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THE ESSENCE OF CONSUMER EDUCATION IN ELEMENTARY SCHOOL: ANALYSIS OF THE CRITERION “SKILLS” IN THE CONTEXT OF KNOWLEDGE USAGE

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***Abstract.** Analysis of the Criterion “Skills” in the Context of Knowledge Usage focuses on the criterion “skills” that was advanced for evaluation of student achievement in consumer education. The levels of the criterion show students' proficiency in purposeful use of the knowledge acquired.*

The report describes the development dynamics of the students' skills and application of acquired knowledge in everyday life situations that lead to the conclusion that the consumer education content acquisition process not only teaches students how to handle standard situations but provides the opportunity to develop the ability to analyze causes and consequences of personal actions in the aspect of environmental and social sustainability.

***Keywords:** consumer education, criterion “skills”, knowledge, skills.*

Introduction

The author of the report has designed the doctoral thesis “The Essence of Consumer Education in Elementary School”, which was presented to the Promotion Council of the University of Latvia in 2014.

A Memorandum of Lifelong Learning (2005) issued by the European Commission states that education must effectively and broadly transfer evermore knowledge which is constantly developing, as well as skills appropriate for civilization governed by knowledge, because this will be the foundation for the skills which will be used in the future. At the same time, education must provide reference points in the complex world, which is constantly changing. In such a view of the future, it is now insufficient to just provide every child with a collection of knowledge. Education must be organized on the basis of four learning pillars (learning to know, learning to do, learning to live together, learning to be), which are the primary requirements in EU states for modern

education; we must strive to push every person to discover, find and enrich their creative potential, find the wealth hiding in each person (*Delors et al., 2001*).

The hypothesis put forward in the study predicts the implementation of the students' consumer education if the acquisition process of the consumer education content provides an opportunity to develop the consumers' information processing skills, decision making skills, planning skills, analyzing, taking responsibility, and other skills (*Danilāne, 2014*).

The aim of the article is the analysis of the "Skills" criterion for the students' learning achievements on the basis of the aforementioned research.

Theoretical aspects of student achievement criterion "Skills"

Within the framework of the doctoral thesis, after literature analysis, it was concluded that scientists define learning achievements as intellectual achievements attained through effort in a purposeful learning process (*Klafki, 1998; Phan, 2008; Sacher, 2001*). The formation of these in the education process is affected by the school with its education programmes and learning environment, the teachers' working style and choice of methods, as well as the students' needs, abilities and interests (*Krik, 2004; Šūmane, 2012*).

Consumer education is a process of acquiring knowledge and skills necessary for managing consumer resources and taking measures to affect the factors which influence consumer decisions (*Consumer Education: A Blueprint for Action, 1996*).

I. Žogla (*2001*) defines skills as the procedural knowledge acquisition quality which allows a person to use it purposefully or apply in a new situation and serves as the student's tool for achieving a goal in particular circumstances. Lower level skills are formal use of knowledge; higher level skills are the analysis, synthesis and evaluation of knowledge.

A. Broks (*2000*) emphasizes that it is important to acquire different skills in both the social and the knowledge application field, and in the formation of relationships, promoting the development of the students' will and initiative.

Changing circumstances of the market economy call for an intellectually and spiritually rich, progressively thinking, creative, educated, and skilful individual able to offer themselves on the job market and promote their own consumer education and participation in society (*Danilāne, 2014*).

In the framework of the doctoral thesis, it was found that the successful process of student socialization requires the evaluation and goal setting skills, the ability to learn, cooperate and take decisions, acquire cultural skills, balancing

theoretical skills with practical life skills. This is largely related to the student consumer education process, knowledge acquisition and independent and purposeful activity in the application of these skills in everyday life.

Students' skills as a consumer in the use of knowledge

Readiness to purposefully use knowledge when completing different activities is skills, this is the acquisition stage of such knowledge and working methods which allow using the acquired knowledge in purposeful activity (Šūmane, 2012; Стоунс, 1988).

In the framework of the doctoral thesis, for the evaluation of student achievements in consumer education, the criterion “Skills” was advanced, the levels of which show the students’ ability to purposefully use the acquired knowledge (see Table 1).

Table 1 Evaluation levels for the criterion “Skills” (Danilāne, 2014)

| Criterion | Consumer Education Content Topic | Levels |
|-----------|----------------------------------|--|
| Skills | Consumer needs and behaviour | <i>Reproduction skill:</i> can differentiate their needs from wishes. <i>Interpretation skill:</i> can analyze differences between wishes and needs in different situations. <i>Production skill:</i> analyzes and plans personal behaviour for the satisfaction of wishes and needs. |
| | Personal resources management | <i>Reproduction skill:</i> can create a family budget using an example provided. <i>Interpretation skill:</i> can create a personal finance plan based on example provided. <i>Production skill:</i> can plan for the future and take responsibility for the spending of personal financial resources. |
| | Consumers on the market | <i>Reproduction skill:</i> can tell about their attractions and turn-offs in the choice of goods. <i>Interpretation skill:</i> can determine the effect of public opinion and advertising on personal wishes and needs. <i>Production skill:</i> can use information to determine quality and reliability. |
| | Consumer rights and obligations | <i>Reproduction skill:</i> can sort household waste. <i>Interpretation skill:</i> can reduce the amount of household waste. <i>Production skill:</i> can identify the results of specific consumer behaviour and evaluate costs by comparing the necessity of such behaviour. |

The criterion “Skills” was analyzed in the framework of the consumer education content topics at the beginning and at the end of the study in order to determine the student skills development rate and the application of the knowledge acquired in everyday situations. The study participants were 80 8th and 9th form students of Viļāni Secondary School.

