but named it differently, some just briefly named <...> the positive effect <...> (S1), but there were also more specific statements: <...> when you clearly understand what you have done well ... then realize that you can ... inspire to learn <...> (S19); <...> when you clearly understand what you have done well ... then you realize that you can ... inspire you to learn <...> (S22); <...> when you learn mistakes, how to correct them, it has a positive effect on learning outcomes ... (S5); <...> during my studies I understood why it is necessary to talk about the work done ... I had a hard time at work in those discussions with my principal ...

³ Original language is Lithuanian and has been translated into English.

now I feel better, I understand why it is necessary <(>> (there are students, who are simultaneously working in an educational institution and studying). When talking about the positive effects of feedback, students reveal different aspects – improving results, increasing motivation to learn, a clearer understanding of the meaning of feedback.

Helps or encourages self-assessment. Some pedagogical students clearly associate good feedback with their performance self-assessments and state that good feedback should help the student self-evaluate their performance: <...> good feedback helps self-assessment <...> (S3); ... it becomes clear how to self-assess the activities performed ... (S10); <...> gives precise remarks, then I can self-assess <...> (S14); <...> when he says the pros and cons and encourages me to self-assess and draw a conclusion <...> (S23). The observations of pedagogical students show that they associate feedback with formative assessment.

Clear feedback. Students believe that good feedback needs to be clear, there is a lot and variety in their observation, for example <...> gives precise remarks, then can self-assess <...> (S2); <...> it must be made clear what is wrong if there are errors ... (S21); <...> when specifically stated, one then understands how one should have done better or corrected <...> (S7). However, some students associate the clarity of feedback with the correction of errors and the saying of correct answers: <...> must clearly state what the correct answer is if there are errors <...> (S15); <...> correct errors and explain them clearly ... (S20); <...> When you understand what you are saying <...> (S12).

There are observations that the clarity of the feedback is related to the clarity of the task: <...> if the task is clear, then the feedback is clear <...> (S6). This observation may be related to the fact that the task is not very clear to the student, if there are learning gaps, then the discussion of the work done by the student related to that task remains unclear to him.

Other observations. Still, there were observations from students when they associated good feedback with subjective, personal expectations: <...> when lifting the mood⁴ <...> (S2); <...> get real-time answers to questions <...> (S8); <...> When there is no criticism <...> (S13). These student observations cannot be attributed to the essential features of good feedback. It is methodologically important that the feedback is organized as soon as possible after the activity, but especially remotely, when a long-term task is planned, the educator cannot provide feedback here and now at any time of the day. In practice, probably every teacher is faced with a situation where a student, e.g., messaged at 11 p.m. in the evening and already in the morning of the next day expresses claims as to why his letter was not answered. It can be assumed that these personal attitudes have given rise to the belief that feedback should be provided "here and now". Another

⁴ This would not be attributed to the subcategory "A Pleasant, Safe and Benevolent Environment is Created," because in the whole record we can hear about the essential desire to simply improve his mood simply by talking about anything or justifying something that improves the student's overall well-being.

misconception is to associate good feedback only with praise, without criticism. Feedback must be objective, if there is only praise and the mistakes made are not mentioned, the feedback will not be objective nor full. It is methodologically agreed that when organizing feedback, positive comments are given first, empirically listened to, clarified and answered, etc. (Indrašienė & Žibėnienė, 2014). But this does not mean that feedback must be “lifting the mood”. It can be assumed that this desire may have been influenced by the COVID-19 situation, when some people felt emotionally worse.

Summary and discussion

The peculiarities of feedback mentioned by future pedagogues (pedagogy students) can be related to the features singled out in the methodological literature. Future pedagogues understand the usefulness of feedback, but their opinion of what is good feedback varies. Some pedagogy students feel the need to talk about mistakes and say the right answers during feedback. This means that students prioritize one type of feedback – corrective feedback. However, the theoretical literature indicates various types of feedback and it is important to apply various types of feedback in pedagogical practice. But Susan M. Brookhart makes it clear that the educator doesn't have to say the right answer, but has to encourage the student to find it (Brookhart, 2008). The intelligibility of feedback is a vital attribute. This is confirmed by A. Chaudhary, who observed how students felt about receiving corrective feedback. The results of this study revealed, that corrective feedback is well suited for students, as they receive clear information about their mistakes (Chaudhary, 2022). However, a study by H. Bozorgian & Yazdani reveals the benefits of corrective feedback when mistakes are corrected (Bozorgian & Yazdani, 2021). These different opinions can be associated with different types of feedback: corrective feedback, formative feedback; based on arguments + personal contact, conversation; integral (self-person, colleagues, lecturer); self directed feedback; based on the personal commitment of the student.

We can assume that students' focus on creating a positive emotional environment during feedback may be attributed to their personal experiences or the unique circumstances of a potential COVID-19 situation, during which we were all more sensitive and yearning for positive emotions. This experience can serve as a valuable lesson for future educators, who will eventually be responsible for organizing feedback rather than receiving them. It is essential to cultivate an emotionally supportive environment when organizing feedback.

Hast talks about how to involve students in providing remote feedback (Hast, 2021). This question raised by M. Hask can also be related to the results of this study, as students mentioned expectations of an educator when speaking about good feedback, i.e., what the educator has to do. However, no such student

observations were found when identifying feedback initiatives from the student's side. Garber makes it clear that it is important to apply different types of feedback and aim for the student to become the initiator of the feedback, not just wait for the teacher's initiative (Garber, 2014).

Future educators identified several positive feedback characteristics. However, based on these studies, it becomes clear that when training educators, it is important to help them understand more clearly that it is important to apply various types of feedback in educational practice and to better understand the differences between these types of feedback. It should not be a personal preference for a particular type of feedback. It is possible that some future educators plan to use corrective feedback because good feedback is characterized by the provision of the correct answer. However, it is conceivable that future students are looking from a personal perspective and want to choose the fastest way, which is not to follow the recommendations received during feedback on how to find the correct answer, but to simply hear it. The observations of students (subcategory "other observations") expressing a desire to get an answer here and now are worrying. It is necessary to expand the research and clarify whether this is a consequence of the situation in higher education, where the emphasis is placed on the notion that "a student is a customer whose needs must be satisfied". Do students think that their every need must be met? Is this a consequence of modern communication? (e.g. getting an immediate response after messaging someone). Or perhaps this is an incorrect perception of future educators that the working hours of a teacher cannot be limited if the teacher is dedicated to their work and works out of vocation.

Conclusions

Literature analysis revealed that good feedback needs to be associated with these organizational and content aspects: positive comments are given first; provided immediately after or during the work; confirms what is being done correctly; mistakes and gaps are identified; clear recommendations for improvement are provided; is identified in a clear, specific, reasoned manner; talking about how the student feels when receiving feedback; it is about attitude, personal activity, but not about the person; empathetically listened, adjusted and answered and factors affecting feedback quality are taken into account (duration and time; the volume of feedback; feedback form; feedback participants; voice tone; eye contact; environment and situational circumstances; level of confidentiality; other circumstances).

While analyzing the peculiarities of good feedback identified by pedagogy students, we can distinguish the following subcategories: creating a pleasant, safe and benevolent environment; positive effects; helping or encouraging self-assessment; clear feedback; other observations. Future educators, when talking

about good feedback, paid attention to the emotional, benevolent environment being created during the feedback; methodological aspects of providing feedback (clear recommendations for improvement, encouraging self-assessment), but did not mention the appropriate choice of the type of feedback at all.

Still, research has revealed that some prospective educators still need to delve deeper into what constitutes good feedback or get out of an egocentric or personal position, because feedback cannot just be compliments, just naming good things. Also, the purpose of good feedback is not to cheer and lift the mood or expect a quick response (feedback) at any time of the day, as future educators think. This is only a presumption, further research is needed, but it is possible to assume that the concept of study quality related to the notion that "a student is a customer whose needs must be satisfied" may influence the students' perspective in the study presented in this research.

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JAUNPIENĀCĒJU IEKĻAUSĀNAS IESPĒJAS LATVIJAS VISPĀRIZGLĪTOJOŠAJĀS SKOLĀS

Possibilities of Inclusion of Newcomers in General Schools of Latvia

Līga Danilāne

Rēzeknes Tehnoloģiju akadēmija, Latvija

Lauma Danilāne

Austrumlatvijas Tehnoloģiju vidusskola, Latvija

Abstract. *At the time when Russia is conducting military operations in Ukraine, Latvia provides all possible political, financial, military and humanitarian support to Ukraine, including hosting Ukrainian residents fleeing the war in Latvia. Education plays a vital role in the economic, social and cultural integration of migrants and refugees in the host country. Education is a key tool for transitioning from humanitarian to development and integrating those granted asylum into society. The aim of study: to study the possibilities and threats of inclusion of newcomers in general education schools and to analyze the experience of students included in general education schools of the city of Rēzekne and Rēzekne district.*

Keywords: *general school, inclusion, newcomers.*

Ievads

Introduction

Izglītības un zinātnes ministrijas statistikas dati rāda, ka Latvijas izglītības iestādēs aizvien pieaug tādu skolēnu skaits, kas iepriekš izglītību guvuši izglītības iestādēs ārvalstīs. Tā 2015./2016. mācību gadā tie bija 664 skolēni, 2017./2018. mācību gadā 835 skolēni, savukārt 2019./2020. gadā - 1680 skolēnu. Visvairāk jaunpienācēju šajā laika periodā ir no tādām valstīm kā Lielbritānija, Vācija, Īrija, Krievija, Norvēģija un ASV (VIIS, 2022).

Laikā, kad Krievija veic karadarbību Ukrainā, Latvija sniedz visu iespējamo politisko, finansiālo, militāro un humāno atbalstu Ukrainai, tostarp uzņemot Latvijā no kara bēgošos Ukrainas iedzīvotājus. Kopš 2022. gada 24. februāra, kad Krievija uzsāka bruņotu iebrukumu Ukrainā, tika pārtrauktas daudzu Ukrainas civiliedzīvotāju iespējas īstenot izglītību. Valsts izglītības informācijas sistēmas operatīvie dati (31.05.2022) apliecina, ka kopējā skolēnu skaitā ir uzņemti 4145 Ukrainas izglītojamie, no kuriem pirmsskolas programmās - 1329 bērni, savukārt 2815 skolēni- no 1. līdz 12. klasei (VIIS, 2022).

Pieklūve kvalitatīvai izglītībai migrantiem un bēgļiem ir ļoti svarīga drošībai, sociālajai kohēzijai, miera veidošanai un stabilitātei. Tas palīdz viņiem tikt galā ar traumu, ko viņi, iespējams, ir piedzīvojuši pārvietošanas un vardarbības rezultātā. Tas ir ļoti svarīgi zināšanu un prasmju attīstībai, nākotnes nodarbinātībai un pašpietiekamībai. Migrantiem un bēgļiem ir nepieciešams integrēties jaunā sabiedrībā, un izglītībai šajā procesā ir galvenā loma. Augsti izglītoti bēgļi var arī dot ieguldījumu uzņēmošās valsts ilgtspējīgā attīstībā un atjaunošanā (International Bank for Reconstruction and Development, 2021).

Eiropas Komisijas (European Commission, 2020) izstrādātajā Rīcības plānā par integrāciju un iekļaušanu 2021.–2027. gadam ir norādīts, ka izglītība ir pamats veiksmīgai līdzdalībai sabiedrībā. Skolas un citas izglītības iestādes ir vide, kas palīdz veidot iekļaujošu sabiedrību. Eiropas Komisija rosina dalībvalstīm atbalstīt plašāku izglītības pieejamības nodrošināšanu migrantu bērniem. Nodrošināt, ka migranti un bēgļi apmeklē un pabeidz skolu, ir tikai pirmais solis ceļā uz iekļaušanu. Galvenais izaicinājums, pilnībā iekļaujot šos skolēnus uzņēmējā sabiedrībā, ir piedāvāt augstas kvalitātes izglītību, kas nodrošina aizspriedumu, stereotipu un diskriminācijas novēršanu (UNESCO, 2018).

Raksta mērķis ir izpētīt jaunpienācēju iekļaušanas vispārizglītojošajās skolās iespējas un analizēt Rēzeknes valstspilsētas un Rēzeknes novada vispārizglītojošajās skolās iekļauto skolēnu pieredzi. Mērķa sasniegšanai izmantota teoriju analīze, anketēšana un matemātiskās datu apstrādes metodes.

Teorētiskais pamatojums *Theoretical background*

Pasaulē pieaugošās migrācijas rezultātā dažādu valstu izglītības sistēmās ir jāiekļauj indivīdi, kuriem ir atšķirīgas akadēmisko spēju, kultūras un sociālekonomiskā līmeņa iezīmes. Mūsdienās skolām ir jāpiesaista skolēni ar dažādām valodām, kultūrām, dzimumiem un mācīšanās pieredzi, kas tiek ietverts idejā par “iekļaujošo izglītību” (OECD, 2005).

Iekļaujoša izglītība, kas paredz tiesības uz kvalitatīvu izglītību visiem skolēniem un ir definēta kā obligāta politika starptautiskā līmenī, ir izpratne, kas prasa izmantot efektīvas izglītības pieejas un stratēģijas, lai reaģētu uz skolēnu dažādību (Liasidou, 2015).

Latvijas Izglītības likumā ir noteikts: “Ikvienam cilvēkam ir tiesības iegūt izglītību neatkarīgi no mantiskā un sociālā stāvokļa, rases, tautības, etniskās piederības, dzimuma, reliģiskās un politiskās pārliecības, veselības stāvokļa, nodarbošanās un dzīvesvietas” (LR Saeima, 1998). Iekļaujošās izglītības būtības pamatā ir šo tiesību ievērošanas nodrošināšana. Nacionālajā enciklopēdijā teikts, ka “iekļaujošā izglītība ir izglītības veids, kura pedagoģiskā pieeja pamatojas uz sociālā taisnīguma centieniem nodrošināt visiem cilvēkiem līdztiesīgus

nosacījumus un iespējas iesaistīties izglītības ieguvē un vienlaikus – arī plašākā sabiedrības dzīvē” (Nacionālā enciklopēdija, 2022).

Iekļaujoša izglītība tiek uzskatīta par stratēģiju iekļaujošas sabiedrības izveidei, kas cīnās pret visu veidu diskrimināciju un kuras mērķis ir novērst atstumtību. Iekļaujošās izglītības mērķis ir nodrošināt nelabvēlīgā situācijā esošu skolēnu skolas apmeklēšanu, šķēršļu pārvarēšanu, baiļu, aizspriedumu un atstumtības mazināšanu, kā arī tolerances palielināšanu. Iekļaujošās izglītības mērķis ir palielināt visu skolēnu mācību panākumus un nodrošināt viņu piekļuvi kvalitatīvai izglītībai un līdzdalību tajā (Puri & Abraham, 2004). Savukārt Dusiks un Santarosa (Dusik & Santarosa, 2016) norāda, ka iekļaušanas process ir saistīts ar to, kā skolas tiek galā ar dažādību un kā tiek piedāvātas vienlīdzīgas izglītības iespējas nelabvēlīgā situācijā esošiem skolēniem. Tā ir koncepcija, kas virza uz izglītības politiku un esošajiem normatīvajiem un tiesiskajiem regulējumiem, kā arī pārtrauc nelabvēlīgo personu atstumtības, marginalizācijas un diskriminācijas apburto loku, mainot izglītības pieejas, lai nodrošinātu vienlīdzību un nodrošinātu, ka šie bērni paliek skolā (Yilmaz & Yeganeh, 2021).

Pasaulē pastāv dažādas pieejas jaunpienācēju integrēšanai izglītības sistēmā. Lai gan, kā uzskata Edele, Kristena, Stanata un Villa (Edele et al., 2021), bēgļu pusaudžu apstākļi atšķiras no citiem migrantiem, lielākā daļa pasaules valstu nešķiro bēgļus un citus tikko ieradušos jaunpienācējus iekļaušanai izglītības sistēmā (Crul et al., 2016; Crul et al., 2019). Plaši pielietota pieeja, kas tiek lietota ASV (Short & Boyson, 2012) un Austrālijā (Correa-Velez et al., 2010; Woods, 2009), ir jaunpienācēju sākotnēja iekļaušana jaunpienācēju klasēs vai atsevišķās skolās, vai arī atsevišķās klasēs vispārīzglītojošajās skolās. Arī daudzās Eiropas valstīs, tajā skaitā Vācijā (Vogel & Stock, 2017), Zviedrijā (Tajic & Bunar, 2020) un Norvēģijā (Hilt, 2017), ir ierasta līdzīga prakse sākotnēji nošķirt tikko ieradušos jaunpienācējus skolēnus no vietējiem skolēniem.

Jaunpienācējiem jāpielāgojas jaunai izglītības sistēmai un skolas kultūrai, kas var atšķirties no tās, kas ir pieredzēta mītnes zemē. Miles un McKenna (Miles & McKenna, 2016) uzskata, ka veiksmīgu migrantu un bēgļu bērnu integrāciju var panākt gan sociālajā, gan akadēmiskajā aspektā, ja tā ir rūpīgi plānota. Svarīgi ir nodrošināt integrētu mācību pieredzi skolēniem un viņu mācīšanās, sociālo un emocionālo vajadzību nodrošināšanu.

LR Patvēruma likums (LR Saeima, 2016) nosaka, ka “jebkuram nepilngadīgam patvēruma meklētājam tiek nodrošinātas iespējas iegūt izglītību valsts valodā”. Arī Ukrainas civiliedzīvotāju atbalsta likums (LR Saeima, 2022) paredz uz laiku visiem kara bēgļiem no Ukrainas tādas pašas iespējas un tiesības uz pakalpojumiem kā Latvijas iedzīvotājiem. Tas nozīmē, ka Latvijas izglītības iestādes jau ir saskārušās vai tuvākajā nākotnē saskarsies ar bērniem un jauniešiem, kuru zināšanas un prasmes ir atšķirīgas un kuriem ir nepieciešamība sniegt daudzveidīgu atbalstu, ar mērķi šo skolēnu veiksmīgai iekļaušanai klases un skolas kolektīvā.