From the analysis of the rates of the students’ ability to analyze and plan personal behaviour for satisfying wishes and needs, using the Wilcoxon test (see Table 2), it can be concluded that 47 respondents have improved their skills, whereas the skills of 33 students remained at the same level. This shows that in the consumer education content acquisition process the students develop the ability to use the knowledge acquired for the analysis and satisfaction of their personal wishes and needs.

Table 2 Wilcoxon test results for determining students' skills development (Danilāne, 2014)

| | | Ranks | | |
|---|----------------|-----------------|-----------|--------------|
| | | N | Mean Rank | Sum of Ranks |
| Student ability to analyze personal behaviour at the beginning of the study - | Negative Ranks | 0 ^a | .00 | .00 |
| Student ability to analyze personal behaviour at the end of the study | Positive Ranks | 47 ^b | 24.00 | 1128.00 |
| | Ties | 33 ^c | | |
| | Total | 80 | | |

Within the framework of the doctoral thesis, having studied the development of student ability to plan for the future and take responsibility for spending personal financial resources, using the Wilcoxon test (see Table 3), it can be concluded that the ability to plan and manage personal financial means has improved in 55 study participants, whereas in 25 respondents it remained at the same level. This means that in the consumer education content acquisition process the students are given the opportunity to improve their ability to analyze personal expenses and create circumstances for personal finance planning in accordance with their wishes and needs.

Table 3 Wilcoxon test results for determining students' skills dynamics (Danilāne, 2014)

| | | Ranks | | |
|---|----------------|-----------------|-----------|--------------|
| | | N | Mean Rank | Sum of Ranks |
| Student ability to plan and manage personal budget at the end of the study - Student ability to plan and manage personal budget at the beginning of the study | Negative Ranks | 0 ^a | .00 | .00 |
| | Positive Ranks | 55 ^b | 28.00 | 1540.00 |
| | Ties | 25 ^c | | |
| | Total | 80 | | |

The results analysis confirms the role of consumer education content acquisition in the development of students' ability to analyze information and make responsible decision in everyday situations. Whereas the analysis of student skills dynamics in taking responsibility for their decisions and determining the consequences of their actions, using the Wilcoxon test (see Table 4), allows concluding that the skills of 60 students have improved, whereas for 20 students they remained at the same level.

Table 4 Wilcoxon test results for determining students' skills development (Danilāne, 2014)

| | | Ranks | | |
|---|----------------|-----------------|-----------|--------------|
| | | N | Mean Rank | Sum of Ranks |
| Ability to identify consumer activity consequences at the end of the study - Ability to identify consumer activity consequences at the beginning of the study | Negative Ranks | 0 ^a | .00 | .00 |
| | Positive Ranks | 60 ^b | 30.50 | 1830.00 |
| | Ties | 20 ^c | | |
| | Total | 80 | | |

Thus, within the framework of the doctoral thesis, conclusions have been made that in the consumer education process the student not only learns to act in standard situations but is also given an opportunity to develop the ability to analyze the causes of their actions and the consequences for the sustainability of

the environment and society. This is also confirmed by the statistical data processing performed using the Kendall correlation, which shows the presence of

- a statistically significant correlation between the knowledge of the students about personal consumption and the ability to analyze their behaviour ($r=0.649$, $p=0.050$), between knowledge and understanding of the choice of environmentally friendly products and the ability to identify the consequences of consumer behaviour ($r=0.391$, $p=0.050$);
- very significant correlations between the students' knowledge and understanding of personal resource management and the ability to plan and manage personal budget ($r=0.369$, $p=0.001$);
- a maximally significant correlation between the students' knowledge and understanding of factors that affect consumers and the ability to analyze information on the impact that producers have on consumers ($r=0.482$, $p=0.000$) (Danilāne, 2014).

The consumer education content acquisition process develops the students' ability to use the knowledge acquired in the formation of responsible and deliberate action with financial resources, which is significant for limiting inappropriate use of resources and developing sustainable consumption, as well as the student ability to recognize and analyze the opportunities for satisfying personal needs considering the needs of other people and society, and the ability to analyze their behaviour in the environmental and social context.

Summary

It is important in consumer education to view consumer behaviour in the context of economic, social and environmental sustainability; it improves the students' education and participation in the society that is oriented towards sustainable development and market relations.

Students in Latvia do not know and do not understand different consumer education issues (impact of personal consumption on the environment and social processes, consumer behaviour and factors influencing the selection of goods, etc.) that affect their personal lives and participation in a variety of processes. Students also cannot take responsibility for the consequences of their actions, which is why consumer education content should include topics that promote analysis of personal consumption and develop students' involvement in the ongoing social, economic and political processes.

Students are developing responsible and deliberate action with financial resources within the consumer education content acquisition process. It is an essential step to limit inefficient use of resources and to develop sustainable consumption; a student, when identifying options for satisfying personal needs, takes into account the needs of other people and the society, as well as analyzes personal behaviour in the environmental and social context.

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JAUNIEŠU LĪDZDALĪBA BRĪVPRĀTĪGO DARBĀ

Youth Participation in Volunteers' Work

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Abstract. *Nowadays the problem of youth participation is one of the most important issues among politicians, scientists, teachers, youth specialists and employees. In the last 10 years, the number of young people in Latvia has decreased by 35 % or 180 thousand. The reasons are: passivity, low motivation and lack of interest among young people; insufficient awareness among young people of opportunities to participate and actively engage in various non-formal education activities; the lack of entrepreneurship and communication skills; the youth policy strategy in Rezekne has not been developed and approved. These challenges slower youth engaging in active participation. Based on previous experience, the author believes that the problem of youth participation in NGO can be solved by purposefully working and improving the factors of youth participation such as learning and improving English as well as involvement in youth projects.*

Keywords: *youth, participation, volunteers, English, projects, strategy, NGO.*

Ievads

Introduction

Mūsdienās jauniešu līdzdalības problēma ir viens no vissvarīgākajiem jautājumiem politiķu, zinātnieku, skolotāju, jaunatnes speciālistu un darbinieku vidū. To ietekmē gan iekšējie, gan ārējie faktori. Pēdējo 10 gadu laikā jauniešu skaits Latvijā ir samazinājies par 35 % jeb 180 tūkstošiem (pēc CSP datiem). Viens no svarīgākajiem iemesliem ir jauniešu emigrācija, kas tika izraisīta ar globālo ekonomisko krīzi. Bezdarbnieku skaits Latvijā strauji pieaug, kas skāra arī jauniešus. Jaunieši devās prom no Latvijas labākas dzīves un darba meklējumos citās valstīs.

Aktīvi iesaistoties, jaunieši ir spējīgi spēlēt būtisku lomu gan viņu pašu, gan viņu vietējās sabiedrības attīstībā. Mūsdienu pasaulē jaunieša aktīva līdzdalība palīdz uzkrāt pirmo darba pieredzi, gūt praksi, iesaistīties sabiedriskajos un sociālajos procesos, kā arī lietderīgi pavadīt viņu brīvo laiku.

Mūsdienās jaunatnes organizācijas, it sevišķi NVO, tai skaitā biedrības, uzdod jautājumu: „Kā jēgpilni iesaistīt jauniešus dažādās izglītojošās

programmās?”, “Kā aktivizēt jauniešus uz aktīvu līdzdalību? “, „Kā efektīvāk un patīkamāk organizēt darbu, balstoties uz abpusējam interesēm un mērķiem?”.

Autores pieredze pētījuma jomā liecina, ka tieši biedrības - jaunatnes organizācijas - organizē jauniešu līdzdalību, kā arī jauniešu iesaistīšanos brīvprātīgo darbā, lai sekmētu katra jaunieša sociāli ekonomisko izaugsmi un iekļaušanos sabiedrībā. Neskatoties uz to, ka Rēzeknē darbojas vairākas pašvaldības iestādes (jauniešu centri), kā arī jauniešu nevalstiskās organizācijas, kas īsteno neformālo izglītību un darbojas ar jaunatni, balstoties uz darba pieredzi, autore norāda vairākas jauniešu līdzdalības problēmas šādās organizācijās:

- pasivitāte, zema jauniešu līdzdalības motivācija un neieinteresētība;
- nepietiekama jauniešu informētība par iespējām līdzdarboties un aktīvi iesaistīties dažādos neformālās izglītības pasākumos (radošajās darbnīcās, izglītojošajos pasākumos, jauniešu apmācībās, jauniešu organizāciju darbā, jauniešu apmaiņas projektos, u.c.);
- uzņēmības un komunikācijas prasmju trūkums jauniešiem;
- nav izstrādāta un apstiprināta jaunatnes politikas stratēģija Rēzeknē.

Šie izaicinājumi kavē jauniešu iesaistīšanos aktīvā līdzdalībā. Tas bieži vien ir rezultāts, jo trūkst instrumentu, izglītības, nodarbinātības un resursu, lai efektīvi līdzdarbotos.

Pamatojoties uz iepriekšējo pieredzi, autore uzskata, ka jauniešu līdzdalības problēmu nevalstiskajās organizācijās ir iespējams atrisināt, mērķtiecīgi darbojoties un pilnveidojot jauniešu līdzdalības vadošos faktoros, tādus kā angļu valodas apguve un pilnveide, kā arī iesaiste jauniešu projektos.

Iestājoties Eiropas Savienībā, ir iespējas īstenot Eiropas finansētu programmu projektus, piemēram, Erasmus+: “Jaunatne darbībā”, kā ietvaros notiek brīvprātīgo darbs, kas dod iespēju jauniešiem no ārzemēm veikt sabiedrībai noderīgu darbu kādā organizācijā Latvijā (Jaunatnes starptautisko programmu aģentūra, 2016), tāpēc jauniešu nevalstiskais sektors varētu būt vieta, kur viņi var brīvi līdzdarboties savu interešu un mērķu pilnveidošanai. Tas rada nepieciešamību tālākai problēmas izpētei, jo jauniešu līdzdalība NVO līdz šim nav pētīta. Darbā jauniešu līdzdalība tiek pētīta Eiropas brīvprātīgo darba projektu ietvaros.

Pētījuma mērķis: izpētīt jauniešu iesaisti brīvprātīgo darbā NVO, analizēt faktoros un izstrādāt ieteikumus jauniešu efektīvas līdzdalības pilnveidei nevalstisko organizāciju darbībā.

Pētīšanas metodes:

1. Teorētiskās metodes – metodiskās, pedagoģiskās, psiholoģiskās literatūras izpēte, atlase un analīze;
2. Empīriskās metodes – anketēšana, eksperiments ar starptautiskā projekta izstrādi un realizēšanu, novērojumi; matemātiskās datu apstrādes metodes.

Problēmas teorētiskais pamatojums
Theoretical explanation of the problem

Jaunieši ir Eiropas Savienības prioritāte un no viņiem ir atkarīga mūsu nākotne. Mūsdienu globalizācijas laikmetā, straujā tehnoloģiju attīstībā ekonomiskā krīze skāra arī jauniešus. Lai mazinātu tās ietekmi, Eiropas Savienība izstrādāja Jaunatnes politikas stratēģiju, kas paredz ieguldīt jaunatnē un iesaistīt jauniešus. Tā ir virzīta uz jauniešu problēmu risināšanu un jaunu iespēju pavēršanu (Eiropas Savienības Jaunatnes stratēģija 2010 – 2018).