Latvijas vēsturiskā situācija un tradicionālā dažādu tautību klātbūtne tās teritorijā ir radījusi apstākļus valsts atbalstītai daudzietniskajai izglītībai. Skolās kā mācību valodas tiek izmantotas vairākas minoritāšu valodas, piemēram, poļu, krievu, ukraiņu un baltkrievu. Tas var atvieglot to skolēnu iekļaušanu Latvijas izglītības sistēmā, kuru dzimtā valoda tiek izmantota mācību procesā.

Lai labāk apgūtu mācību vielu latviešu skolā, jaunpienācējiem ir paredzēta iespēja vairākus gadus apgūt kādas klases mācību vielu, kas vietējās kopienas bērniem nav ļauts. Bez tam Ukrainas civiliedzīvotāju atbalsta likums (LR Saeima, 2022) nosaka, ka ar 2022. gada 1.septembri visi ukraiņu bērni no pirmsskolas līdz vidusskolai izglītību apgūs tikai valsts valodā.

Valsts izglītības satura centra (VISC) direktore Liene Voronņenko ir novērojusi, ka jaunpienācējiem no Ukrainas vecumā līdz 7. klasei nav būtisku problēmu iekļauties Latvijas izglītības sistēmā. Bet vecāko klašu skolēniem gan parādās mācību priekšmetu satura apguves nepilnības, piemēram, angļu valodā un datorikā (Puķe, 2022). Tas nozīmē, ka Ukrainas skolās vecāko klašu mācību saturā angļu valodas un datorikas apguvei netiek pievērsta tik liela uzmanība kā Latvijā.

Latvijas likumdošanā ir paredzētas iespējas visiem jaunpienācējiem iegūt izglītību valsts valodā, tomēr pastāv arī faktori, kas to kavē – jaunpienācēju latviešu valodas zināšanas, skolotāju gatavība un prasmes strādāt ar šiem skolēniem, finansiālais nodrošinājums u.c.

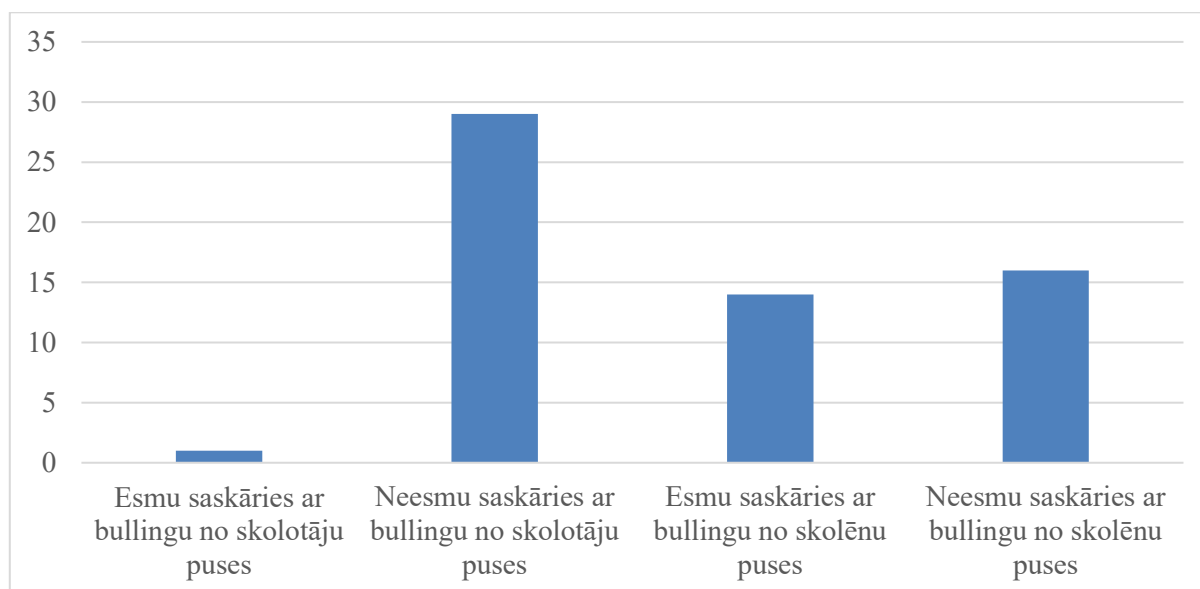
Pētījuma metodoloģija *Methodology of research*

Pētījuma ietvaros tika veikta anketēšana, kurā piedalījās 30 Rēzeknes valstspilsētas un Rēzeknes novada vispārizglītojošajās skolās iekļautie jaunpienācēji no 1. līdz 12. klasei. Anketas mērķis ir noskaidrot vispārējās izglītības iestādēs iekļauto jaunpienācēju skolēnu pieredzi par iekļaušanās procesu, skolotāju un skolēnu attieksmi, mācību satura apguves iespējām, izdarīt secinājumus un izvirzīt ieteikumus šī procesa uzlabošanai. Anketā tika iekļauti gan slēgtā, gan daļēji slēgtā tipa jautājumi. Anketa sākotnēji tika sastādīta latviešu valodā, bet, lai respondenti to veiksmīgāk spētu aizpildīt, tā tika tulkota krievu valodā, kas kalpo kā starpniekvaloda, un izplatīta tīmeklī portālā visidati.lv. Anketēšana tika veikta anonīmi un visi tajā iegūtie dati tika izmantoti apkopotā veidā. Datu apstrādei tika pielietotas divas datorprogrammas: MS Excel datu matemātiskai apkopošanai un grafiskai attēlošanai un SPSS 20 datu savstarpējo sakarību meklēšanai.

Pētījuma rezultāti Results

Aptaujas rezultāti liecina, ka visi respondenti, kas aizpildījuši anketu, ir jaunpienācēji no Ukrainas un ir iekļauti visos vispārīzglītojošās izglītības sistēmas līmeņos. Vislielākais jaunpienācēju skaits ir iekļauti pamatizglītībā no 5. līdz 9. klasei, kas ir 18% no respondentiem. Atbildot uz jautājumu par uzturēšanās ilgumu Latvijā, 23% anketēšanas dalībnieku norāda, ka šeit uzturas ilgāk kā 6 mēnešus, kas nozīmē, ka viņiem ir bijis pietiekams laiks, lai iekļautos vispārīzglītojošajā skolā un sabiedrībā.

Lai veicinātu jaunpienācēju iekļaušanos vispārīzglītojošajā skolā, liela loma ir skolotāju un skolēnu savstarpējai mijiedarbībai (Nayir & Saridas, 2021). Veiktās anketēšanas rezultāti rāda, ka lielākā daļa respondentu nav saskārušies ar bullingu (noniecinājumu) no skolotāju puses (tāds ir tikai viens respondents), savukārt 14 respondenti norāda, ka ir ietekmēti no skolēnu puses, kas negatīvi ietekmē jaunpienācēju iekļaušanos skolās (skat. 1.att.).



1.attēls. *Skolēnu un skolotāju attieksme pret jaunpienācējiem* (autoru veidots)
Figure 1 *Attitude of students and teachers towards newcomers* (made by authors)

Lai jaunpienācēji veiksmīgi iekļautos LR izglītības sistēmā, likumdošana paredz mācību satura apguvi latviešu valodā, bet šis faktors var kļūt par traucējošu iekļaušanās procesā sakarā ar to, ka jaunpienācēji šo valodu nezina, ko parāda ar anketēšanas rezultāti – 23 respondenti norāda, ka izjūt valodas barjeru gan mācību materiāla apgūvē, gan komunikācijā ar klasesbiedriem un skolotājiem. Respondentu atbildes rāda, ka skolotāji lielākoties izmanto gan latviešu, gan krievu valodu, kas jaunpienācējiem no Ukrainas gan atvieglo mācību vielas uztveri, gan attīsta latviešu valodas prasmes, kā arī veicina viņu iekļaušanos klasēs. Krievu valodas kā starpniekvalodas lietošana atvieglo iekļaušanās

procesu, jo lielai daļai jaunpienācēju šī valoda ir zināma un viņi to ir lietojuši un lieto arī savās ģimenēs.

Rēzeknes valstspilsētas un Rēzeknes novada vispārizglītojošajās skolās iekļautie jaunpienācēji saskata grūtības iekļauties vispārizglītojošā skolā Latvijā, kas saistītas ar mentalitātes un kultūras atšķirībām. Šīs atšķirības arī var kalpot kā traucējošs faktors komunikācijas ar klasesbiedriem veidošanā. Kā ieguvumus anketēšanas dalībnieki norāda gan uz jaunu draugu iegūšanu, gan jaunas valodas apguvi, kā arī norāda, ka, mācoties citas valsts vispārizglītojošajā skolā, ir gūta laba iekļaušanās pieredze.

Analizējot anketēšanas rezultātus, tika izmantota Pīrsona korelācija, kas parāda divu parādību savstarpējo sakarību veidošanos. Lai noskaidrotu savstarpējās sakarības starp skolēnu mācību satura apguves grūtībām un dažādiem skolotāju izmantotajiem mācību satura pasniegšanas veidiem, tika izmantota Pīrsona korelācija SPSS20 programmā. Analizējot iegūtos datus, redzam, ka vidēji cieša sakarība ($r=0.539$) veidojas jaunpienācēju atbildēm par dažādu mācību materiālu izmantošanu mācībās un mācību materiālu apguves iespējām. Tas nozīmē, ka skolēni jaunpienācēji saskata iespējas apgūt mācību saturu, izmantojot dažādus veidus un pieejamos materiālus. Savukārt cieša sakarība ($r=0.765$) ir vērojama atbildēm par dažādu valodu izmantošanu mācībās un mācību materiālu apguves iespējām.

Rezultāti ļauj secināt, ka jaunpienācēji skolēni saskata plašas iespējas apgūt mācību saturu, izmantojot dažādas mācību valodas – gan latviešu, gan krievu, angļu, kā arī jaunpienācēju dzimto valodu. Tas liecina par to, ka viņi iekļaujas mācību procesā, ja skolotāji nodrošina mācību satura apgūvē dažādus mācību materiālu – grāmatas, darba lapas, spēles, internetu utt. – izmantošanu un lieto gan latviešu, gan krievu, kā arī skolēnu dzimto valodu.

OECD 2005. gada ziņojumā (OECD, 2005) teikts, ka, iekļaujot skolās skolēnus ar dažādām valodām, kultūrām, dzimumiem un mācīšanās pieredzi, var tikt veicināta tolerance un sociālā integrācija. No anketēšanas rezultātiem redzam, ka jaunpienācēji skolēni atzīst, ka viņu iekļaušanos kavē vairāki būtiski faktori - latviešu valodas nezināšana, kultūras un mentalitātes atšķirības, u.c.. Šo faktoru ietekmi, pēc autoru domām, ir iespējams mazināt ne tikai formālajā mācību procesā skolā, bet arī ārpusklases nodarbībās, interešu izglītībā, kā arī dažādos pasākumos skolās un ārpus tām.

Secinājumi **Conclusions**

Iekļaujošas izglītības vispārējais mērķis ir novērst visus iespējamus šķēršļus mācībām, kā arī palielināt visu skolēnu mācību panākumus un nodrošināt viņu piekļuvi kvalitatīvai izglītībai un dalību tajā. Iekļaušanas procesā ir svarīgi nodrošināt integrētu mācību pieredzi skolēniem un viņu mācīšanās, sociālo un

emocionālo vajadzību nodrošināšanu. Bez tam jaunpienācējiem ir nepieciešams atbalsts, lai apgūtu uzņemošās valsts valodu un pilnveidotu dzimto valodu. Bēgļu bērniem uzņēmējas valsts valodas apguve ir svarīga viņu turpmākajiem panākumiem jaunajā valstī.

Jaunpienācēju skolēnu iekļaušana izglītības sistēmā ir sarežģīta, jo mācību iestādēs ir jānodrošina tāds mācību process, kas atbilst Latvijas likumdošanai un kurā ņemtas vērā jaunpienācēju īpatnības – valodas barjera, mentalitātes un kultūras atšķirības utt. Jaunpienācēju skolēnu integrācija Latvijas izglītības sistēmā var notikt, ja tiek apmierinātas viņu mācību, sociālās un emocionālās vajadzības. Viņiem ir jāmacās latviešu valoda un jāattīsta dzimtā valoda, kā arī jāpielāgojas Latvijas izglītības sistēmai.

Iekļaušanas process paredz dažādu skolēnu piekļuves nodrošināšanu izglītībai, kas ir sarežģīti ne tikai skolēniem, bet arī izglītības sistēmā nodarbinātajiem – skolu vadībai un īpaši skolotājiem, kuri ikdienā strādā ar skolēniem.

Ne visas Latvijas vispārizglītojošās skolas ir spējīgas nodrošināt jaunpienācēju iekļaušanu, kas galvenokārt saistīts ar skolotāju gatavības trūkumu darbam jaunajos apstākļos – jaunpienācēju dzimtās valodas vai starpniekvalodas neprasmē, kultūras un mentalitātes īpatnību neizpratnē. Valodas barjeras mazināšana veicina jaunpienācēju iekļaušanos vispārizglītojošajā skolā, kas izpaužas kā veiksmīga mācību satura apguve, kā arī komunikācijas veidošanās ar skolotājiem un klasesbiedriem.

Kopsavilkums

Summary

The overall goal of inclusive education is to remove all possible barriers to learning, as well as to increase the learning success of all students and ensure their access to and participation in quality education. Providing an integrated learning experience for students and meeting their learning, social and emotional needs is important in the inclusion process. In addition, newcomers need support to learn the language of the host country and improve their mother tongue. For refugee children, learning the host country's language is important for their future success in their new country.

The inclusion of newly arrived students in the education system is difficult, because educational institutions must ensure a learning process that complies with Latvian legislation and takes into account the peculiarities of newcomers - language barrier, differences in mentality and culture, etc. The integration of newly arrived students into the Latvian education system can take place if their learning, social and emotional needs are met. They have to learn Latvian and develop their mother language, as well as adapt to the Latvian education system.

The process of inclusion provides access to education for various students, which is difficult not only for students, but also for those employed in the education system - school management and especially teachers who work with students on a daily basis.

Not all general education schools in Latvia are able to ensure the inclusion of newcomers, which is mainly related to the lack of readiness of teachers to work in new conditions - the newcomers' lack of native language or intermediary language, lack of understanding of the peculiarities of culture and mentality. Reducing the language barrier promotes the inclusion of newcomers in the general education school, which manifests itself in the successful learning of the curriculum, as well as the formation of communication with teachers and classmates.

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MAX WEBER'S THEORY OF LAW EDUCATION AND POLITICAL VIEWS OF RELIGION

Ivars Kronis

Riga Stradiņš University, Latvia

Kristaps Zariņš

Riga Stradiņš University, Latvia

Abstract. *In order to better evaluate Weber's most popular views on the economic ethics of religion, by comparison and due to the interaction of the opposites and sets of views expressed in them, in this work, the discipline of human rights will also be analysed, which will closely identify Weber's asceticism about the spirit of normative Protestantism and the ethics of capitalism and law school and education. The purpose of the research is to establish and identify the ideas expressed by Weber regarding the value scope of social classes, layers and typology of religion, by analysing them – conventionally, but specifically – through the doctrine of lex nature and education impact in school of sociology. Additionally, the purpose of the present work is to answer what is the general structure of Weber's philosophical thoughts and views on school of law, to find and identify in it the asceticism of the sociology of religion, interspersed with the theory of conflict and domination. But the relevance of the research is rooted in the fact that the methods of Weber's scientific approach are used to analyse the state's institutional and orderly system-theoretical dependence from the bureaucratized forms of public authority and this impact in knowledge.*

Keywords: *Canon law, conventional norms, ideal norm, law education, law school, legal norm, legal phenomenon, school of sociology, sociology of law, sociology of religion.*

Sources, background of the law and the school of religion

The state, as an institution of law, and the connection between religion and the Christian doctrine of pre condemnation, by its very nature excludes the possibility that the state could support religion by showing intolerance, as it happens in various aspects of human rights, where there is wide pluralism and man is the absolute embodiment of these rights. Where the divine rights cultivated by the Christian faith, which in reality manifested as infallibility of the church, merge or completely disappear in front of man as a phenomenon of creation, and if it is presumed that man is absolute and unique, then his rights are also unquestionable and as absolute as the man himself (Koenig, 2010).

However, the church denies this idea, because it recognizes only divine authority in everything, including laws, because they have emerged from God, for example, such sources as the Old Testament, the books of Moses, etc. The spirit

of canon law and its substance clearly speak of it. Therefore, the state, when analysed from the point of view of the doctrine of Christian texts, cannot be 'doomed' because it is itself a form of perfection and true embodiment of the social environment of the society.

The Christian society, from a perspective of the Christian scriptures, which also constitute the main sources of customary law, such as the 10 Commandments, is eternally sinful and condemned and therefore seeks forgiveness of eternal sin. The complex situation is created by the fact that, in the end, the final judgement is made neither in this life nor with the legal methods used by the state. This would be absurd from the point of view of legal principles because it would mean that the guilt of a person is presumed from birth, and also the guilt can be redeemed (compensated) only in a specific, truly sacred way – through a religious institute intended for the forgiveness of sins. This guilt is omnipresent even though there is no such form of presumption of guilt in law, it would be an abstract and utopian idea even for the most fanatical advocates of legal absolutism (Koenig, 2010).

On the other hand, and as Sigmund Freud (Whitebook, 2017) aptly points out in the "*Civilization and Its Discontents*" (Freud, 1929), it is the church with its Christian dogmatic which directly calls for this premise of eternal sin and confession of guilt, so that man becomes obedient to the commandment and responsible regarding the universal moral law. To a certain extent, it is precisely the law, which frees from this culture of guilt and upbringing, as opposed to the 'salvation of soul', placing them on both sides of the pact of 'international reconciliation', where the law deals with purely ethical questions because they are inseparable, namely, questions of guilt in the past, where the reality is relative but determinable, or of guilt in the future, where, as they say, everything is relative, but ignorance and fear, no matter how absurd, follow a transcendent commandment, as well as profane law (Weber, 1949).