Šis raksts ir balstīts uz pragmatisma un konstruktīvisma pedagoģijas pieejām, kā arī uz kognitīvo attīstības pieeju. Pragmatisma pedagoģijas aizsācējs, amerikāņu pedagoģijas zinātnieks Dž. Džūijs klasiskai skolu sistēmai piedāvāja mācību metodi – mācīt darot, lai zināšanas apgūstu praktiski darbojoties un gūstot jaunu pieredzi (Albrehta, 2001). Jauniešu līdzdalības pamatā ir pragmatisma filozofija. Tā norāda uz iegūtās izglītības praktisko nozīmīgumu un noderīgumu, veicinot prasmes kontaktēties ar cilvēkiem, līdzdarboties un pielāgoties dzīves apstākļiem.

Mūsdienās saistībā ar jauniešu dalību dažādās aktivitātēs tiek izmantoti dažādi jēdzieni: „līdzdalība”, „iesaistīšanās”, „aktīva līdzdalība”, u.c. Jauniešu iesaistīšanās ir jēdziens, ko var interpretēt daudzos veidos. Daži to definē kā vienkārši jaunatnes piesaisti. Tomēr organizācijas, kas nodarbojas ar jauniešu līdzdalības un iesaistīšanās veicināšanu, jēdzienam piešķir plašāku nozīmi - lēmumu pieņemšana, projektu rakstīšana un realizēšana, valodu apguve, izglītojošo programmu izstrāde, dalība politikas veidošanā, aktīva piedalīšanās, u.c. Jaunieši kļūst ne tikai par pasīviem klausītājiem, bet arī uzņemas nozīmīgākas lomas, kļūst par darītājiem, brīvprātīgi iesaistoties procesos, piemēram, kļūst par mentoriem, treneriem, aktivitāšu vadītājiem un organizētājiem, uzņemas atbildību, aktīvi piedalās aktivitātēs, paši organizē savas mācības, mācās mācoties u.c.

V. Brūveris un M. Peipiņa (2015) jēdzienu līdzdalība skaidro kā “piedalīšanos, iniciatīvas izrādīšanu un atbildības uzņemšanos, nestāvēšanu

malā”. Jaunatnes starptautisko programmu aģentūra Latvijā uzsver, ka līdzdalība ir process, kura galvenā mērķauditorija ir jaunieši, kas aktīvi piedalās, darbojas, kā arī ietekmē to. Šis process ir saistīts ar viņu interesēm, kas ir ļoti būtiski. Lai gan jaunieši ir aktīva sabiedrības daļa ar savām radošām idejām un interesēm, nereti viņiem nepieciešams atbalsts no pieaugušo puses, kas izskaidro un piedāvā dažādas iespējas, kā arī iedrošina jauniešus tās izmantot. Tādējādi, var secināt, ka līdzdarbošanās procesā svarīga nozīme arī ir pašvaldību jaunatnes darbiniekiem, izglītības speciāliem, kā arī nevalstisko organizāciju līderiem un vadītājiem, jo tieši viņi ir tie, kas motivē un iedrošina jauniešus šīs iespējas izmantot.

Darba autore, astoņus gadus aktīvi strādājot un darbojoties jaunatnes jomā, jauniešu līdzdalību raksturo kā jauniešu aktīvu un jēgpilnu iesaistīšanos jauniešu organizācijas darbā, izrādot iniciatīvu un pašorganizēšanos. Jaunietis no pasīva klausītāja nonāk līdz aktīvai un jēgpilnai darbībai, uzņemas atbildību un realizē savas idejas, aktīvi darbojoties un iesaistoties organizācijas darbībā. Tādā veidā viņš gūst pirmo darba pieredzi, kas palīdz spert pirmo soli karjerā un atrast darbu.

Jauniešu līdzdalības vadošie faktori – angļu valodas pilnveide un iesaiste jauniešu projektos

The leading factors of youth participation – the improvement of English and involvement in youth projects

Pētījumā vārds „projekts” tiek izmantots plašākā nozīmē – starptautiskā projekta realizēšana NVO Eiropas Komisijas programmas „Erasmus+” ietvaros. Tāpēc projektu metode ir arī lieliska iespēja, kā veicināt jauniešu angļu valodas apguvi, kā arī viņu līdzdalību NVO. I. Fragoulis norādīja uz vairākām priekšrocībām, kas ir saistītas ar projektu metodes īstenošanu: uzlabota valodu prasme, jauniešu autonomija, pastiprina jauniešu motivāciju, vēlmi iesaistīties un līdzdarboties, palielinās to interese, kritiskas domāšanas un problēmu risināšanas prasmju attīstība, samazina trauksmi, palielina ieguldīto pūļu nozīmīgumu (Fragoulis, 2009).

Svešvalodu zināšanas sniedz iespējas jaunas informācijas ieguvē: strādāt e-vidē, lasīt daļlīdētājus un zinātnisko literatūru, skatīties filmas un justies drošāk ceļojumu laikā, u.c., tādējādi paplašināt redzesloku un zināšanas (Loja, 1968).

Amerikāņu lingvists S. Krashen (1982) norāda vairākas valodas barjeras psiholoģiskās sastāvdaļas angļu valodā: bailes no nezināmā, bailes no kļūdas, kautrīgums, ko izraisa akcents, bailes runāt lēnām, bailes nesaprast sarunu biedru. Analizējot psiholoģijas literatūru, tika noskaidrots, ka cilvēkam, kas piedzīvo negatīvas emocijas, valodas spējas pasliktinās. Cilvēks nervozējot izjūt

satraukumu, līdz ar to viņam daudz grūtāk izteikt savas domas angļu valodā. Valodas spējas tiek daļēji bloķētas pārāk liela uztraukuma dēļ (Krashen, 1982). S. Krashen izvirza trīs galvenos faktoros, kas kavē angļu valodas runāšanas spējas: mazs vārdu krājums, slikta gramatikas pārziņa, prakses trūkums.

Mūsdienās arī D. Can (2017) ir veicis pētījumus, lai noskaidrotu jauniešu vājās puses, runājot angļu valodā. Piemēram, iespēju trūkums, lai realitātē varētu izmantot angļu valodu un saistīt skolā apgūtus tematus ar reālam situācijām (Nunan, 2006); bailes no grūtiem tematiem, vārdu krājuma nepilnības, ka nevarēs komunicēt kāda konkrētā sfērā (Zhang & Alex, 1995); runas plūduma, vārdu izrunas nekompetence, gramatikas struktūras nepareiza izvēle un pielietošana runā, kā arī neattīstīta sociokulturālā kompetence (Celce-Murcia & Olshtain, 2000); nepietiekama prakse, līdzdalība un darbība (Songsiri, 2007).

Pētot NVO darbu, tika konstatēts, ka tieši Eiropas brīvprātīgie ir galvenie angļu valodas nesēji. Viņi praksē nodrošina patstāvīgu angļu valodas izmantošanu, komunicējot ar jauniešiem.

Iesaistot Eiropas brīvprātīgos NVO darbā, jauniešu vidū tiek veidotas jaunas attiecības, pārvarot grūtības sarunāties par jebkuriem interesējošiem tematiem; atvieglota dzīve ārvalstīs, veicināta kultūras izpratnes padziļināšana, ikdienā kontaktējoties ar citām kultūrām un valodas nesējiem, kas sekmē starpkultūru komunikatīvās kompetences attīstību, kā arī citu nepieciešamo prasmju attīstību un pilnveidi, lai efektīvi mijiedarbotos ar citiem (Jacobsone & Moro, 2015).

Analizējot teoriju un pamatojoties uz autores pieredzi, tika noskaidrots, ka vēl viens iemesls, kāpēc jauniešiem jāklausa angļu valodu, ir ļaut viņiem dzirdēt dažādus akcentus - nevis tikai sava skolotāja balsi. J. Harmers uzsver, ka ir svarīgi klausīties ne tikai angļu valodu, piemēram, britu angļu valodu, bet arī citas angļu valodas versijas. Jaunieši saņem galveno informāciju un intonāciju, izrunu, uzsvarus (Harmer, 1998). Tas viss norāda, ka jauniešu līdzdalība Eiropas brīvprātīgo darbā sniedz unikālu iespēju, nekur nebraucot, jaunieši var satikt un komunicēt ar ārzemniekiem nevalstiskajās organizācijās.

Jauniešu līdzdalības veicināšanas brīvprātīgo darbā efektivitātes pārbaude *Checking the effectiveness of promotion of youth participation in volunteers' work*

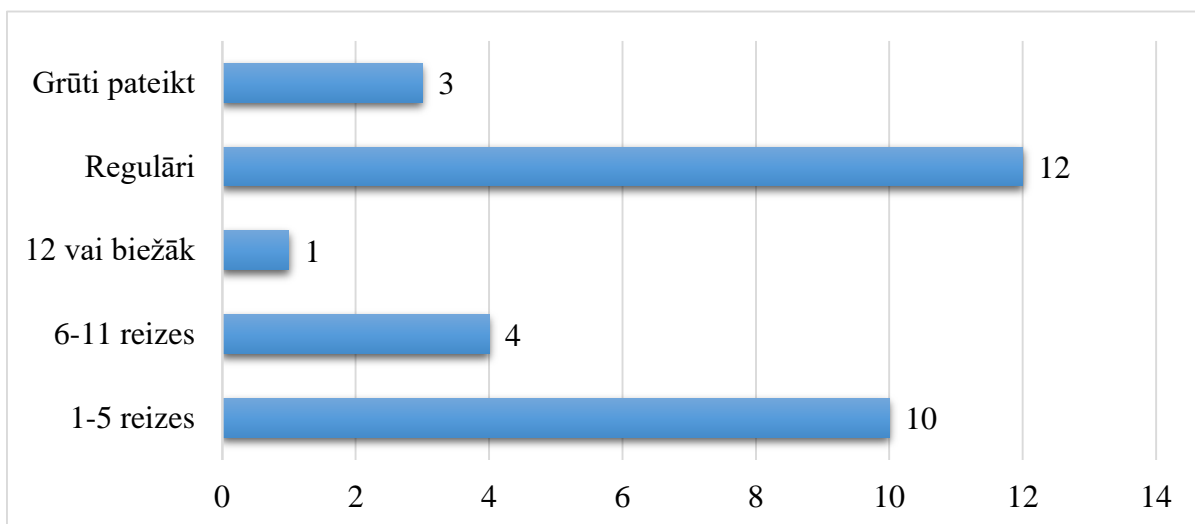
Pētījums par jauniešu līdzdalību brīvprātīgo darbā tika veikts nevalstiskajā organizācijā biedrībā „Jaunatnes Čemodāns”.

Biedrība “Jaunatnes Čemodāns” ir Rēzeknes pilsētas bērnu un jauniešu neformālās izglītības jaunatnes platforma, kas organizē bērnu un jauniešu brīvā

laika pavadīšanas iespējas, kā arī veicina jauniešu līdzdalības aktivizēšanu pilsētā. Tas tiek panākts, organizējot un piedaloties dažādos projektos, pieredzes apmaiņas semināros, mācību braucienos, festivālos, forumos, konferencēs. Biedrība strādā arī citā virzienā – jauniešu biedrību, neformālās izglītības iestāžu un jaunatnes darba speciālistu saiknes veidošana ar mērķi attīstīt un pilnveidot darbu ar bērniem, jauniešiem un veidot konstruktīvu dialogu ar sabiedrību, reliģiskām organizācijām. Biedrības dibinātāji ir aktīvi, radoši un iniciatīvām bagāti cilvēki, kuriem ir pieredze darbā ar jauniešiem un programmā „Erasmus+: Jaunatne darbībā”.