Despite attempts to for this abstract doom and the status of eternal sin, thus the imperfection of law, the reflection comes up against the role of religion in the legally constituting and undoubtedly primary document of the state – the constitution, similarly as for the church – to the source of its religion, the Bible. The only difference is that while the clauses established in the constitution do not directly and individually affect matters of faith, morality and conscience, the judgements contained in the texts of the holy scriptures and values, such as in the Bible (Old Testament and New Testament), are the source of law and morality both (condition of what is good, what is happiness and what is the right action). For example, in the context of comparative international constitutional law, this religious aspect is quite well established in the constitutions of different countries, including Latvia (see, for example, '*God bless Latvia*' contained in the preamble to the Constitution of the Republic of Latvia (Satversmes Sapulce, 1922), as well as Article 6 of the Constitution and the 1st Amendment of the Bill of Rights of the United States of America (1st United States Congress, 1789) and II

amendment of *Bill of Rights* of the United Kingdom) (UK Parliament, 1689). Moreover, the social and legal aspect of religion can also be seen in other main documents of the state, the ceremonial laws, and customs, such as national anthem, oath, which despite being symbolic are an essential condition for the existence of the state.

Prof. O.Höffe (hereinafter – Hoffe) in contrast to Weber's culture of civil disobedience (resistance) in everything where it is necessary to obey a person, the law or God, identifies one form of justice – God's or Biblical justice, and it is a prerequisite for the existence of law and for justice there is no need for Weber's idea of *sovereignty*, because since the Greek times it includes also elements incorporated in the law, such as peace and happiness (Hoffe, 2006). Further illustrating Weber's idea of domination and civil disobedience, Hoffe concludes that, in Christian legal thought, right to resist is thoroughly questioned. Hoffe writes that Sophocles's play "*Antigone*" rather advocates the right to resist, while Socrates considers it unjust to resist an unjust punishment if he has previously been in principle with his community. In Christianity, the right to resist arises from the conflict between the requirement to obey God-appointed superiors (pope, bishops), meaning to obey God, more than man or the state (ruler) (Hoffe, 2006).

By creating the architecture of church law, Weber asks questions and seeks answers that relate to the genesis of value and law and the characteristics of 'association'. In other words, did the phenomenon of the origin of law begin with the emergence of the social consciousness of society and the usurpation of the power of some authority over it, but later resulted in the strengthening of the individual's autonomous rights, in the absolute element and form of human rights? But, as theologians point out, law perhaps has a dimension of Christian values, which manifests itself in the form of divine verticality through the fact that the basic moral legitimation of law can be found in religious texts and its first and main cause is God (*ius Divinum*) as its primary source, and which proves that there is a successive *homo religiosus* in the light of *imago Dei* (man as the image of God). The above mentioned would indicate that law, despite its general nature, should be legitimate and generally recognized. According to Weber, a sociologist of civilization, the element of recognition is common for both law and religion, and it is a prerequisite of their existence, because it is based on the idea of religion and on moral principles. On the other hand, the *lex* (law) does not have such a 'craving' for moral and religious precepts at all, because its task is not to 'speak' and argue in the language of morality and religion (Weber, 1949).

The basis of human rights, as stated by Matthias Koenig, denotes absolute rights, the validity of which cannot be justified by referring to the traditions, customs, or laws of a certain or particular society that have formed historically, but which can be declared as legitimate demands of *all* people. The universality of human rights, as evidence of natural rights, is contrasted with the particularism of cultural and religious traditions. In the classical school of natural law, it is

argued that natural law is part of a comprehensive system of rules about the rights and obligations through which man shows his nature – whether it is characterized by the image of man as God or by reason and free will (Maritain, 1951; Finnis, 1998).

Another way – which is directly related to schools of Kant, Locke, and Rousseau – of justifying universally applicable human rights therefore does not start with the objective nature of man, but with the subjective, non-religious, cognitive abilities of man and the principles of the legitimate legal system derived from them. The most influential argument of this contract theory, as opposed to the religious contract with God, was formulated by the American philosopher John Rawls (1975). In “*Theory of Justice*”, which was certainly directed against the once prevailing utilitarianism of Anglo-Saxon moral and legal philosophy, Rawls defines justice as ‘*Fairness*’. The core of his modern argumentation, similar as to religious beliefs, is a hypothetical construction of a situation of choice (initial state), in which individuals, due to rational self-interest, agree on the principles of the social system, while just like in Biblical mysticism, at the same time being ‘*behind the veil of ignorance*’, and therefore not knowing their specific social position (Rawls, 1971).

Jürgen Habermas, in his theory of discussion, similarly to Rawls, when examining the institutional form of the obligations of human rights and national sovereignty, primarily considers the national constitutional state and the civic institute of the national state as the constitutional will of society. Namely, in his view, the application of human rights, the same as religion, goes beyond the borders of a nation state and points to a world citizenship in the process of being born, just like the Christian idea of ‘*God's children*’, however their universal applicability would be legitimate only if human rights were also connected at the global level with a democratic legal system, which is not yet possible, while in a Christian-minded world it is no longer possible (Habermas, 1996; Merkel & Croissant, 2000).

On the other hand, Weber views the ambivalence of human rights as a change brought by the Modern era, as compared to the civilizations of the Axial era (Eisenstadt, 2000) and points to the paradoxical consequences of the institutionalization of human rights – a rationalized state apparatus and legal system (Bielefeldt, 1998). Koenig concludes that, by considering the dominance of the global human rights discourse, in addition to the rapid decline of the proportion of religion, it is the right time for a critical reflection of the role and place of human rights in society. It can help keep the symbolic form of human rights open to new and more detailed versions, different justifications and understanding between cultures. It makes the incompleteness of the institutionalization of human rights conscious and thus promotes the renewal of their emancipatory promise (Koenig, 2010).

Several other philosophers have already mentioned *homo religiosus* as a method of research phenomenology, such as Edmund Husserl, modern times' representatives Martin Heidegger and Jean-Paul Sartre, who mention as a contrast to *homo religiosus* the existence of *homo saecularis*, who lives in the present without any remainder, the only difference between these two is, that contrary to a sworn secularist, *homo religiosus* does not allow himself to be blinded by the fleeting brilliance of the present moment, because he remains in the shadow of the *ulpa Dei Maxima* (God's wrath), thus turning every moment of his life into a reflection of eternity, which is brilliantly paraphrased by Immanuel Kant in his work "The Metaphysics of Ethics", thus creating the so-called highest moral criteria (Kant, 1996; Williams & Bengtsson, 2020).

Similarly, comparable would be social and religious norms, where the former are secular and practical to the extent possible, as opposed to the objective rational values expressed in religious texts as a source of law.

For example, Romans, when coming to conclusion, that ethical elements can be found in every legal system, defined law as the art of good and just (*ars boni et aequi*), therefore law is associated with the art of morality and virtue. It is precisely the idea of Roman law, which is expressed in the Institutions, part 3 of the codification *Corpus Iuris Civilis* of the Eastern Roman Emperor Justinian I, and which is based on the idea that all men are born free and therefore have the *lex nature* prerogative to be free, that discredits through times biblical moral principles, not to mention the existence of a single national morality.

On the other hand, in the early Middle Ages, this fundamental idea, interpreted by theologian and scholastic Thomas Aquinas (*Sanctus Thomas Aquinas*), transformed into a dimension of biblical values, creating ideal law in an ideal state that is under the authority of the church (similar to Plato's utopian state), but with the rise of humanist ideas and their spread in Western Europe, the same law became more specific and evolved into subjective (natural) human rights, even providing for respect for human dignity.

As Otfried Hoffe (2006) points out in his work "Justice", in the legislative giant *Corpus Iuris Civilis* (collection of civil, non-ecclesiastical law), which is the most important compilation of Western law, at the beginning of the prominent Digests all legal claims are formulated in form of three basic principles. For centuries they were associated with the Roman jurist Ulpian (Domitius Ulpianus) (Britannica, 2022). The aforementioned corresponds well with the legal tradition started by the Romans, namely, the great jurist Ulpian expresses a seemingly eternal truth at the very beginning of the Digests in *Corpus Iuris Civilis*: "*Juris praecepta sunt haec: honeste vivere, alterum non laedere, suum cuique tribuere*" or "The precepts of the law are these: to live honestly, to injure no one, and to give every man his due" (Hoffe, 2006), which is completely incompatible with Christian values, the biblical view, especially the Old Testament, and the idea expressed by Weber about the *Protestant type and the spirit of capital* (Kalbergs,

2010) as a social dilemma, because it is denied both by the religious approach of the infinite and eternal humility and by capitalism's equally eternal servitude to property or material values.

In comparison, while Cicero (*Marci Tulli Ciceronis*) writes in his work “*On the Republic*” (“*De re publica*”) that the state or Republic must always and everywhere be placed in the first place – “*to place the good of the fatherland before all else*” (Cicero, 2009), then capitalism requires the idea of property (*dominium*) to be placed above everything and to serve only for it (in the name of increasing capital), but one must keep in mind that, speaking in parables, as it is stated by the introductory part of the Digests in *Corpus Iuris Civilis*, the ruler (the state) shall humbly bow before God, that is, before the Pope, because the final settlement (...) will be made only on the day of reckoning. With such a motto, the collapse of the ancient world began, and also began the ‘*quiet revolution*’, where the state no longer holds its power and power is not its only goal anymore, because the state begins to obey in every aspect its guardian – the church, which according to the idea of the church is capable of exempting from God's punishment the sinful and therefore infinitely guilty citizen, nation or even a ruler. It also creates a division between the early medieval approach and the renaissance way of thinking, or such was the huge social convergence of the time, because, for example, the ancient Greeks have no religion, instead there are various cults, but the ‘sacred’ (*hieros*) world is separated from the ‘profane’ (*hosiosos*) world. In other words, God has his world, but man's world is in his own hands, i.e., ‘political’ life is completely ‘*desacralized*’ (Siebeck, 1994).

In his views, Weber goes even further and considers that modern political technology is characterized by the fact that religion itself is also transformed and as a result the capitalistic ‘*spirit*’ is formed, that is, through brutal dualism the main objective of the corpus of law is incorporated – to look at the body, soul, and spirit (*corpus, animus, spiritus*). Because it cannot be any other way when talking about the state affairs – this opinion of Weber is further developed by prof. M. Foucault (Michel Foucault) (Macey, 1994), where he proposes a cult of the ethical continuity (doom) of the church, an imperfect (therefore, immoral) person and equally imperfect and punishable actions resulting from the idea of sin, which follows the command: “*Go get slaughtered, and we promise you a long and pleasant life*” (the central motto of the medieval church and the state in the fight against decline of obedience), in contrast to the ‘*rule of law*’, a concept established by Albert Dickey of the Enlightenment: the basis of legality and justice is precisely the sinful person. Moreover, in search for a legal state concept (*Rechtsstaat*), religion was noticeably replaced with other paradigms. For example, Viennese doctor Johann Peter Frank in his 1779 essay “*A System of Complete Medical Police*” (Lesky, 1976) no longer sees the presence of religion and God in the state affairs, as he writes: “*The general object of police science is public order*” (Šuvajevs, 1999).

By referring to Shakespeare's Hamlet, Weber calls such public order a 'prison'. According to him, this ensures formation of individuals who "become nervous and soft if this order is disturbed for a moment, and helpless if they are taken out of their complete adaptation to this order". On the other hand, national socialist Roland Freisler, considering Weber's 'ruthless insight into the realities of life', after Weber's death, in the 1930s, found a generally accepted definition and it reads as follows: "A state governed by the rule of law is an organized form of national life that embraces all national life forces to ensure the right to life internally and externally" (Weber, 1919).

It is clear that the church and religion are generally ignored and its quintessence is lost, but it took several hundred years before some of the most prominent critics of the unity of church and state from the early Renaissance and decadence, Thomas Hobbes with his brutal ethics, and John Locke, by seeing the essence of happiness in the state affairs (law), could arrive to such a remarkable 'forgetfulness' of church and religion in the field of state and law.

However, returning to the systematic aspect of the church, when looking at the socio-legal issues of religion and views based on human rights, where everyone can be an atheist or a believer in regard to their personal beliefs, but in the common public legal space they all certainly meet some sort of religious ceremony, then it must be concluded that the influence of religion is felt in traditions, as well in law, which is based on the values derived from them. This is especially evident in the culture of the Western Europe and in the deeply rooted traditions these nations, and in general everywhere where the beliefs of the Christian faith prevail.

Calvinism and social school of law

A culture based on religious values and a culture based on human rights beliefs are formed. In the background of the traditions of the Christian worldview, purely religious holidays are widely accepted and celebrated in the form of positive norms – official holidays celebrate several thousand-year-old events that are purely religious in nature and have no connection with the secular world at all (birth of the prophet, resurrection); an official anthem of religious content is sung, which even contains an indication of how it is an official prayer (in the case of the National Anthem of Latvia – the solemn prayer of the people, Law on the National Anthem of Latvia (Saeima, 1998), Article 2). Thus solemn (symbolic) oaths are taken (e.g., on the Bible or on the constitution) and, finally, these religious texts and manifestos stemming from them are carefully enshrined at the constitutional level in an otherwise profane world, and as a result atheistic beliefs and traditions remain in the minority against such a background. Besides, for example, the institution of the oath is a purely moral paradigm, an ethical standard for a certain

action, it is not an ordinary material legal norm, since its origins are purely religious, symbolic, and ceremonial.

The question arises, what are the sources of such a discipline of cultural law, a religious law, seen as a form of expression of traditions, which cannot be measured in the same way as pure canon law, and how such wide recognition can be found, even among people completely unrelated to faith? Furthermore, what is the basic source of the moral expression of these values – is it in Greek and Roman centuries-long philosophical reflections, widely known unwritten moral views of natural rights or religious texts, in the reflections of law (similarly, as a reflection of ideas in Plato's allegory of the cave), which form the legal opinion and consensus of the last millennia basic source codes?

Also Immanuel Kant (Kants, 2011), as a devout Protestant, when answering the question about the act of faith and law, as the key focus point of civilization, in dramatic and harsh language responds by at the same time marking a new period in the history of religion and law: “*Assuming that the just moral law is to be taken by man as a command from God, the just man may say: I want the God to exist!*” Man, no longer reverently bows his head before God's throne, but expresses, as Weber says, ‘*in act of power and command*’ the power of his will – the power to order and command Him (God) to exist. Neither St. Augustine nor Thomas Aquinas would have thought to assert such a thing; when speaking about God, they speak humbly and in a language of longing. On the other hand, Nietzsche, in response to Leibniz's (*Gottfried Wilhelm Leibniz*) so-called ‘*question of questions*’: “*Why is there something rather than nothing?*” puts a question at the centre of human history: “*Can a person live without God?*” and comes to an epiphany: “[..] *I want God not to exist, so that my existence belongs only to me [..]*”. Hence, the view of contingent things and their considerations, as John Locke, the founder of humanism, mentions with ‘*clear language*’ and ‘*common sense*’ language, leads to the principle of sufficient reason and the neo-Kantian Hegel's idea that ‘*reason*’ is, in his words, which ‘*by itself*’ determines all the necessary needs for certain rights formulated in laws.

In response to this, Weber concluded that in contrast to the Roman school of law, nor in any other culture in the world, except in the West, where pragmatism is rooted from the time of Thucydides and its prehistory is used, there is nothing that would indicate a rational legal theory. In other earlier civilizations, in the prehistory, there are no strict legal systems and forms of legal thinking that characterize Roman law and Western law, which is based on the former. Such a phenomenon as canon law is also known only in the West (Vēbers, 2004).

Thus, for example, Roman law was deeply rooted in the Catholic lands of Southern Europe and later also in the whole Western Europe. The rationalization of private law, if it is interpreted as the simplification of legal concepts and the division of legal material, reached its highest development in the Roman law of late antiquity and, on the contrary, was the least developed in the countries that

reached the highest degree of rationalization, including England, where the renaissance of Roman law failed (Vēbers, 2004).

Weber quite well captures the ‘*image of American culture*’ created by Benjamin Franklin, leader of the American independence movement – “*from cattle you get fat, from people – money*”, or as Weber says it in his work: “*The merchant may conduct himself without sin but cannot be pleasing to God.*” This translates well together with the statute transferred to the canon law on “*Deo placere vix potest*” (“*it is hardly possible to please God*”), which refers to the actions of merchants and, the same as the evangelical text about usury and other ‘misfortunes’ of law and morality, was considered real and therefore an important source of knowledge of socio-legal nature (Vēbers, 2004).

Calvinists, on the other hand, saw a form of ideal norm in the law, which is impossible to achieve, but must be constantly striven for (Journal of Law & Religion, 2006). Regarding Calvinism, we can also mention the views expressed by Thomas Aquinas (Fergus, 2009) in his work “*Summa Theologica*”, cognitive theory, and its religious character, which aims at the settlement and concreteness of the status of social law, but only by religion one may dictate the sceptre of state power (The Western Australian Jurist, C.Y. Lee). However, in Luther's teachings, we find the opposite – liberation from following the written letter of the law as a divine privilege of believers (Vēbers, 2004).

When taking a closer look regarding the pact of recognition of religion and rights, it is appropriate to mention the insights expressed by Weber's contemporary, Francis Pieperi, the founder of modern Christian dogmatics, in his work “*Christliche Dogmatik*” (Mueller, 2003) or a summary of this work under the same title “*Christian Dogmatics*”, which was dedicated to the memory of Francis Pieperi by John Theodore Miller, a prominent professor of systematic theology at Concordia Seminary in St. Louis. Namely, in his work “*Sociology of Religion*” (Vēbers, 2004), Weber expresses the observation that the internal interests and the element of recognition of rights require ‘highest’ salvation benefits, which were not universal laws at all. Such a state as immersion in nirvana, when religious misery or religious dreams could develop into a popular cult, could not become an element of everyday law, because there is an obvious inequality in the qualification of religion, which was recognized even by the Calvinist doctrine of predestination with its particularity of grace. Weber points out that the most highly valued benefits of salvation – the ecstatic and visionary abilities of shamans, magicians, ascetics, and various God-inspired people – were not at all available to everyone, instead their acquisition is determined by ‘charisma’, which in some cases could be awakened, and as is also the case with churches both internally and in the political scene in total.