Pētījumā piedalījās jaunieši vecumā no 15 līdz 25 gadiem, kas ir biedrības “Jaunatnes Čemodāns” dalībnieki (30 cilvēki), ārzemju brīvprātīgie Latvijā (30 cilvēki). 2018.gada aprīlī tika veikta nevalstiskās organizācijas – biedrības „Jaunatnes Čemodāns” dalībnieku – jauniešu aptauja, lai noskaidrotu jauniešu domas par līdzdalību, kā viņi līdzdarbojas ārzemju brīvprātīgo projektā, kādi faktori pilnveido viņu efektīvu līdzdalību nevalstisko organizāciju darbā. Visizplātītākā pētīšanas metode pedagoģijā ir aptaujas metode. D. Albrehta (1998) atzīmē, ka aptaujas metodes galvenais ieguvums ir iespēja aptaujāt lielu cilvēku skaitu, kuri dzīvo dažādās vietās, kā arī lielāks aptaujāto skaits sniedz ticamākus datus pētāmajā jautājumā.

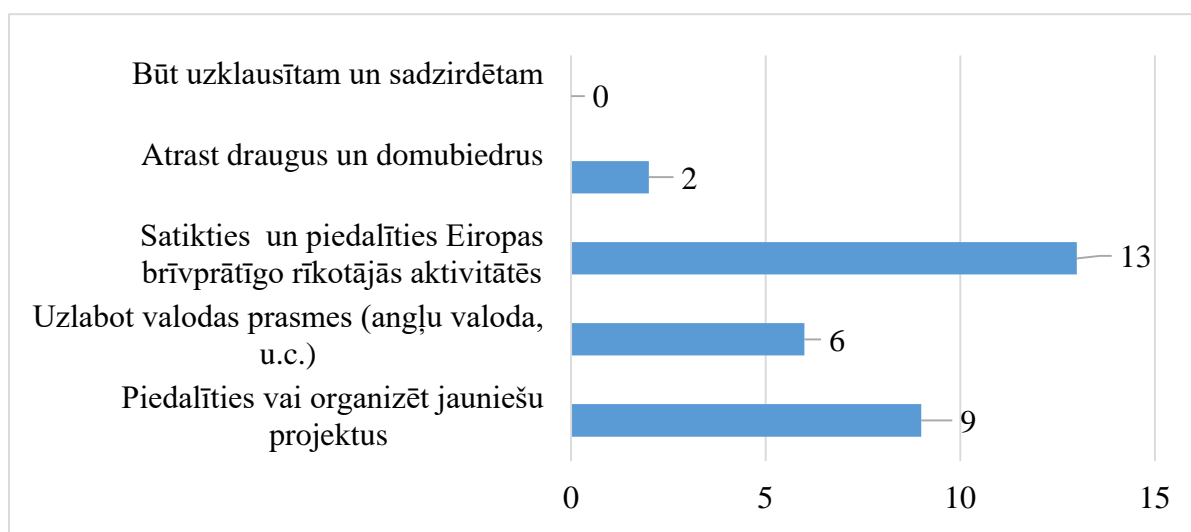
Jauniešu anketas jautājuma „Cik bieži Jūs pēdējā laikā iesaistījušies biedrības aktivitātēs/ brīvprātīgo darbā?” sniegtas atbildes ilustrētas 1. attēlā.



1. att. Jauniešu iesaistīšanās aktivitātēs
 Fig. 1. Youth participation in activities

Pētījums parādīja, ka gandrīz puse respondentu regulāri (12) iesaistās aktivitātēs. Gandrīz puse jauniešu atzīmēja, ka piedalījās tik dažas reizes (14), kas liek aizdomāties par aktivitāšu biežumu, pasākumu dažādību un vai tie atbilst jauniešu interesēm un vajadzībām, kā arī ar jauniešu informētību par notiekošajām aktivitātēm.

Jauniešu anketas jautājums „Kāpēc Jūs iesaistāties nevalstiskās organizācijas darbā?” (skat. 2. att.) parāda, kas veicina jauniešu iesaistīšanos biedrības darbā.

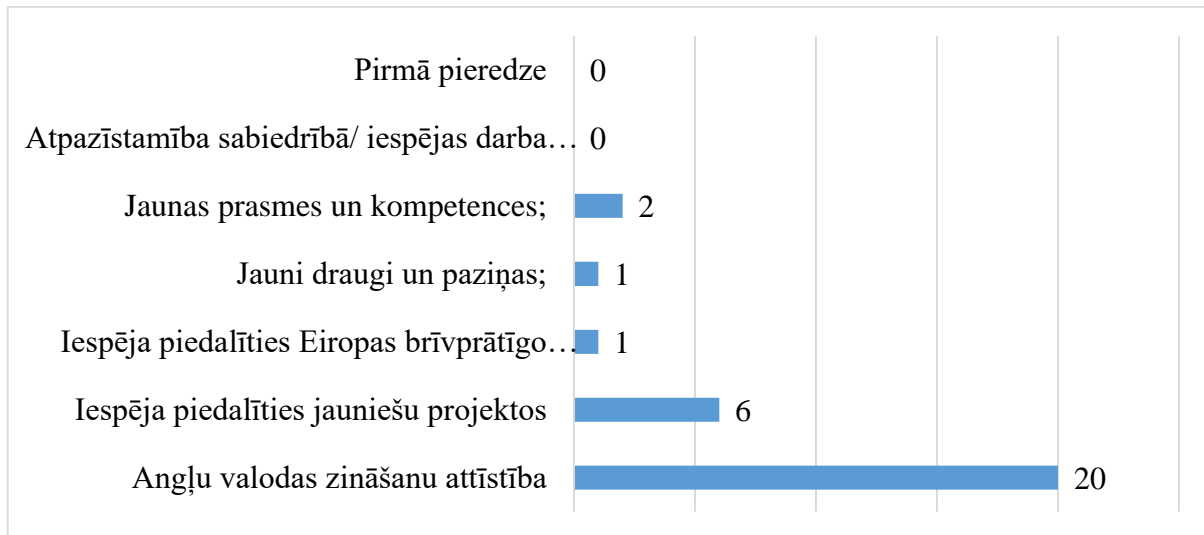


2. att. Jauniešu iesaistīšanās iemesli biedrībā „Jaunatnes Čemodāns”
Fig. 2. The reasons of youth participation in work of NGO „Youth Case”

Respondenti minēja vairākus viņiem nozīmīgus iemeslus. Visvairāk respondentu (13) norādīja, ka nāk uz nevalstisko organizāciju, jo ir iespēja satikt Eiropas brīvprātīgos, kā arī piedalīties viņu rīkotajos pasākumos, piemēram, valodas nodarbībās, starpkultūru pasākumos, mācību braucienos un semināros, radošajās u.c. aktivitātēs, 9 respondenti atzīmēja, ka iesaistās biedrības darbā, jo ir iespēja piedalīties vai organizēt jauniešu projektus, vēl viens nozīmīgs iemesls, ko atzīmēja 6 respondenti, ir uzlabot angļu valodas prasmes, kā arī 2 respondenti uzsvēra iemeslu, ka var atrast jaunus draugus un domubiedrus.

Iegūtie rezultāti uzskatāmi parāda, ka jaunieši iesaistās nevalstiskās organizācijas – biedrības „Jaunatnes Čemodāns” darbībā, lai sadarbotos ar ārzemju brīvprātīgajiem, piedalītos projektos un uzlabotu savas angļu valodas prasmes.

Atbildot uz jautājumu „Kādi ir Jūsu līdzdalības ieguvumi Eiropas brīvprātīgo darbā biedrībā „Jaunatnes Čemodāns”?”, jaunieši minēja vairākus ieguvumus. Iegūtie dati ir ilustrēti 3. attēlā.

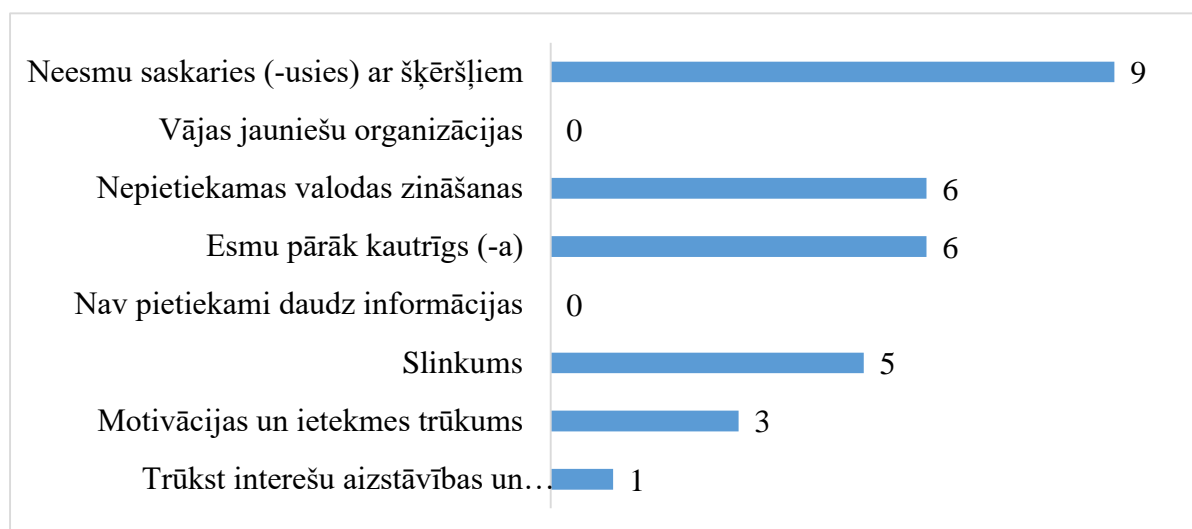


3. att. Jauniešu līdzdalības ieguldījums

Fig. 3. *Benefits of youth participation*

20 respondenti norādīja, kā vislielākais ieguvums, ko sniedz līdzdalība brīvprātīgo darbā, ir iespēja attīstīt angļu valodas zināšanas. 6 respondenti norādīja uz iespēju piedalīties jauniešu projektos, apgūstot jaunas prasmes un kompetences (2 jaunieši), 1 respondents izskata iespēju pašam piedalīties Eiropas brīvprātīgā darba projektā ārzemēs nākotnē. Var secināt, ka jaunieši izprot, ko gūst no līdzdalības Eiropas brīvprātīgā darba projektā. Jauniešu atbildes sniedz ieskatu, ka nevalstiskās organizācijas darbība ir vērtīga, tā sniedz nozīmīgu atbalstu, kā arī iespējas jauniešu personības attīstībai un pilnveidošanai.

Atbildot uz jauniešu anketas jautājumu „Ar kādiem šķēršļiem Jūs esat saskāries(-usies), lai iesaistītos Eiropas brīvprātīgo aktivitātēs?”, respondenti minēja vairākus variantus (skat. 4. att.).