Special attention should be paid to the legality element of the law, the authority of its origin (the autocrat's inequality with the Protestant ethic), the definition of sin or its general description (*De Peccato in Generere*), will, guilt

and the socio-religious review of punishment. Weber points out that the church, as an institution, tries to organize the religiosity of the masses and to replace the qualifications of the virtuoso religious order with its own monopolized means of salvation. According to its nature and its own interests, the interests of the priests, as well as the officials of the state bureaucracy, the church must be a 'democratic' institution of salvation in the sense of universal accessibility, it must strive for universal grace, eternal atonement of guilt and punishment, and recognize the sufficient ethical value of all those, who are subject to its power. According to Weber, in this case, from a sociological point of view, one can see a complete parallel with the fight of the bureaucracy in the political sphere to the 'political fights of the aristocracy of the ranks' (Vēbers, 2004).

It can be pointed out that explaining the statements of the Bible as '*paragraphs of the book of laws*' is an old and relatively clear interpretation of the cultural tradition of Roman law, although not always casuistically accurate citation of the Bible, but more as a revelation of the legitimate source of moral law in the primordial scope of its existence, which leads to the same goal that gave rise to canon law. Notably, "*For the Reformers, the Commandment appears to be an ideal norm, while the Lutherans, on the other hand, find the Commandment oppressive as an unattainable norm.*" Lutherans condemned the reformers for '*slavish servitude to the law*'. Therefore, the Decalogue, as a codification of natural moral laws, remains the norm of human behaviour. From the average point of view of canon law, morality free from laws and rational asceticism oriented to the Commandment were also excluded; the Commandment remained as the structure and the *ideal norm*, but the law has only 'discrete' character (Vēbers, 2004).

The Convergence of Law and the School of Religion

Observance of such a principle "*extra ecclesiam nulla salus*" (Cyprian Letter 72.21) cannot be ensured by the state in its social reality. In other words, the inability of any state to ensure the functioning of the norm (both law and religion), because the mentioned principle literally means: "*(..) there is no salvation outside the church*". The state was unable to save the believers with it, but the concern for God's glory forced the church, a '*believers' Church*', to look for basis in legal norms, which, on the contrary, were created by heretics and unbelieving Romans or legal scholars until the early Middle Ages (Toteff, 2016).

Over time, it became impossible for the state to intervene in various matters, such as appointment and transfer of clerical positions, which, on the contrary, was described in detail by the norms of canon law. Thus, for example, the leader of the English revolution, Oliver Cromwell, together with John Brown, constituted the church as a socio-legal unit, or even an institutional body. He was an advocate for universal religious freedom, where the state has no resemblance to the church,

as had been accepted since the early decadence of Roman law. But his concept of 'holy parliament' – the separation of church and state because they (the people of faith) were pietists for positive religious motives and represented influence of that, similarly as *Roger Williams*, guided by the same considerations, advocated for unconditional, unrestricted religious toleration and the separation of church and state. (Vēbers, 2004).

One does not have to look far for an example, as in the resolution of the English Baptists of Amsterdam (1612 or 1613) the demand for freedom of conscience appeared for the first time as a defence of one's positive rights against the state. It reads: "*The magistrate is not to middle with religion or matters of conscience (..) because Christ is the King and lawgiver of the Church and conscience.*" (Schluchter, 2017)

During the Hellenistic era, in the Roman Empire, also in Islamic lands, religious tolerance prevailed for a long time, limited only by considerations of public order, which were based on laws, even if they were not always compatible with the texts of canon law. As, for example, Philipp Jakob Spener points out, it is about the fundamental rights of Christians, which were guaranteed by the apostles when they formed the first Christian congregations. Also, the Puritan opinion developed about the place of individual people in the church and about the legal sphere of their activity, which derives from *jure divino* and is therefore an inalienable and unshakeable right. Because no matter how ahistorical the positivist (philistine) critique of the idea of 'fundamental rights' may be, no matter how trivial it sounds, in the words of Spener, one must ultimately be grateful for everything, even what the fiercest modern 'reactionary' considers to be his individual freedoms and minimum rights (Spener, 2019).

The Arminian eristic position of the idea of extending state sovereignty to church affairs was represented by the monopoly of autonomously created state sovereignty, which corresponds with the political interests of the law of that time, which were pragmatically but tendentially rooted in the church law culture already during the Renaissance. In addition, an ardent follower of the idea of Arminianism, or prof. Jacob Arminius (*Arminius, 1560– 1609*) of Leiden, was the great philosopher of law and lawyer, dr.iur. Hugo Grotius (*Huig van Groot, 1583– 1645*), who in his work "*De iure belli ac pacis*" (1625) expresses, among other things, the idea that war is a crime if it is not a means of protecting law. It was Grotius who distinguished law from religion and emphasized the principles of natural law, which are immanent in the nature of man who is a social being (Švābe, Būmanis, & Dišlers, 1927).

It is also known that Nietzsche's supporters, based on fundamentally similar reasons, have attributed a positive ethical meaning to the idea of eternal return, leaving the church in the background, compared to the formation of the state. Erasmus (*Erasmus, 1466– 1536*), a Dutch humanist who declared the dogmatic 'law of mind', which is based on the characteristics of humanism and man as a

sovereign being, who can decide and determine his own rights, contrary to the church's divine law policy, points out that the collision is created exactly in this aspect of interaction between religion and law (Švābe, Būmanis, Dišlers, 1927).

It must be noted that the relationship between church and state in the first centuries was seen as ideal by the *Quakers*. This idea was strongly represented by Robert Barclay with his idea of “*Inward Light*”, because for them, as well as for many pietists, in terms of purity doubts were not created by the church as an institutional formation, because it drew its sources from the theological works tested for hundreds of years (Ensign, 1955).

However, within the framework of an unbelieving state or under the influence of ‘*under the cross*’ of an institutional church, other defenders of Christian values and rights, such as Calvinists *faute de mieux* (from Latin meaning – for lack of something better) were also forced to engage in the separation of church and state, similarly as it was done by the Catholic Church in analogous cases (Hoffmann, 1902). They considered that the rules of the church do not affect the civil society and its relations, but initially in the first formations of the congregations and later in the church, there was a living principle, which resulted from the fact that a prohibition was established to enter any, even business, relations with people excluded from the church. Puritan legal formalism leads to completely adequate consequences – complete trust in law, and the law not only as a norm, but also as a social need, or: “*In civil actions it is good to be as the many, in religious, to be as the best*” (Morgerism books, 2021).

The principle of Puritan opinion that “*Natural reason knows nothing about God*” was impossible to consistently implement in reality, because there was a living principle: “*Moral and perpetual statutes acknowledged by all Christians*”, as a result of which it was precisely the ethnos of the of cultures or peoples that preserved religious traditions in all its vastness, thus trying to close the gap that simple state power or domination dictated by the state apparatus could not provide (Barclay, 2002). Law, without doubt, also contains ethical provisions, through which, if one can say so, the Christian ethical-legal maxim and the embodiment of the moral spirit permeates the principle: “*Do unto others only as you would have them do to you*”, which is also a law of morale for any atheist (Kants, 2022).

Since Kant, there have been discussions about legality and compliance with what justice or, more broadly, morality requires, which, in that aspect, also coincides with Christian justice. Thus, it is not about compliance with positive law, positive legality, but rather moral legality. Ancient philosophy even discusses both aspects. Plato, for example, accepts compliance between personal and political justice, while Christian, as well as Islamic and Judaic, medieval times are much more interested in personal justice. Weber calls it more precisely as ‘*spirit of capital*’, moreover, the so-called rulers' manuals mainly talk about a righteous ruler, whose source is an authority-based and prophesied discourse about the transcendental origin of power. In any case, as Hoffe points out, starting

from Plato, Aristotle and until John Stuart Mill's writings "*On Liberty*", the condition for the functioning of rights is as a search for exit from the tyranny of the majority, which Weber describes as the fear of unwanted submission to some group authority. When the legally constitutive morality of justice and law disappears, following the Augustine's idea about *de civitas dei*: "*Justice being taken away, then, what are kingdoms but great robberies?*", and without finding the perspective of faith and morality for justice, the spiritual, as well as the worldly order of law and legality, and its pillars, would collapse (Hefe, 2009).

Thus, the place that Protestant teaching intended to give to the '*lex nature*' (natural law) is shifting. The existence of '*general rules*' and a moral code became fundamentally unavailable, because everyone has an individual right to a God-given conscience. The formalism of Puritan ethics is a clear consequence of trust in the law, since legal order is reduced to formal legality, in the same way that '*truthfulness*' (*Redlichkeit*) or '*righteousness*' (*Uprightnes*) for nations with a Puritan past does not mean the German '*honesty*' (*Ehrlichkeit*) but something specific and completely different – formally and reflectively transformed consolidation of rights in the form of laws, as was carefully practised by the pioneers of Roman law from the times of Ulpian (Vēbers, 2004).

However, the Puritan understanding of '*legality*' as a test of *choseness* without doubt created more important motives for positive action than the Jewish understanding of legality as keeping the commandments, because of internal and external ethical considerations and the relationship to tradition in observing social norms and determining legality was more like unscriptural law, a principle regarding the laws that are not based on the precepts of Judaism, and that everywhere else can be '*permitted what is forbidden*' and the only positive and true law is the one that derives from the Old Testament for these two components of internal and external ethics.

Conclusions

Referring to the research which was made in 2022 and published in Socrates (Socrates, 2022) under the key "Legal Doctrine of Max Weber's Sociology of Religion" of approach, it can be concluded that the main theses and views are similar to this work.

Finally, when analyzing the institutional church, Weber describes the structure of canon law as a '*shading*' of the sociology of religion. According to this approach, modern state is something like the papal curia, which can better prevent various conflicts with the help of priestly lordships or domination. This means that the church is an administration that is characterized by the following features, which, in addition, coincide with the features of the state: 1) differentiated administration rank, as an institutional and legal structure; 2) rationalization of cult and dogma, as a form of application of the norm; 3) claim

and universal domination, as claims of atheists about general law; 4) creation of a rational system and successive rule, as a set of human rights elements; 5) relationship of loyalty between those who serve and those who rule, as a sovereign who serves the social consensus of power and religion.

The comparison made in the central part of the work with the tradition of systematic schools of constitutional law in other countries shows Weber's already indicated, so-called, legitimate hierarchical and recognized features of religion and the similarity of the church, or historically, the similarity of the state with the ancient forms of church education administration existing throughout the ages. According to Weber, their recognition and legality lies in the wide diversity of culture and values and philosophical views, where human rights, as well as church law (canonical law), have the common and the different precisely in the broad dimension of the expression of freedom of law. If in the sociology of the religious school there is a "cult" of norms and obedience, as dictated by a collection of laws, where article follows article, then the asceticism of general ethical actions is relevant in the context of human rights, as opposed to the church's dogmatic maxims of sociology. Here, Weber's findings, with his constitutional and educational system experience, are no exception. Weber's guidelines for legal norms and knowledge follow the generally accepted scope of the idea of the core of the state, but Weber directly believes that they work best in the real life of society if they are incorporated with some help "as a commandment", through authorized orders and with the help of "dominion". Therefore, the transformation of Weber's ideas is vividly reflected in the overall legislative activity following the principle of "objective power" and the concept of "*leges imperfectae*", that is, to interpret everything that can be interpreted in the realities of social life, including world education.

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THE EFFECTS OF THE LOWERED COMPULSORY SCHOOL ENTRY AGE ON THE CURRICULUM

Ilona Tandzegolskiene-Bielaglove
Vytautas Magnus University, Lithuania

Nijole Ciuciulkiene
Vytautas Magnus University, Lithuania

Ingrida Kvediene
Vytautas Magnus University, Lithuania

Abstract. *The question at what age a child should start compulsory education raises debates both in the scientific and public interest contexts. This topic is also relevant all over the world, but a uniform answer is still not found, so the problem of the research emerges - the disclosure of the prerequisites for the change of the educational content during early primary education. The article raises questions related to the possibilities and assumptions of early school entry age for children and the structuring of educational content. 12 education experts and 6 preschool and primary education pedagogues participated in the study. Qualitative research methodology was chosen for this study: semi-structured interview and group discussion methods. During the research, 4 main topics were distinguished. They are as follows: relevance of lowering the school entry age of children; changes in the educational content when the educational age is advanced; characteristics of age change; change processes taking place in the education system. The research findings state that in order to lower the compulsory school age and achieve quality education, it is necessary to reform the educational content: educational programs must be reviewed, reasoned and changed, educational methods and tools must be selected in a more detailed way, new educational environments created and developed, the evaluation system has to be changed, and teachers must be properly trained to work with younger children.*

Keywords: *curriculum change, lowered compulsory school entry age, primary education.*

Introduction

Scientific research findings reveal the positive aspects of early school entry age: it influences better student achievements, further successful development of the child, reduces social exclusion, increases child accessibility. It also helps to enter the labor market earlier (Guo, Wang, & Meng, 2023; Jerrim, Lopez-Agudo, & Marcenaro-Gutierrez, 2022; Görlitz, Penny, & Tamm, 2022; Le, & Nguyen, 2021). However, there are scientific studies (Jankowska, Bogdanowicz, & Jonak, 2014) which show that starting compulsory education too early can also be harmful to the child: he/she may experience difficulties leading to poorer

educational results. On the other hand, starting compulsory schooling too early can have a negative effect on self-esteem, motivation to learn and cause stress to the child.

The lowering of school entry age is a multidisciplinary concept, opening possibilities for the research of different sciences. In the field of psychology, (Altwicker-Hamori, & Kollo, 2012; Ponzio & Scoppa, 2014; Herbst & Strawinski, 2016; Fortner & Jenkins, 2017) cognitive advantages of older children compared to younger peers have been studied, behavioral aspects (Datar & Gottfried, 2015; Frazier-Norbury et al., 2015) were highlighted as well and mental health (Dee & Sievertsen, 2018; Morrow et al., 2012) outcomes were underlined. The positive and negative factors of a younger child entering school are widely analyzed (Lubotsky & Kaestner, 2016; Clarke et al., 2015; Bassok & Reardon, 2013). Early education in Lithuania has been little studied, no fundamental scientific research has been found. The analysis carried out by Zabalcke and Grazyte (2017) is about the importance of early compulsory education. Valantin's (2011) performance analysis is about the impact of previous education on a child's development.

Education expert Schleicher (OECD, 2017 a, b) states that Lithuania is one of the few countries where compulsory primary education starts late, and after assessing the situation of pupils' achievements and the impact of social exclusion on them, he recommends Lithuania to lower the compulsory school entry age. He also states that for education it is important to consider the developmental needs of children and adapt the content of education to the age of that child. The results of the International Student Achievement Survey (PISA 2016) show that the achievements of Lithuanian students are below the average of OECD countries. Lowering of the primary education age is supposed to improve them. There are children in Lithuania who live in conditions of social exclusion and poverty. To reduce this problem, an early education age is proposed.

The above mentioned issues presuppose the following research questions: what are the reasons for advancing the age of children in formal education and how does this relate to the reform of primary education content? The object of the research is the assumptions of the curriculum change, when the compulsory school entry age is being lowered. The aim of the study is to evaluate the assumptions of the curriculum change, while focusing on the lowering a compulsory school entry age.

The research is based on humanistic and social constructivism theories. In order to answer the research questions, a qualitative semi-structured interview and a focus group discussion were used. Qualitative inductive thematic analysis was used for data analysis.

Literature review

In different countries, the age at which compulsory primary education begins varies widely from 4 to 7 years. In many European education systems, it starts at the age of 6. In the European Union in 2018-2019, primary education was compulsory from the age of 7 in 8 out of 28 states (7 of them from the age of 5 or 6). Primary education is compulsory from the age of 5–5,7 in 3 states (in one of them from the age of 4.7). In the rest, primary education is compulsory from the age of 6 (6 of them from the age of 4 or 5). Children from Eastern Europe (including Lithuania) and Scandinavian countries (Sweden, Finland, Estonia) are the latest to go to school. The children from the British Isles and Luxembourg are the earliest (Eurydice, 2017) to start schooling. In many European countries, the start of compulsory education coincides with the start of primary education. However, there are a number of European countries where compulsory education starts from pre-school or pre-school education. In countries where the beginning of compulsory education is 4 or 5 years old, education is organized in different ways: in some countries, children at this age start attending school, in others, participation in early childhood education is compulsory. According to Eurydice, the school entry age is the only criterion for admission to primary schools in most European countries (Lopez-Agudo, & Marcenaro-Gutierrez, 2022). The school-readiness criterion for admission to primary school is only applied in a few countries. Maturity for school means that children must be emotionally, mentally, psychologically and physically mature enough to be successful in the primary education curriculum.

The OECD (2013) states that European countries which invest more in early childhood education have higher learning achievements and lower inequality. For example, in the United Kingdom, early primary education was linked to child welfare, aimed at protecting children from exploitation. Early schooling age also enabled women to return to the labor market faster, and the children who started school earlier could finish it earlier, and join the labor market earlier. Early school age in Poland has highlighted the benefits of earlier school entry for children from disadvantaged backgrounds due to early educational support and the positive influence of peers with higher socio-economic status (Görlitz, Penny, & Tamm, 2022; Herbst & Strawinski, 2016). In Hungary, it was desired that all children start attending educational institutions at an age when education is most effective. This is extremely important if the child comes from a socially disadvantaged environment, because preschools can offer free school meals and other resources.

Research data show that in the early school years older children have an advantage compared to their younger peers: they are better cognitive (Jerrim, Lopez-Agudo, & Marcenaro-Gutierrez, 2022; Fortner & Jenkins, 2017; Herbst & Strawinski, 2016; Ponzo & Scoppa, 2014), behavioral (Datar & Gottfried, 2015; Frazier-Norbury et al., 2015) and mental health (Dee & Sievertsen, 2018; Morrow

et al., 2015) results. Some studies have found that the positive effects of prior education are significant in adolescence and early adulthood while rating the college attendance (Görlitz, Penny, & Tamm, 2022; Clarke et al., 2015). In contrast, other studies have shown that early age-related differences, if any, quickly disappear. For example, using data from a nationally representative longitudinal survey of more than 15,000 children, Lubotski & Kaestner (2016) found out that academic gaps between younger and older children disappeared after first grade. Datar & Gottfried (2015) reported similar results when analyzing social behavior.

As Valantinas (2011) states, research, which was conducted in various countries (Great Britain, New Zealand, Turkey, Nepal, Mauritius) shows that children who started the education system earlier, passed exams better. The positive effect of previous education was felt even 20 years after the completion of the program. And vice versa, there are scientific studies, which demonstrate that starting compulsory education too early can be harmful to a child, that among students, who are the youngest in the class, problems related to mental health are more common. Early education can have a negative impact on a child's self-esteem, motivation to learn and can cause additional stress and anxiety (Jankowska et al., 2014).

Compulsory primary education in Lithuania starts at the age of 7. Eurydice (2017) data show that the number of countries, which lower the compulsory school entry age, is increasing. Lithuania has also taken the first steps in lowering the schooling age. From 2023 m. pre-school education will start from the age of 5 and after a year, i.e. at the age of 6, the child will go to the first grade. Taking into account the development of each child and in case of need, it will be possible to spend 2 years in the pre-school education program and start primary education later - from the age of 7 (Education Law of the Republic of Lithuania, 2020). These changes aim to individualize/personalize the education of pre-school children. It is expected that the conditions for families raising children of this age will improve; the opportunity to get a place in institutions that run preschool education programs will be guaranteed.

In conclusion, it can be said that there is no universal age when it is recommended to start attending primary school. The age at which compulsory education starts varies widely in different countries - from 3 to 7 years. In most European education systems, compulsory education usually starts at the age of 6. In Lithuania, it starts at the age of 7. In most European countries, age is the only criterion for admission to primary schools.

Methodology

A qualitative research data were collected while conducting expert semistructured interview and focus group interview - discussion. A semi-

structured interview was conducted in 2021, in October and in 2022, in March. Based on the method of targeted criterion selection, educational experts were invited, invitations were sent by e-mail, with the agreement form of the participant for the participation in the interview. Based on the prepared semi-structured interview questions (Table1), an interview was conducted. Prior to that, the informants' agreements were obtained, the purpose of the study and the principles of ethics and the method of presenting the results were explained to them. All interview participants agreed to have their responses recorded. The duration of interviews with experts was about 1 hour. At the end of each interview, research participants were given the opportunity to supplement their narratives with anything that may not have been asked during the interview or that they themselves would like to share. 12 education experts were interviewed. The audio recordings made during the interviews were transcribed into computer files in Microsoft Word format. Each informant was coded with a capital letter and a number.

The purposeful sampling method was also chosen to organize the focus group discussion. Using this selection strategy, 6 educators (2 preschool and 4 primary school educators) were selected. The focus group discussion took place in 2022, in March. Before starting the research, the research instrument was prepared. E-mail invitations were sent to pre-school and primary education teachers to participate in the discussion, which indicated the purpose, time and place of the discussion 6 pedagogues out of 12 responded to the invitation.

The purpose and course of the study, issues of ensuring confidentiality were discussed, and the agreement of the discussion participants to record the conversation with a voice recorder was obtained. The duration of the discussion was 1 hour 15 minutes. The audio recording of the discussion was transcribed into a computer file in Microsoft Word format.

The research instrument used for the interview study is a semi-structured interview. For its implementation, 7 main questions were prepared based on the inductive method (see Table1).

Table 1 Research questionnaire content (made by authors)

<i>No.</i>	<i>Questionnaire type</i>	<i>Qestion content</i>
1.	<i>Expert questionnaire</i>	What do you think, is it relevant to talk about early education in Lithuania? Tell me more about why you think so?
2.		What are the reasons to lower the school entry age ?
3.		What opportunities and/or threats do you see in early education? Can you comment in more detailed way?
4.		What would you, as an expert in this field, suggest paying attention to when talking about lowering the age of primary school children?
5.		How do you think the ongoing early education would affect schools, what would change?

6.		How much do you think the content of education would change by bringing the start of compulsory education earlier? Give specific examples.
7.		Maybe you want to supplement this interview with something that I didn't ask, but you think is important?
1.	Group discussion questionnaire	How do you assess the proposal to start compulsory primary education from the age of 6?
2.		What benefits and/or harms would you see coming to school earlier? Comment more.
3.		How do you think the school should change if younger children come to it?
4.		What would you suggest to pay attention to when talking about lowering the age of a child in primary education in terms of content/activities?

The insights analyzed and presented in the theoretical part were more prerequisite for formulating the questions. During the interview, the research participants were left free to initiate new topics or develop those that seemed important to them, thus leaving enough space for their evaluations. Questions were drawn up for the group discussion with the educators (Table1), based on the results of the first phase of the study.

Research results

After processing the results of the first stage of the research using the method of inductive thematic analysis, four main themes were distinguished: the relevance of early education, the characteristics of the change of age stages, changes in the content of education during the early age of education and the change processes taking place in the education system (Figure 1). These results showed a global picture, which is more oriented to changes at the state level and at the administrative level of the organization.

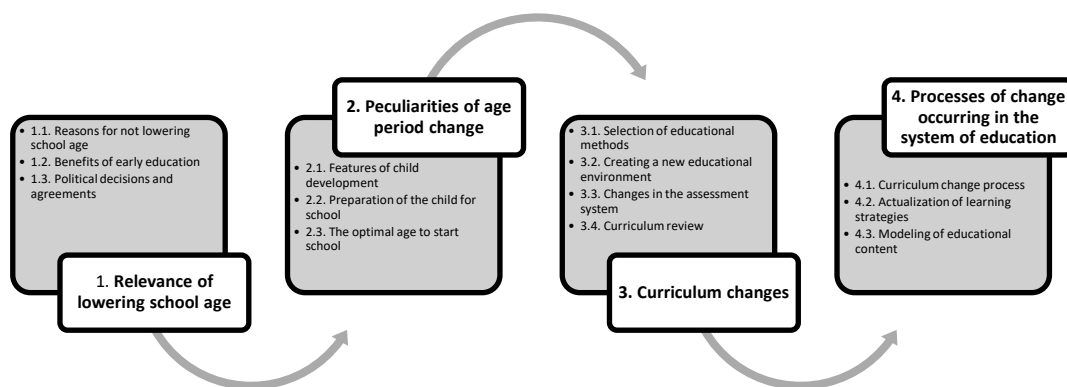


Figure 1 Thematic map of the semi-structured interview (made by authors)

Summarizing the results of the study, the reasons for early education became clear. Advocates of coming to school at a younger age claim that it helps to reduce poverty and social exclusion and has a positive effect on the social and cognitive development of all children. It is also mentioned that this is a purposeful move, due to international research data indicators, student achievement gaps, experiences, and trends in other countries. They claim that early education would be beneficial for all children. They would begin to grow systematically and consistently as individuals earlier, integrate into the school environment faster. Their social abilities, general abilities, communication, cooperation, language skills and learning achievements would begin to be strengthened earlier. However, it is emphasized that the benefit of early education for the child will be active only if the education is of high quality. The child's age period should be considered when an appropriate educational environment is prepared for them. Appropriate educational methods and tools must be selected, and the educational program should be restructured. According to the experts, the most important issue should be the readiness of Lithuanian schools to accept a younger child. Thus, it is necessary to conduct scientific research, analyze the experiences of other countries and then make decisions about early education. If the educational content is not adapted to that age, learning disorders may be misdiagnosed, and the child may experience various psychological difficulties. It is emphasized that it is very important to take into account the peculiarities of the development of the age group in question, to know them well, to evaluate the individual development of the child. Most of the informants say that the beginning of school attendance should not be determined by the child's age, but by his /her maturity and biological capabilities, therefore they advocate a flexible start to primary education.

Research participants emphasize the changes taking place in the education system. They talk about the process of preparing educational programs, updating teaching strategies and modeling educational content. Informants say that educational programs are created for current first graders. If a decision were made to start attending school from the age of six, the curriculum would not correspond to that age group and therefore other solutions would have to be sought, as the programs are drawn up ten years ahead and would not be changed again.

After analyzing the results of the second stage of the research using the method of inductive thematic analysis, three main themes were identified, namely the relevance of early education, the characteristics of the change of age stages and changes in the content of education during early education, and subthemes were identified (Figure 2). The results showed that these three topics, which are also discussed by education experts in the first phase of the study, are identical. It also became clear that there are different opinions regarding early education. Most of the research participants say that education should be compulsory already in pre-school groups, so that all children have the opportunity to develop optimally and be better prepared for school. Special attention should be paid to children

experiencing social exclusion. The results of the study show that children who receive quality education earlier and study longer learn more. It would be easier for them in higher classes, they would have better learning results, and more purposeful life achievements. It would also be easier for educators to organize education and differentiate activities if there were children of the same age in the class.

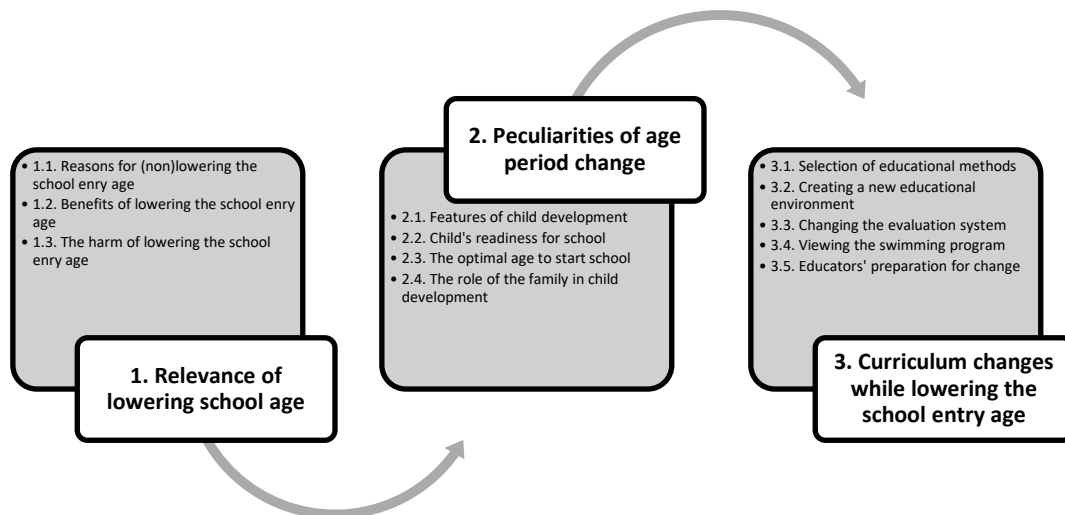


Figure 2 *Thematic map of group discussion (made by authors)*

A possible negative consequence of early education has also become apparent: when a younger child enters school, learning difficulties and psychological problems may arise. The greatest attention should be paid to the child's maturity and preparation for school. Research participants emphasize the peculiarities of the age group, highlight the differences between seven-year-old and six-year-old first-graders. Younger children find it more difficult to learn and concentrate, they get tired faster when doing tasks, fine motor skills are more difficult to master; adaptation of a six-year-old entering the first grade is more difficult than a seven-year-old.

It also became clear that the content of education should be adjusted when education is accelerated. To ensure quality of education, educational programs must be reviewed and adapted, educational methods and tools has to be properly selected, educational environments must be changed, and they must be adapted to a certain age. It is emphasized that the evaluation should be clear, according to the individual progress of the child. Research participants agree that it is important to prepare and continuously upgrade the qualifications of the teacher, focused on children's knowledge and the peculiarities of the age stages.

Conclusions and discussion

The participants of both studies, who are in favor of early education, claim that it would be beneficial for children experiencing social exclusion, as it helps to reduce social problems. They also claim that early education would be beneficial for all children because they would begin to grow systematically and consistently, integrate into the environment faster, and social abilities, general abilities, communication, cooperation, and language skills would begin to be strengthened earlier. Many educators and experts who participated in the study state that the benefit of early education is increasing child achievements in senior classes and in life. The results of international research data PISA (2016), PIRLS (2017) are emphasized, from which longer participation in qualified institutional education is one of the strongest early education factors influencing better student achievements at the age of 15. Experts also talk about Eurydice data, which show that in many countries compulsory education starts at the age of 6, and in Lithuania - at the age of 7. It is considered important to pay attention to the experiences and trends of early education in other countries, especially the nearest neighboring countries (Latvia, Germany, Poland, Czech Republic, Slovenia, Croatia, etc.). Interview participants say that children are old enough when they finish school, that they could finish it being younger, and therefore they would enter the labor market earlier. And the pedagogues who participated in the discussion see the benefits for themselves, that if the children are of the same age, it will be easier for the teachers to differentiate the activities and facilitate their work with the class.

Educational experts and pedagogues who participated in the study, who are against early education, emphasize that a child who starts going to school later learns and feels better there. They emphasize that the most important thing should not be the starting school age of the child, but his/her maturity for school. Scientific literature (Herbst & Strawinski, 2016; Valantinas, 2011) also states that an earlier start of education would be particularly beneficial for children from poor families due to early pedagogical support. They highlight the fact that the learning achievements of students in older classes are better, and the vocabulary is richer; children experience fewer difficulties in communication, have fewer cognitive development disorders. A child who started school earlier would be able to finish it earlier and enter the labor market, which would have a positive effect on the pension system. International research reports (OECD, 2017a, b; UNICEF, 2019) state that early education has a positive effect on the further social and emotional development of all children, especially those growing up in conditions of social risk and social exclusion; the earlier a child begins to be educated in a purposeful way, the better his/her achievements in higher classes.

After reviewing the results obtained from all research stages, it became clear that all the participants of the research agree that while lowering the school entry

age, educational programs must be reviewed and adapted, educational methods and tools must be selected appropriately, the educational environment has to be changed and evaluated according to the individual needs of the child progress. If the educational content is not adapted to the child's age, learning disorders may be misdiagnosed, and the child may experience various psychological and learning difficulties. The IBE (UNESCO, 2013) indicates that in order to promote learning effectively, the curriculum, teaching/learning methods and structures need to be constantly adjusted in response to changes in science, technology, culture, economy and social discourse.

The participants of the interviews emphasize that the work of updating educational programs is underway today: new educational programs will be digital, information technologies will play an important role, achievement levels will be more clearly defined, and a new threshold level will be introduced. Though updating the educational content, the experts stick to the general competence concept of 2008, the content of competence itself is developed and clarified. The aim is to reveal the connections between subject content and competences, to illustrate how competences are developed through subject content. The website "School 2030" (in Lithuania) presents 6 descriptions of competences: communication; cultural; creativity; cognition; citizenship; social; emotional and healthy lifestyle competencies. An important note is that the programs are designed for current firstformers, the majority of which are 7 years old. If a decision was made to start learning from the age of 6, then the educational programs would not correspond to that age. Thus, before making decisions related to early education, the preparation of all of Lithuania is important, so it is necessary to continue discussions with the educational community, pedagogues, parents, municipal education specialists. It is necessary to take into account their expectations and needs, conduct scientific research, analyze the experiences of other countries and then make reasonable decisions.

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DETERMINING THE KNOWLEDGE LEVEL OF PUPILS IN THE INFORMATION SYSTEM OF "SMART SCHOOL"

Sanatbek Atanazarovich Masharipov

Urgench branch of Tashkent University of Information Technologies named after
Muhammad al-Khwarizmi, Uzbekistan

Laylo Saparbayevna Rakhimova

Urgench branch of Tashkent University of Information Technologies named after
Muhammad al-Khwarizmi, Uzbekistan

Xolisa Ilkhomovna Akhmedova

Tashkent State University named after Alisher Navoi, Uzbekistan

***Abstract.** At a time when current information technologies are rapidly developing, the effectiveness of the quality of education in secondary schools, the transparency of the teacher evaluation system and the analysis of several other indicators with the help of artificial intelligence are the urgent issues of the day. In this method of analysis, initially the value is entered by school experts. This value consists of a pupil in a certain category among pupils and his grades. The term category refers to various criteria, such as pupils with different levels of mental activity, pupils who are learning poorly, who are missing a lot of lessons, and the level of learning is high or low within the specified subjects or topics. The "Smart School" information system forms arrays consisting of the number of grades and grades of pupils according to the criteria entered by experts, and has the ability to sort the values that are similar to the entered value. The solution to the problem posed in this article is explained mathematically and practically. Based on the proposed mathematical models, the business process was modeled, a business process software product was developed, and statistical data was obtained.*

Keywords: array, association rule, fuzzy logic, information system, mathematical model, set elements, signs of similarity, smart school, time series.

Introduction

The population growth in Uzbekistan leads to an increase in the number of pupils in schools, which increases the difference in the ratio of school teachers to pupils. Naturally, the teacher cannot always participate in the evaluation of the pupils' knowledge level, in determining the topics that are difficult to master, and in other processes related to education. The inability of teachers to deal with each pupil individually can lead to a sharp decrease in the quality of education.

Ensuring the intellectual and physical development of pupils in schools, creating a foundation for them to fully use their abilities in the future and to find their place in society is one of the urgent issues of today (Asemi, 2006).

To date, there is a lot of research on improving the quality of education through artificial intelligence systems (Zaenab, 2015; Henry & Abala, 2009; Omidinia et al., 2013). We analyzed the 37 scientific articles (Sampebua & Mangiwa, 2017; Hennessy et al., 2005; Mahmudi et al., 2008; Puteh et al., 2004).

Automation of the educational process in the higher and general secondary education system is one of the painful points of the education system (Muslimov, 2015; Tolipov, 2005). At present, this problem has been partially solved, an automated information system for secondary education has been developed. Currently, the system has been put into practice in 10 general public schools in Uzbekistan. The "Smart School" program allows to analyze the effectiveness of the quality of education in schools, the transparency of the teacher evaluation system, and several other indicators with the help of artificial intelligence. In addition, subjects that are difficult for pupils in current schools to master are automatically identified. It is as a result of taking systematic measures on the topics that are difficult to master, identifying pupils who are inactive in classes and those with low mastery individually, effective work is being organized with each pupil. There are opportunities to notify parents about changes in their child's learning regularly in the form of a histogram in the mobile application, and to provide advice to teachers and parents in identifying pupils who regularly miss classes and finding the reasons for it.

The Smart School program is software designed for electronic management and analysis of work processes in schools, including journals and daily documents, and serves to automate the work of school director, deputies' director, teachers and other employees. The system performs analysis of pupils' cognitive potential and physical development in the educational system using Artificial Intelligence systems (search based on associative rules, time series prediction, fuzzy logic).

Electronic journal, electronic diary, online information exchange with parents, ability to view exam schedule and results online, online lesson schedule will help pupils to fully participate in classes and improve learning efficiency (Bustanov & Xasanov, 2010). It is worth to note that the program has the ability to analyze the physical development and physical training of the pupil according to his age, to recommend physical exercises that should be performed according to the standard rules, and exercises to ensure the health of the pupil.

The "Smart School" project uses artificial intelligence systems such as searching based on associative rules, predicting time series, and identifying similarities. In short, it has the ability to identify multiple pupils who have similar grades to a random pupil. In achieving this possibility, the problem of identifying similarities was encountered.

Research methodology

A number of scientific works on identifying similarities were analyzed. The analyzed scientific works showed that the similarity requires the usage of different methods depending on the object. For example, Chinese scholars Haipeng Chen and Xiwen Yang (Chen, Yang, & Lyu, 2020) in determining the forgery of their copied works of art based on such 4 principles:

- Method based on frequency domain
- Method based on size reduction
- Method based on local binary pattern
- Texture based method

In addition, a number of scientists, such as Varun Chandola (Chandola et al., 2009), Luke Michael Febriansyah (2019), Farhan Ullah (Ullah et al., 2020) have conducted research on similarity coefficients in different directions. It is worth to mention that, regardless of whether it is the similarity between bodies or determining the similarity between arbitrary objects, we have seen that the decision is made based on the elements of mathematical statistics and the theory of probabilities. When making decisions in this area, it is appropriate to take into account some rules:

Associative rules are guidelines that help to determine the probability of correlation between elements in large data sets in various types of databases (Agrawal, 1993; Hu et al., 2002). It helps to determine the probability of dependency of the grades received by pupils on one subject on the grades they received or may receive on other subjects.

Time series prediction is (data) collected based on the sequence of a certain time interval (Box et al., 2008). The method of time series analysis provides an opportunity to predict its indicator (essence) based on the past and future of numerical variabilities.

Fuzzy logic is a branch of the artificial intelligence system, which is implemented through computer devices that model human intelligence (García-Honrado, 2012; Ismail & Syaiful, 2015). It accepts human intelligence and helps people make decisions. In its process, fuzzy logic makes predictions and draws conclusions based on its experience patterns, which become a tool for users to get advice. Fuzzy logic has been widely used in many fields (Albayrak et al., 2015; Zadeh, 1965) one of which is educational evaluation. In the "Smart School" program, fuzzy logic models (Melihov et al., 1990) are used to assess the level of knowledge of pupils in subjects.

The large number of training load imposed on the teacher complicates the process of assessing the level of pupil's. If a teacher spends 3-7 minutes to assess the knowledge of 1 pupil through questions and there are 20-40 pupils in a class, it means that the teacher needs more time and energy. Such problems can be solved through artificial intelligence systems. In the "Smart School" program, the grades

received by the pupils in each subject are analyzed and it is determined with the help of artificial intelligence systems the pupil is active in which subjects in appropriation there are problems within which subjects (Masharipov et al., 2022).

The value is entered by school experts in this article. This value consists of a pupil in a certain category among pupils and his grades. The term category refers to various criteria, such as pupils with different levels of mental activity, pupils who are learning poorly, who are missing a lot of lessons, and the level of learning is high or low within the specified subjects or topics. The "Smart School" program forms arrays consisting of the number of grades, grades of pupils in subjects according to criteria entered by experts and the ability to sort values that are similar to the entered value. The following problems are solved in this article: a parent who enters the "Smart School" information system with a login and password can see his child's grades, as well as the problem of identifying other pupils at the same level as his child.

Solution of the problem

To solve the problem, we need an array of grades of pupils in one category. For example, an array of 7th class pupils' grades or an array of 7th class pupils' grades in several subjects such as algebra, geometry, physics, or an interval at the end of the school year can be an array of control values. Let's suppose that parents or experts want to determine the grades of a particular pupil and other pupils who are similar to him during the optional time of the school year. In such situation, we select as an object a two-dimensional array consisting of the total grades of pupils from the academic year to the current time.

$$A = \begin{pmatrix} a_{11} & a_{12} & \dots & a_{1n} \\ a_{21} & a_{22} & \dots & a_{2n} \\ \dots & \dots & \dots & \dots \\ a_{m1} & a_{m2} & \dots & a_{mn} \end{pmatrix} \quad (1)$$

Here $a_{ij} \in \{2,3,4,5, \emptyset\}$, a_{ij} i – is the grade of the i -pupil on the j -subject, $n \in \mathbb{Z}$ is the number of subjects in the class denotes the number of subjects and $m \in \mathbb{Z}$ denotes the number of pupils in the class. Table 1 below shows the elements of array A.

Table 1 Array of pupils' grades (made by authors)

	Theme 1	Theme 2	Theme 3	Theme 4	Theme 5	...	Theme n
P 1	5	4	4	3	5	...	4
P 2	4	3	5	5	4	...	5
P 3	5	5	4	3	4	...	5
P 4	4	4	5	5	3	...	5
P 5	3	5	4	4	5	...	4
...
P m	4	5	4	5	4	...	5

Operations are performed on selected elements of matrix A. The elements of matrix A consist of 5 different grades 0, 2, 3, 4, 5 (where the number 0 means not graded on the subject). Now the number of grades for each pupil is counted and as a result, matrix B is formed

$$B = \begin{pmatrix} b_{11} & b_{12} & b_{13} & b_{14} \\ b_{21} & b_{22} & b_{23} & b_{24} \\ \dots & \dots & \dots & \dots \\ b_{m1} & b_{m2} & b_{m3} & b_{m4} \end{pmatrix} \quad (2)$$

Here b_{i1} – number of 5 grades of i th pupil, b_{i2} – number of 4 grades, b_{i3} – number of 3 grades, b_{i4} – number of 2 grades. That is to say:

$$B = \begin{pmatrix} 2 & 4 & 5 & 2 \\ 5 & 3 & 1 & 0 \\ \dots & \dots & \dots & \dots \\ 7 & 0 & 0 & 0 \end{pmatrix}$$

a matrix consisting of such values is formed.

Let's assume that the system is required to identify pupils whose grades are similar to the grades of k -pupil:

$$x_k = \{b_{k1}, b_{k2}, b_{k3}, b_{k4}\}$$

x_k array C consisting of elements of array B satisfying the condition $|b_{k4} - b_{i4}| \leq 1$ between the number of grades of the pupil and the number of grades of other pupils is created.

$$C = \begin{pmatrix} c_{11} & c_{12} & c_{13} & c_{14} \\ c_{21} & c_{22} & c_{23} & c_{24} \\ \dots & \dots & \dots & \dots \\ c_{y1} & c_{y2} & c_{y3} & c_{y4} \end{pmatrix} \quad (3)$$

Here $1 < y < m$.

Array D is formed by dividing the elements of the created array C with the condition $|b_{k3} - b_{i3}| \leq 1$, the difference between the numbers of 3 values in the array C consists elements of the set $\{-1; 0; 1\}$

$$D = \begin{pmatrix} d_{11} & d_{12} & d_{13} & d_{14} \\ d_{21} & d_{22} & d_{23} & d_{24} \\ \dots & \dots & \dots & \dots \\ d_{z1} & d_{z2} & d_{z3} & d_{z4} \end{pmatrix} \quad (4)$$

Here $1 < z < y$

In the next step the 2nd column of the array D, i.e. the number of 4 grades of the pupils, the array E consisting of elements satisfying the condition $|b_{k2} - b_{i2}| \leq 1$ is created.

$$E = \begin{pmatrix} e_{11} & e_{12} & e_{13} & e_{14} \\ e_{21} & e_{22} & e_{23} & e_{24} \\ \dots & \dots & \dots & \dots \\ e_{p1} & e_{p2} & e_{p3} & e_{p4} \end{pmatrix} \quad (5)$$

Here $1 < p < z$

Now it's time to calculate the differences between the 5 grades of the pupils and this operation is performed on the elements of the E array. As a result, an array F consisting of elements satisfying the condition $|b_{k1} - b_{i1}| \leq 1$ of the array E is created.

$$F = \begin{pmatrix} f_{11} & f_{12} & f_{13} & f_{14} \\ f_{21} & f_{22} & f_{23} & f_{24} \\ \dots & \dots & \dots & \dots \\ f_{l1} & f_{l2} & f_{l3} & f_{l4} \end{pmatrix} \quad (6)$$

Here $1 < l < p$

F is the resulting array, the differences between the values of the current k-pupil $x_k = \{b_{k1}, b_{k2}, b_{k3}, b_{k4}\}$ consisting elements of the set $\{-1, 0, 1\}$ are extracted. Now, according to the order of the array F, the elements between the elements of the array A are separated

$$A' = \begin{pmatrix} a'_{11} & a'_{12} & \dots & a'_{1n} \\ a'_{21} & a'_{22} & \dots & a'_{2n} \\ \dots & \dots & \dots & \dots \\ a'_{l1} & a'_{l2} & \dots & a'_{ln} \end{pmatrix} \quad (7)$$

The resulting array of A' elements is required to be sorted when presenting the results to the user. It is expedient to perform the sorting according to the sum of elements of the array A' . Let S be ordered matrix

$$S = \begin{pmatrix} s_1 \\ s_2 \\ \vdots \\ s_l \end{pmatrix} \quad (8)$$

Elements of the array A' are displayed which satisfying the condition $s_i = f_{i1} + f_{i2} + \dots + f_{in}$ and $s_1 \geq s_2 \geq s_3 \geq \dots \geq s_l$

We will consider the process of solving this problem based on the above mathematical expressions.

The "Smart school" information system is developed in the Java programming language in which the interfaces are initially written. Individually written interfaces are inherited and generated methods are filled and passed to the browser. The interface that creates the elements of array A can be composed of the following methods.

```

List<Fan> getFanListAtThatDateBySinflId(int sinflId, String sana, String lang);
List<Jurnal> getJurnalListByGuruhIdAtThatDate(int sinflId, String sana, String lang);
List<Jurnal> getJurnalListGuruhIdByBetweenDate(int guruhId, String sana);
List<Jurnal> getJurnalForBahoMap(String sana, int sinflId, int fanId, double soat, String lang);
List<Jurnal> getJurnalForHisobot(String sana, int sinflId, int fanId, double soat, String baho);
List<Jurnal> getJurnalByFanIdAndSinflId(int fanId, int sinflId, int param, String begin, String end);
List<Jurnal> getJurnalByFanIdAndSinflIdInSoat(String sana, int fanId, int sinflId);
List<Jurnal> getJurnalByFanIdSanaSinflSoat(int fanId, String sana, int sinflId, double soat);

```

Interface methods are written according to the necessary categories. Pupils' grades were obtained from the database with the help of written methods.

Methods for other similar categories are written and elements of array A are created. An array B is created based on the generated array and a one-dimensional array x_k is also created based on the entered value. In the next step, arrays B and x_k are compared. Comparing two arbitrary arrays can be done using the code below

```

public class Test1 {
    private static double data1[] =
    {0.7,0.57,0.81,0.32,0.33,0.68,0.91,0.24,0.2,0.5,0.0,0.64,0.12,0.43,0.74,0.28,0.38,0.3,0.0,0.4,0.9,0.68,0.75,0.8,0.9,0.6,0.75,0.38,0.16,0.26};
    private static List<List<Double>> testList = new ArrayList<>();
    private static List<List<Double>> resultList = new ArrayList<>();
    public static void main(String[] args) {
        double minValue = 0;
        double maxValue = 0;
        for (int i = 0; i < 10; i++) {
            List<Double> testData = new ArrayList<>();
            for (int j = 0; j < 30; j++) {
                testData.add(Double.parseDouble(String.format("%.2f", Math.random()).replace(',', '!')));
            }
            testList.add(testData);
        }
        for (List<Double> dList : testList) {
            System.out.println(dList);
            List<Double> fResult = new ArrayList<>();
            for (int i = 0; i < dList.size(); i++) {
                double d = 1-dList.get(i);
                double d1 = Double.parseDouble(String.format("%.2f", d).replace(',', '!'));
            }
        }
    }
}

```



```
fResult.add(d1); }
resultList.add(fResult);
System.err.println(fResult); } } }
```

Using this method, the arrays are compared and the necessary results are presented to the user.

The results of research and discussions

Based on the mathematical models developed above and the business process modeled on their basis, a similarity detection function was introduced for the "Smart School" information system. 10 schools where the information system has been implemented are identifying pupils with a significant level of accuracy based on the information entered into the program. If this function is required to cover the grades of 10 school pupils it is required to enter the resulting number of pupils. For example, the system needs to determine how many pupils have similar grades to the current pupil. In that case, the system requires the user to enter the required number of students. Apart from that, the system determined the indicators of learning in schools as follows:

Analyzing the learning of math by 10th grade pupils of schools 2, 21 and 40, it was found that learning the following topics was difficult for pupils to learn: (Table 2).

Table 2 Knowledge level of math (made by authors)

Schools	Themes		
	Negation, disjunction and conjunction	Simple percentage, complicated percentage	Simple rational equations and their systems
School №40	4.18	3.18	3.82
School №21	1.77	0.37	0.89
School №2	1.91	1.48	2.67

Table 2 shows that in 2 schools it is difficult for pupils of the 10th grade to master these topics in algebra, while in the school №40, these topics are mastered relatively well. In this case, studying the methodology of teaching math in school №40 and applying it to other school may lead to master the subject in all other schools.

In addition, the "Smart School" information system has the ability to determine the mastery coefficients of subjects that are difficult for pupils to master. This possibility can be seen in the diagram below:

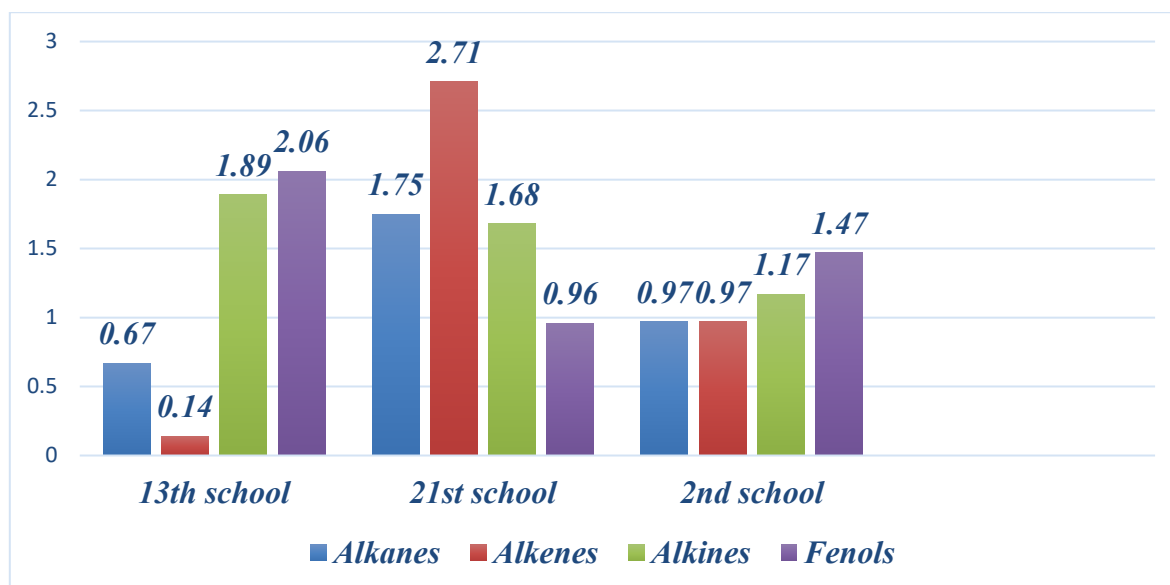


Figure 1 Coefficients of mastering topics (made by authors)

It can be seen from the diagram that the coefficients of assimilation of subjects assessed as difficult to master within the framework of schools have been developed. In the system of public education, it is desirable to revise the methods of teaching these subjects with more understandable form. In the same way, the learners can highlight topics that are more difficult to master in other subjects.

Summary

The developed information system identifies students with a high level of knowledge in accordance with such criteria as the number of grades received by students, the frequency of participation in classes, and indicators of mastery of subjects. If we look at the example of the school №10, it was found that there are 4 pupils in the 5th "A" class and 3 pupils with a high level of knowledge in the 6th "G" class. In addition, in the school №10, the level of pupils in the mother tongue of the 5th "E" grade was 4.9 on a maximum of 5 points, and the average indicator of the class was determined by the program according to the level of each pupil. . Through this method of analysis, it will be possible to assess the level of pupils and classes by school.

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PROSPECTIVE TEACHERS' EVALUATIONS OF TEACHING PRACTICE IN AN INCLUSIVE CLASSROOM

Ieva Margeviča-Grinberga
University of Latvia, Latvia

Egija Laganovska
University of Latvia, Latvia

Abstract. *Today's teachers must be ready to address all students, whatever their abilities, needs, and knowledge. Prospective teachers must develop the necessary competencies during their studies to ensure inclusive education for all pupils. Teaching practice remains one critical means of exposing future teachers to actual classroom experiences to equip them with pedagogical skills. The course followed in this study included teaching practice to allow future teachers to put their theoretical knowledge into practice. The research aimed to analyse future teachers' feedback after teaching practice in an inclusive classroom. These data – the prospective teachers' findings after the teaching practice – were analysed using content analysis. The sample of the study consisted of 97 future teachers.*

The results showed that the student teachers faced various challenges, e.g. needing more experience in an inclusive setting, creating activities that included all students, and needing more teaching resources. However, most were optimistic about the opportunity to put the knowledge they gained during the course into practice. Therefore, teacher educators should ensure that students are prepared for entry into the teaching profession and have a positive pedagogical experience in an inclusive classroom. The teacher educators should also have sufficient knowledge and skills to work with all pupils.

Keywords: *inclusive classroom, inclusive education, teacher education, teaching practice.*

Introduction

Since the beginning of the 20th century, there have been concerns about the gap between practice and theory in teacher education (Dewey, 1904). More and more university courses are introducing teaching practice and school visits. Many teacher education programmes have increased the course credits required to ensure that future teachers receive a comprehensive and well-rounded education. There has been growing recognition that teacher education programmes should prepare teachers with theoretical knowledge and practical, hands-on experience in real-world classroom

settings (Margevica-Grinberga & Odiņa, 2021). This helps them develop a deeper understanding of the complexities of teaching and bridge the gap between theory and practice. Teaching practice is a vital means of creating exposure for prospective teachers to actual classroom experiences to provide them with the necessary pedagogical skills.

By allowing future teachers to apply their knowledge and skills in real-world educational settings, work-based learning helps to bridge the gap between theory and practice and provides opportunities for prospective teachers to develop the competencies they need to be effective educators. Furthermore, work-based learning is viewed as a more holistic approach to teacher education, as it takes into account the multiple factors that influence teacher practice, including the context in which teaching takes place, the needs of students, and the teacher's personal and professional development. As a result, many teacher education programmes worldwide are now incorporating work-based learning into their curricula to provide future teachers with a well-rounded education that prepares them for the profession's challenges (Margevica-Grinberga & Odiņa, 2021). Additionally, work-based learning offers opportunities for prospective teachers to establish professional networks and gain insight into the educational challenges and opportunities that can inform their ongoing professional development.

Literature review

Teaching practice is an essential aspect of teacher preparation programmes. It provides student teachers with hands-on experience in a natural classroom setting, allowing them to apply the theories and concepts they have learned during their education (Mangope et al., 2018). Additionally, as a result of policy and legislative reforms, internationally, regular classroom teachers are increasingly being asked to include students with a range of diversities in their classrooms (UNESCO, 2013). Moriña (2017, p. 9) defines an inclusive classroom as “one designed to effectively accommodate students with special needs, disabilities, or impairments in a general learning environment suitable for their age so that they can learn among peers who may or may not have those needs”. Thus, inclusive education aims to create a conducive environment for all kinds of students to ensure they are encouraged by teachers to actively contribute to and participate in the school's activities, including learning/curricula and extra-curricular activities (Alnahdi et al., 2022, p. 3). Since inclusive education must accommodate children from various backgrounds, it requires a well-adapted teaching force to cater efficiently and effectively to the varying needs of different students. Recent research (e.g. Margevica-Grinberga & Sumane, 2021; Margevica-Grinberga & Rektina, 2022) in Latvia revealed that future

teachers do not sufficiently develop their professional competence in working with diverse students.

Student teachers may learn about various theories and approaches to teaching during their education. However, when they start teaching, they may encounter situations and challenges that require them to adapt or modify what they have learned. Bridging this gap between theory and practice is essential to ensure that teachers are equipped to effectively address the needs of all students and create inclusive learning environments. Unfortunately, the gap between theory and practice is a common challenge in teacher education (Sharma, 2018).

It is also vital to equip teachers-in-training with a deep understanding of the subject matter they will be teaching and the pedagogical approaches and methodologies that will most effectively engage and support their students. This will enable them to be confident and effective in the classroom and respond effectively to challenges and opportunities during their teaching practice (Otukile-Mongwaketse & Mukhopadhyay, 2013).

In the Faculty of Education, Psychology, and Art at the University of Latvia, since 2018, many teacher education courses have included teaching practice. In addition, many teacher education study courses now include a component of teaching practice or student teaching, where future teachers can practice what they have learned in their coursework and gain practical experience in an actual classroom setting under the supervision of experienced teachers.

Prospective teachers must develop the necessary competencies during their studies to ensure inclusive education for all pupils. Therefore, this study aimed to investigate how future teachers evaluate their teaching assistants' practice in relation to work with different students in inclusive classrooms. The research objectives were to identify the challenges prospective teachers face while teaching students with diverse needs in an inclusive classroom and to evaluate the significance and shortcomings of current teaching practice for prospective teachers.

The research questions were as follows: How do future teachers evaluate their teaching assistants' practice? What are the challenges prospective teachers face while teaching students with diverse needs? How should teaching practice evolve to facilitate prospective teachers developing the necessary competencies to ensure inclusive education for all pupils?

By examining the responses of future teachers, this research can provide valuable information on how to improve teacher education programmes and support the development of effective, inclusive teachers.

With ever-changing classroom requirements, such as inclusive education, requiring the ingraining of the needed skills, conduct, and professionalism into student teachers, teaching practice needs to be effectively optimised to deliver

according to the novel classroom demands (Moriña, 2017, p. 9). As teaching practice helps identify areas of development depending on the ability of the training programmes to adequately deliver according to the set expectations, the delivery of inclusive education requires a proper analysis of student-teacher teaching experiences (Okongo et al., 2015, p. 133). Thus, the vast diversity of students entering current classrooms demands an effective adaptation of current teaching practices beyond traditionally established limits to expand the understanding and implementation of the curriculum and pedagogy.

Research by Mangope et al. (2018, p. 62) postulates that the lack of teacher training and preparedness concerning inclusive education results in the majority of teachers being frustrated, angry, and pessimistic about inclusive education. Therefore, a key element highlighted to impact the success of inclusive education is the establishment of effective theoretical training to adequately equip prospective teachers coupled with efficient teaching practice to allow future teachers to put their theoretical knowledge into practice during the study course. Consequently, Mugambi (2017, p. 95) outlines several approaches to inclusive education, including human rights-based and multicultural policies. The human rights-based approach stipulates children's right to education based on equality of opportunity for every child and education that cultivates the full development of a child (Mugambi, 2017, p. 94). Furthermore, Mugambi (2017, p. 95) outlines the seven principles supporting the human rights-based approach, including equality and non-discrimination, participation and inclusion, and empowerment. Therefore, the government is mandated to protect all children's rights, including the rights of those suffering from disabilities, and children have the rights to support and educational accessibility to ensure their social inclusion.

Concerning the multicultural approach, Mugambi (2017, p. 101) posits that it cultivates the establishment of cultural pluralism and acknowledgment of the variation in cultures, races, and abilities. Thus, it aims to inculcate the understanding and appreciation of existing cultural differences and similarities and the contributions of the various social groups in society. Consequently, multicultural education aims to eliminate prejudices against different social groups and establish better integration (Mugambi, 2017, p. 101). Additionally, Mugambi (2017, p. 103) outlines the several dimensions of multicultural education, including content integration of different cultures and groups and the knowledge construction process, which cultivates the understanding and determination of biases and perspectives within a discipline and their influence on knowledge. It also includes the reduction of prejudice through the cultivation of positive attitudes towards different cultural or social groups, the purveyance of equitable pedagogy, and an empowering school and social structure (Mangope et al., 2018, p. 71). Therefore, it is essential to incorporate

the various inclusive education approaches into teachers' training and its evaluation during teaching practice to ensure the success of inclusive education. Furthermore, teaching practice must encapsulate the numerous elements comprising the two approaches to inclusive education.

Methodology

This research used a social constructivist approach since learning is an active and social process and knowledge is socially constructed from life experiences, as Mcleod (2019) observes. Thus, it helps perfect the teaching practice to adequately address all the elements of inclusive education. The study utilised a sample of 97 prospective primary school and secondary school teachers studying within the framework of the course 'Special and Inclusive Education' to collect qualitative data, using the students' narratives as the data collection method and content analysis as the data analysis technique. The course included practice sessions for teachers' assistants. The students' narratives regarding their perspective on teaching practice in the inclusive classroom were used as the data collection method, as they facilitated the gathering of high-quality data. Using narratives as a tool can contribute to the knowledge of people's experiences and the culture and society in which the narrator lives. The individual story can, when it is contextualised, provide knowledge about the social and cultural environment (Svensson, 2018). The data collection targeted gathering responses regarding the challenges prospective student teachers face in their teaching practice experience in an inclusive education setting. The trainees were informed that the study would be used only for research purposes, that they could terminate their participation whenever they wanted, and that their narratives were anonymised with code names.

Data analysis

Content analysis was used as the primary data analysis method, as it helped identify patterns in the qualitative data in terms of keywords, themes, and concepts (Luo, 2022). Consequently, the data were analysed using qualitative analysis software NVivo12 to develop codes. To ensure the validity of the content analysis, a coding system was developed to guide the process. A coefficient of agreement was used to ensure the reliability of the content analysis. First, the coding process was conducted by two different coders (Author 1 and Author 2), who worked independently according to agreed-upon standards. Second, the Cohen's kappa coefficient was calculated and yielded a value of 0.83, demonstrating good agreement between themes and critical factors. Third, both coders reached a final

agreement by discussing and reaching consensus on details such as categorising the content in the comments. The 25 codes (as shown in Table 1) were classified into three themes: limited pedagogical skills and knowledge in inclusive classroom settings, limited teaching resources, and the positive impact of teaching practice in cementing exposure to real-life scenarios. The codes served as an analytical framework for exploring the future teachers' evaluation of their teaching practices.

Table 1 Thematic categories and codes (created by authors)

Thematic category	Code	Code frequency
Limited pedagogical skills and knowledge in the inclusive classroom setting	<i>understanding</i>	81
	<i>prepared</i>	54
	<i>skills</i>	73
	<i>willingness</i>	45
	<i>applying</i>	61
	<i>stereotypes</i>	25
	<i>assessment</i>	58
	<i>ability</i>	48
	<i>include</i>	66
Limitation of teaching resources	<i>support</i>	95
	<i>personalisation</i>	68
	<i>staff</i>	38
	<i>assistant</i>	46
	<i>materials</i>	27
	<i>tools</i>	32
Positive impact of teaching practice on cementing exposure to real-life scenarios	<i>theory</i>	53
	<i>collaboration (families)</i>	41
	<i>collaboration (staff)</i>	57
	<i>practice</i>	86
	<i>adjustment</i>	19
	<i>flexibility</i>	21
	<i>experience</i>	37
	<i>courage</i>	12
	<i>diversity</i>	22
	<i>activity</i>	23

N = 97

Results

Limited pedagogical skills and knowledge in the inclusive classroom setting

Some of the limiting factors highlighted concerning the management of an inclusive classroom were a lack of training regarding the various ways to handle students with disabilities and the degree of variation of needs of students in an

inclusive classroom. Alnahdi et al. (2022, p. 5) articulate that teaching practices such as differentiation and personalisation are vital when teaching a diverse classroom. Differentiation implies categorising pupils into groups of similar attributes, while personalisation handles each student differently. Consequently, a differentiated or personalised teaching method is suitable for working with a diverse classroom setting, such as that of inclusive education, as it creates a productive learning environment for different pupils. Moreover, it is based on the human rights-based teaching approach, which cultivates inclusive education. Since, as Alnahdi et al. (2022, p. 4) argue, the design of pedagogical training and teaching approaches determines the participation of a diverse classroom, current teaching practice methods need to be adapted effectively in terms of pedagogical training and teaching approaches to deliver inclusive education effectively.

The trainees' conclusions about the teaching practice revealed that this practical experience helped them feel more prepared for their future careers (54%) and more confident in their abilities (48%):

"I believe I have a much better understanding of inclusive learning and will be able to differentiate my lessons when I start working at an educational institution".

"In the future, I hope to recognise problems sooner and react faster because a problem spotted early can be solved more easily than when a student is confused and does not know how to cope".

"I want to develop myself not only professionally but also as a person because, to be honest with myself, I currently feel insecure and unconfident about inclusive education".

"In summary, I feel more knowledgeable about inclusive lessons and competent, not afraid of challenges. I am grateful for this teaching practice and that I had a great collaboration with the teacher. I will benefit from this experience."

"I concluded that to include a successful child, you have to educate continuously because children are different, and their problems are different and manifest themselves in different ways, taking into account all the possible side factors that affect them".

"This internship was just a glimpse; I would like to increase my knowledge in inclusive education".

Limitation of teaching resources

A limitation of resources to help address the various educational needs of different students was implicated in the trainees being overwhelmed in teaching practice. The human rights-based approach stipulates that teaching practice should maintain the child's best interest (Mugambi, 2017, p. 103). For instance, commonly used furniture in schools is unsuitable for students with physical disabilities. At the same time, most teaching materials, such as classroom diagrams, need to be more

suitable for students with visual impairments. Consequently, Alnahdi et al. (2022, p. 4) posits that the success of inclusive education depends on the teacher's understanding of and response to classroom diversity.

Most respondents (68%) found it difficult to effectively implement a personalised approach in the classroom due to the lack of student support materials (which they had to create themselves), large class sizes, and need for classroom assistants (both for the whole class and pupils with learning disabilities).

"I have gained more experience, understanding that all children are not the same; each pupil needs an individual approach. Teachers try to differentiate the work in this class to give students a choice. Nevertheless, one teacher cannot provide enough support for everyone in the classroom. There is often a lack of learning materials and tools that meet the special needs of students".

"This practice made me realise how many children there are who need different approaches and teaching methods".

"After the practice, talking to the teacher, we concluded that a teacher, whether the child has a disability or not, needs a teaching assistant".

"Although schools have support staff who do their job, time is limited".

"A teaching assistant is very much needed in this class, as the pupils' work is prolonged, and their attention span is low".

Furthermore, a teacher's attitude is understood to contribute to establishing the adaptability of the teaching practice and overcoming certain classroom limitations, as the adaptation of their teaching method and practice can help benefit pupils with a range of learning needs (Moriña, 2017, p. 11). Therefore, besides the appropriate skills and attitude being essential to ensure the adaptability of teaching practices, the availability of necessary resources is critical to maximising the learning environment of the classroom with diverse needs.

Positive impact of teaching practice on cementing exposure to real-life scenarios

The exposure to real-life conditions while teaching was another theme determined to positively impact the prospective teachers, as it helped them adapt their knowledge effectively to maximise the output, which was the students' learning results. Overall, the combination of theoretical and practical components in teacher education prepares prospective teachers for the demands of the profession and helps them to be effective and thrive in the classroom (Kaldi & Xafakos, 2017). In addition, the respondents indicated that the teaching practice component is an essential aspect of teacher education programme courses (86%). It provides hands-on experience in a real-world setting, which is crucial to developing their teaching skills and abilities.

"During my teaching practice, I have developed both theoretical knowledge and practical skills".

“Overall, I can say that the teaching practice allowed me to put theory into practice, and the knowledge I gained allowed me to work with a variety of students in the classroom, both with behavioural and learning disabilities. However, after this placement, it became clear that there was a need to study more the information available on different pupils’ needs”.

“During my teaching practice, I strengthened my existing knowledge on providing more support to a child with mixed disabilities”.

“I think the teaching practice was a valuable experience, where I understood first-hand what it means to include and what individual methods and individual work with an inclusive child”.

“I appreciate the experience of seeing how a student with learning difficulties and language disabilities learns and is taught daily”.

“The teaching practice was an opportunity to put into practice the knowledge acquired during the course. Not only theoretically, but also practically”.

“To sum up, this practice ‘opened my eyes’ to how much an educator can achieve by switching on their creative thinking and giving pupils a choice, and I had not thought before that a pupil can demonstrate their knowledge in so many different ways; reading and writing should not be the only way a pupil is allowed to demonstrate it because there are and will be pupils who simply will not be able to do that”.

“I was very excited to go to the school and have a new experience, and during this traineeship, I was convinced that I could belong here because I felt so excited every time I was in this classroom and this school”.

Okongo et al. (2015, p. 135) note that teachers have a vital role in establishing an inclusive learning environment. The participants indicated that the exposure to an inclusive classroom accorded in the teaching practice helped establish what Okongo et al. (2015, p. 135) define as the teacher attributes that facilitate successful inclusive education, including “open-mindedness, self-awareness, and commitment to social justice” (Garmon, 2005, p. 277). Collaboration is critical to creating an inclusive classroom environment (Clarke et al., 2012; Paju et al., 2022). By working together, teachers, support staff, families, and other colleagues can ensure that every student can reach their full potential and feel valued and supported in the learning process. The trainees (41%) emphasised that collaboration with families helps to gain a deeper understanding of each student’s unique strengths, needs, and background, which can inform the teaching approach and support for that student. Collaboration with support staff, such as special education teachers and related service providers, can also be valuable in ensuring that students with diverse needs receive the appropriate interventions and accommodations to be successful in the classroom (57%).

“A teacher’s work would be better if she had an assistant. I concluded that parents should also be more involved”.

“Teamwork is essential, including school management, teachers, support staff, and parents. Everyone must have a specific goal to work towards”.

“Communication between the support team (teacher, parents, support staff – speech therapist and teaching assistant)”.

“Inclusive education can be successful if teachers have all the support they need – from parents, management, and government resources”.

“Communication and cooperation between school management, support staff, teachers, pupils, and parents are essential”.

“It is important for the teacher to work with the school support staff”.

This experience showed that cooperation between teachers and the support team is crucial to successful inclusion in mainstream schools, enabling pupils to be integrated into the classroom and school environment.

During teaching practice, prospective teachers can observe experienced teachers, work with students, and implement lessons under the supervision of a mentor teacher. The students (37%) indicated that practical experience provided them with a deeper understanding of the complexities of teaching and helped them develop their teaching style and approach.

“Working as a teaching assistant has benefited me because I have been able to see how my colleague works, how she formulates the outcomes, what visual and support materials she uses, how she talks to the children, what information materials she uses, how she presents the material”.

“I like this school; the teachers are very supportive; they offered help, explained, and told me everything I did not understand, which helped me to fit into the school environment”.

“During my traineeship, I received a lot of help and support from the school staff. However, the most important and valuable thing for a new teacher is the support of his ‘senior’ team members”.

“In terms of my practice, I was fortunate to meet a teacher with much experience, who manages to approach every child in her class, who is aware of all the needs of each student, and who contributes to improving the positive qualities of each one individually”.

“In my conversations with the teacher, I realised that inclusive education is a great way to ensure that all pupils have the opportunity to learn and achieve, but it takes a lot of work and effort on the part of the teacher to make it happen”.

“Thanks to my teaching practice supervisor, I also had the opportunity to participate in a support program and to work and study in depth with a student needing learning support”.

Thus, inclusive classroom exposure is crucial for developing teaching personnel, as it promotes personal and professional development. Teaching practice is vital to ensuring successful inclusive education. Therefore, teacher educators must ensure that students are prepared for entry into the teaching profession, have a positive pedagogical experience in an inclusive classroom, and have sufficient knowledge and skills to work with all pupils.

Conclusion

Student teaching practice provides a valuable opportunity for future teachers to gain hands-on experience in the classroom and develop their teaching skills under the guidance of experienced educators. Student teachers can observe and participate in various teaching techniques and strategies during the teaching practice. They also have the opportunity to reflect on their teaching and learn from their experiences. This exposure to real-world teaching can help build their confidence and enthusiasm for the profession and foster a desire to continue learning and growing as teachers. Additionally, student teaching practice can help to establish connections with other teachers and schools, which can be valuable resources as they embark on their careers. Finally, through these experiences, prospective teachers can observe and apply effective teaching practices and receive feedback and support from experienced teachers and university supervisors. This support helps them refine their skills and build confidence in their abilities to lead a classroom.

Teaching practice is vital to ensuring the successful implementation of inclusive education. A novel set of skills and knowledge is also necessary to ensure that prospective student teachers are adequately prepared with the pedagogical skills to cultivate an inclusive learning environment. Furthermore, teachers need to develop additional skills to ensure that pupils with diverse education needs are met through training and teaching practice. Consequently, it is essential to address the concerns raised in this study, such as the need for more experience in an inclusive classroom and the availability of adequate resources, knowledge, and skills. The evaluation of teaching practice in inclusive classrooms by future teachers can be essential for improving teaching methods and ensuring that all students, including those with special needs, receive a high-quality education. By regularly evaluating their teaching practices in inclusive classrooms, future teachers can develop the skills and knowledge necessary to meet the diverse needs of all students and create inclusive and equitable learning environments. In addition, this evaluation can help future teachers reflect on their strengths and areas for improvement in developing and delivering inclusive and practical lessons that engage all students.

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FORMS OF THE DIFFERENTIATION OF WORK WITH TEXTS IN PRIMARY SCHOOLS

Larysa Shevchuk

Institute of Pedagogy of the National Academy of Educational Sciences of Ukraine, Ukraine

***Abstract.** This article justifies the importance and relevance of the use of differentiated work with texts starting with primary school. Results of the analysis of scientific and methodological literature, modern teaching practice on the reflection of the issue of using various forms and kinds of differentiation are described. It is underlined that differentiation of learning is based on discovering and reckoning with the individual characteristics of students and their differences. Individualization of teaching is interpreted as the highest stage of differentiation. Described ways and kinds of differentiation are the most adequate for the effective differentiated work with texts. Such criteria as the level of a student's autonomy in completing tasks and the complexity of an educational work are at the heart of this classification. Varying levels of autonomy in educational work are ensured by joint completion of tasks, independent work, playing the role of a consultant. The difficulty of tasks is provided by various ways of formulating tasks and the variation in their content. One more regulator of the tasks' difficulty is the volume and the level of difficulty of texts. As a result of effectiveness checks of the use of aforementioned forms and ways of differentiation of primary school students with educational texts significant positive effect was found.*

***Keywords:** differentiation of students' learning; forms of learning differentiation; differentiated work with texts; tasks of different levels; teaching primary school students; ways of application of differentiated learning; works with texts.*

Introduction

An orientation towards creating optimal conditions for the development of an active, mobile, creative personality capable of searching and processing necessary text information and creating their own texts is of utmost importance for contemporary education. Development of such a personality should begin in primary school. We believe that it is possible to achieve best results using text differentiation in the students' learning process. For students it is advisable to use differentiated learning starting with primary school to take into account the specifics of perception and processing of educational texts, since differentiated learning is the method which is characterized by the creation of such unique

opportunities as taking into consideration individual characteristics of every child and teaching groups at the same time, which allows to save the educational time. However, differentiation of learning can be based on using different educational materials, requiring different levels of support, etc. This makes it expedient to consider the types of primary school students' differentiated work with texts in detail.

The aim of this article is to consider the forms and ways of text differentiation work in primary schools.

To achieve this aim it is necessary to outline the following tasks: consideration of theoretical principles, elucidation of the analysis results of teachers' and students' responses to questionnaires and interviews, description of the author's own developments concerning the main topic of the article.

In conducting this research such methods as analysis of the reference, scientific, methodological literature and comparison of found thoughts, statements, classifications; analysis of educational programs and textbooks, practice of applying the differentiation approach to the work with texts in primary school; pedagogical experiment (ascertaining and formative stages); observation; questionnaires and interviews of teachers; analysis of spoken answers and written works of students were used.

Literature review

For the optimal consideration of the kinds of differentiation of work with texts for the primary schools' students it is first advisable to consider the term "learning differentiation".

In reference textbooks V. Iaremenko (Yaremenko & Slipushko, 1998), M. Kolomiets and L. Moldova (Kolomiets & Moldova, 1998), V. Busel (2003) provide the following definitions for the term "differentiation" ("to differentiate", "differentiated"): Separation, separation into heterogeneous (uneven) elements, different parts, forms, functions, etc.

Modern scientists and methodologists interpret this in different ways, particularly as a:

- process of education (Dychkivska, 2004; Vaskivska, 2018; Zhovtan, 2001);
- form of organization of students' learning activities (Sikorskyi, 1998).

H. Vaskivska (2018) outlines the term "learning differentiation" as a learning process which is characterised by work of student groups different in form and approach; P. Sikorskyi (1998) – as a form of class organization with groups of

students composed on the basis of individual characteristics of children according to different plans and programs.

We consider the above mentioned necessary to take into consideration during the lesson. At the same time it is important to take into account the research results on forms and ways of differentiating the students' learning. Forms and ways of differentiation were described by M. Bönsch (2014), R. de Groot (1994), H. Vaskivska (2018), V. Kyzenko et al. (Kyzenko, Vaskivska, Korsakova, Lypova, Trubacheva, Baranovska, Bondar, & Osadchuk, 2012), O. Savchenko (2012), A. Tereshchuk (2015).

R. de Groot (1994) writes about the following levels of learning differentiation:

- macro level - creation of different schools;
- meso level - creation of different classes, groups;
- micro level - application of differentiation in teaching the students.

Differentiation on the level of education system or school is called external, and on the level of class or group – internal.

They wrote about the external and internal differentiation of education R. de Groot (1994), H.-U. Grunder (2009), W. Klafki & H. Stöcker (1976), F. Kuhne (2013), Yu. Oleksin (2013), V. Kyzenko (Kyzenko et al., 2012), A. Tereshchuk (2015), A. Wegner (2018).

V. Kyzenko et al. (Kyzenko et al., 2012; Kyzenko, 2018) and H. Vaskivska (2012) consider the internal differentiation a form of level differentiation, with a proper application of which the students can absorb the learning materials on different levels.

M. Bönsch (2014), T. Deinichenko (2006), F. Hofmann & H.-P. Gottein (2011), O. Kuzmina (2001), B. Wisher (2008) write about working in groups, using materials and tasks of different complexity, requiring different amounts of time.

Review of scientific research regarding the application of learning differentiation in primary schools can be found in the book by S. Grzegorzewska (2009), who believes learning differentiation to be “a way to organize work in class the use of which foresees students' engagement in the completion of tasks which are interesting and valuable from their point of view”.

O. Savchenko (2012) described the application of the external learning differentiation in primary schools as the change of organizational type, classes' or groups' status, duration of studying. The implementation of the internal learning differentiation is realized through appropriate content and methods. Besides, the scientist counted the following ways of application for the differentiation depending on its forms:

- 1) external differentiation – creation of special classes, groups; learning process organized in line with the special educational programs;
- 2) internal differentiation – differentiated group work; taking into consideration the individual characteristics of schoolchildren; dosed teacher's help; different task quantities or a variety of tasks available for choosing.

Curricula (approved by the Ministry of Education and Science of Ukraine) lack the description of differentiated work with educational texts, and the same situation with the lack of relevant tasks can be observed in current textbooks.

Basic curriculum of primary education for classes (groups) with Ukrainian as the language of teaching, which can be found in the State Standard of Primary Education (Kabinet Ministriv Ukraini, 2018), contains the information on the invariant and variable components. Differentiation of primary school students' work with educational texts is used during the classes mean for studying such educational fields as language and literature (Ukrainian language and literature, foreign languages and literature) mathematics, natural sciences, social sphere and healthcare, civil and historical fields, technological, informational spheres, arts, (invariant component). At the same time, the differentiation of work with educational texts is realized during the classes on selective courses, individual consultations, during extracurricular activities.

Examples of tasks for differentiated work with texts of primary school students can be found in S. Lohachevska's textbook "Differentiation in an ordinary class" (Lohachevska 1998).

With that, scientific and methodological literature lacks a description of forms and ways of differentiation of work of primary school students with educational texts.

Methodology

During this study, an online survey of primary school teachers was conducted. Thus, 139 primary teachers from from different regions of Ukraine were interviewed (Kyiv, Dnieper, Sumy, Chernyhiv and Cherkasy regions and the city of Kyiv) took part in the survey. The purpose of the survey is to find out how often teachers use differentiation of work with texts in primary school, what forms and types of differentiation they prefer, what factors (in their opinion) affect the effectiveness of differentiated work of the primary school students with the texts.

So, it was found out how often the teachers use differentiation of primary school students' work with the educational texts. To the question "How often do you use the differentiation of primary school students' work with texts?" primary

school teachers responded as follows: 52% – sometimes, 43% – most of the time, the rest – each lesson.

However, we have to admit to the fact that during the observation (if the teachers were not informed about the aim of the research, which is to find out the frequency of differentiated work with texts) it was found that the majority of teachers only used the differentiation occasionally. The observation was carried out selectively: 16 lessons conducted by different primary school teachers (one teacher – one lesson).

The questionnaires for primary school teachers included questions about the forms and types of learning differentiation they prefer. The responses about the preferable form and kind of differentiation were the following:

- 1) individual work with tasks of different levels (36% of respondents);
 - 2) organizing students into groups by their academic achievements and successful completion of tasks of different levels (31% of teachers);
 - 3) organizing students with different levels of academic achievements into groups, completion of tasks of the same level (22% of respondents);
 - 4) different paces of studying (9% of teachers).
- 2% of respondents had other convictions.

It was also found out which factors (in the opinion of primary school teachers) affect the effectiveness of differentiated work of primary school pupils with the texts. Among the factors that influence the differentiation of the primary school students' work with texts, teachers named:

- level of students' learning progress;
- specifics of the material and technical base;
- children's outlook and vocabulary, their individual qualities, inclinations, interests, abilities, desire to learn;
- students' reading competence level and skills necessary to work with the texts;
- specificity and volume of the texts.

The results of the survey were taken into account during the development of experimental materials. In the context of the study of the application of various forms of education differentiation was carried out as part of an elective course for working of primary school students with texts "Read. Understand. Create". To conduct the research, the author's educational program "Read. Understand. Create" (Shevchuk, 2019), according to which the corresponding elective course was implemented in the Ukrainian schools for students of grades 2-4 (1-2).

In general, 6896 students took part in the experiment. Due to such a large number of participants (who showed interest and desire to work with the texts using the guides developed by the author of the article for the implementation of the

course “Read. Understand. Create” and the provided recommendations), difficulties arose with tracking the course of the experiment and the results. The war also had a negative impact (damage to school premises, relocation within Ukraine and departure of students and teachers abroad, etc.).

The application of differentiation according to the forms of students’ educational activity involved the following organization of learning process in a classroom:

- simultaneous use or alternation of individual and collective work;
- individual and group (pair) students’ work;
- independent work of students and semi-independent work (help was provided by another student).

In accordance with the above, preference was given to different ways of organizing differentiated work of the primary school students with the texts:

- students worked individually (each of them performed a task independently);
- one or more students worked individually, and the rest of the students worked in pairs or groups;
- one or more students worked individually, some students worked in groups, one or more students worked under a guidance of a teacher;
- part of a class worked with a text in pairs or groups, the rest of the students - under a guidance of a teacher.

Differentiation according to the pace of educational activities was also used, when each student had the opportunity to complete the tasks at his own pace and work on different texts. For this, the experimental materials were developed, which were printed on a printer, and later 14 manuals (2 manuals for the 1st grade, 4 manuals each for the 2nd, 3rd, and 4th grades). The students mostly worked individually, and at the same pace of learning (when the students were working on the same text), they had the opportunity to join pairs or groups for teamwork (such grouping of the students into a homogeneous group usually referred to the students with average or above average learning progress). With such organization of work, a teacher had the opportunity to work with one or more students with low learning progress. It also proved to be appropriate to involve students with a low level of learning progress in individual or group work under an indirect guidance of a teacher who observed the students’ work and provided assistance when necessary.

The grouping of the students into pairs and groups was mainly carried out by a teacher, taking into account their individual characteristics, the level of development of skills in working with texts, the level of difficulty of tasks, etc. Periodically, the students joined for cooperation at their own will. Taking into account the age of the students, in order to ensure effective work with the text,

priority was given to working in pairs, at the same time, and group work of the students was periodically used. In heterogeneous or homogeneous pairs, the roles performed by the students were different (teacher, consultant, co-performers, etc.). Depending on the cooperation model, different role-playing games were used. In practice, it looked like this:

- “Teacher – student” (one of the students played the role of a teacher);
- “Performer – observer” (a student with a higher level of learning progress observed another student and provided assistance if necessary);
- “Partners” (the students performed tasks together);
- “Money box” (each of the students performed a task independently, after which the results were checked).

Thus, work with the texts was carried out through the organization of students’ systematic individual work, periodic work in pairs and groups, fragmented frontal work of the students. The transition from frontal to individual work under a supervision of a teacher happened gradually. The joint activity of the students on the texts (together with another student or a teacher) was an important stage.

To increase the amount of independent work of the students, the following algorithm was used:

- 1) a student performed a task with the assistance of a teacher or another student;
- 2) a student performed a task independently (without any help or advice);
- 3) a student acted as a consultant or teacher.

Thus, there was a gradual decrease of assistance, and later it was not there at all. The above stages concerned students with a low level of learning progress, for students with an average level of learning progress, the first stage was used only if necessary, and students with a high level of learning progress immediately worked independently and, if possible, provided assistance to other students.

Differentiation by the level of difficulty of the tasks was also used. In particular, the following difficulty levels of tasks for elementary school students’ work with texts were determined and proposed:

first level

- a) finding sentences, words, etc. in the text;
- b) a choice of answers (from those offered) to questions based on the content of a text;
- c) finding answers to proposed questions in a text, formulating answers to questions;

second level

- a) reconstruction of a text with omissions;

- b) reconstruction of a deformed text;
- c) comparison of two texts;

third level

- a) construction of a text from the proposed elements;
- b) supplementing a text and other creative tasks;
- c) writing students' own texts.

The difficulty of a task was also adjusted with the help of additional materials: detailed instructions, an example of a completed task or a reference.

Another factor regulating the difficulty of a task was a text, its volume and difficulty for perception. For example, one of the simplest types of work for elementary school students is to work with a text of a fairy tale or story, and one of the more difficult types is to work with a text of a scientific article.

Research results

As a result of the observation and analysis of students' works it was found that the use of the above mentioned forms and ways of differentiation of students' work with educational texts leads to the following ponderable positive results:

- 1) reading techniques indicators' growth, improvement of the indicators of the depth and completeness of understanding, memorization of the texts read by students;
- 2) improvement of interpersonal relationships, improvement of teamwork skills.

In particular, the following indicators of the reading technique have been noticed to improve:

- way of reading (going from letter-by-letter to syllabic reading, reading whole words and groups of words in the 1st grade, transitioning from reading aloud to silent reading in the 1st and the 2nd grades).
- reading speed;
- quantity of mistakes;
- expressiveness of reading.

For a high level, the following reading aloud speed indicators at the end of the school year were indicative: 1st grade – 35 words per minute, 2nd grade – 50-60 words, 3rd grade – 75-80 words, 4th grade – 90-95 words; for reading silently: 3rd grade – from 90 words, 4th grade – from 110 words. The temperament of the students was also taken into account.

In comparison with the indicators found in control classes the indicators of reading technique in experimental classes were the following (table 1).

Table 1 The indicators of reading technique (the 2th grade students) (made by author)

Levels → Classes ↓	Beginner's level	Medium level	Sufficient level	High level
Experimental classes	4%	14%	39%	43%
Control classes	6%	39%	36%	19%

Positive changes could also be observed in the indicators of text understanding. The found results differed from the control classes in the following way the 4th grade students (table 2).

Table 2 The indicators of text understanding (the 4th grade students) (made by author)

Task → Levels (experimental classes) ↓	Work on tests based on the content of various texts	Phrasing answers to questions that reflect the main idea of the text	Restoring the right sequence of plan items	Expressing opinions about the read material	Finding the differences and similarities in texts
High level	+23%	+17%	+12%	+28%	+11%
Sufficient level	+29%	+19%	+21%	+26%	+26%
Medium level	-16%	-8%	-7%	-12%	-8%

It was also found that interpersonal relations between the students improved (due to the use of the sociometric method, an increase in the number of choices, a decrease in the number of students who are ignored). As a result of the online survey of the primary school teachers, it was also found that the skills of teamwork have improved: planning tasks, distributing assignments, making joint decisions, providing assistance, etc.

Conclusions

The results of the conducted study prove that the appropriate criteria for distinguishing the forms and types of differentiation of elementary school students' work with educational texts are the level of independence in educational activities and the pace, complexity of educational tasks. Application of the described forms of differentiation in the educational process is accompanied by the following:

- implementation of individual educational activities in the conditions of students' individual, groups (pairs) or frontal work; collective activity – in the conditions of group or frontal work;
- creating conditions to ensure students' work with texts at their own pace;
- providing participants of the educational process with educational tasks of different levels.

The age and individual characteristics of each student and the specifics of the text affect a teacher's choice. At the same time, for the optimal application in primary school practice of various forms and types of differentiation of education, it is advisable to reduce the number of students in classes, improve the provision of schools, and familiarize teachers with the relevant methodical manuals.

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