4. att. Jauniešu līdzdalības šķēršļi
Fig. 4. The obstacles of youth participation

Iegūtie dati parāda, ka pastāv daudzi šķēršļi, kas traucē jauniešu iesaistīšanās procesos. Lai mazinātu jauniešu iesaistīšanās procesa šķēršļus, nevalstiskās organizācijas pārstāvji un Eiropas brīvprātīgie savā darbā var aktīvāk iesaistīt jauniešus, kuri uzskata, ka viņi nesaskaras ar šķēršļiem, lai ar savu pozitīvo piemēru mudinātu pārējos uzdrošināties aktīvāk līdzdarboties un iesaistīties pasākumos. Jaunieši, kuri aktīvi piedalās pasākumos, ir drošāki un ir iepazinušies ar ārzemju brīvprātīgajiem, kā arī var rādīt piemēru pārējiem jauniešiem. Redzot pozitīvu piemēru, pozitīvas emocijas, interesantas aktivitātes, pasīvkā un klusākie jaunieši mēģinās iziet no komforta zonas un spert pirmos soļus savu baiļu pārvarēšanai, jo dažiem tas var būt vesels izaicinājums. Izmantojot ārzemju brīvprātīgo valodas zināšanu resursus, brīvprātīgie organizē interaktīvas svešvalodas nodarbības, lai mazinātu valodas barjeru starp organizāciju un jauniešiem, kā arī valodu nodarbības palielina jauniešu pārliecību angļu valodas lietošanā.

Jauniešu anketas jautājums „Kādos pasākumos/ aktivitātēs Jūs piedalītos un līdzdarbotos labprāt biedrībā „Jaunatnes Čemodāns”?” tika uzdots, lai uzzinātu jauniešu intereses un vajadzības.

Visi respondenti izvēlējās 2 atbildes – piedalīties angļu valodas nodarbībās (30 gadījumos) un projektu izstrādē un realizēšanā (arī (30 gadījumos), kas norāda uz jauniešu ieinteresētību. Atbildes uzskatāmi ilustrē, ka šīs aktivitātes ir aktuālas jauniešiem un var būt par pamatu jauniešu līdzdalības veicināšanai nevalstiskajā sektorā.

Pētījuma ietvaros tika veikta šķērstabulācija jautājumam „Kādi ir Jūsu līdzdalības ieguvumi Eiropas brīvprātīgo darbā?” ar jautājumu „Izvēlēties 2 faktorus, kas veicinātu Jūsu līdzdalību Eiropas brīvprātīgo darbā”. Iegūtie rezultāti ir parādīti 1. tabulā.

1. tab. **Pirmā faktora analīze**
Table 1 Analysis of the first factor

Līdzdalības ieguvumi * Pirmais faktors Crosstabulation

| | | Pirmais faktors | | | Total |
|----------------------|---|-----------------|---|---|-------|
| | | 1 | 2 | 3 | |
| Līdzdalības ieguvumi | 1 | 16 | 4 | 0 | 20 |
| | 2 | 2 | 4 | 0 | 6 |
| | 3 | 1 | 0 | 0 | 1 |
| | 4 | 1 | 0 | 0 | 1 |
| | 5 | 1 | 0 | 1 | 2 |
| Total | | 21 | 8 | 1 | 30 |

1 kolonnā tika izvirzīti 5 līdzdalības ieguvumi: 1. attīstās angļu valodas zināšanas; 2. iespēja piedalīties projektos; 3. iespēja darboties kopā ar Eiropas brīvprātīgajiem; 4. iespēja būt kopā uzklausiātam un sadzirdētātam; 5. jaunas prasmes un kompetences. Šie ieguvumi tika salīdzināti ar 11. jautājumā jauniešu sniegtajām atbildēm par jauniešu līdzdalības 3 faktoru izpēti: 1. iespēja pilnveidot angļu valodu; 2. dalība projektos un 3. darboties kopā ar Eiropas brīvprātīgajiem. No iegūtajiem datiem var secināt, ka angļu valodas pilnveidi var uzskatīt par jauniešu līdzdalības primāro faktoru.

Pētījuma procesā rezultāti par jauniešu līdzdalības ieguvumiem (7. jautājums), tika salīdzināti ar jauniešu sniegtām atbildēm par jauniešu līdzdalības veicinošajiem faktoriem (11. jautājums): 2. dalība projektos; 3. darboties kopā ar Eiropas brīvprātīgajiem; 4. iespēja būt uzklausiātam un sadzirdētātam; 5. atrast draugus un domubiedrus. Iegūtie rezultāti ir ilustrēti 2. tabulā.

2. tab. **Otrā faktora analīze**
Table 2 Analysis of the second factor

Līdzdalības ieguvumi * Otrais faktors Crosstabulation
 Count

| | | Otrais faktors | | | | Total |
|-------------------------|---|----------------|----|---|---|-------|
| | | 2 | 3 | 4 | 5 | |
| Līdzdalības ieguvumi | 1 | 6 | 9 | 1 | 4 | 20 |
| | 2 | 1 | 3 | 1 | 1 | 6 |
| | 3 | 1 | 0 | 0 | 0 | 1 |
| | 4 | 0 | 1 | 0 | 0 | 1 |
| | 5 | 0 | 0 | 1 | 1 | 2 |
| Total | | 8 | 13 | 3 | 6 | 30 |

Jauniešu līdzdalības ieguvumus 6 jaunieši priekš 2.prioritātes ir izvēlējušies – dalību projektos, kā arī 9 jaunieši iz izvēlējušies piedalīties EBD projektā ārzemēs. Ņemot vērā to, ka dalība Eiropas brīvprātīgā darba projektos arī saistās ar dalību projektos, 2. un 3. faktora iegūtos datus var apvienot, tādējādi iziet, ka 15 jaunieši par 2.jauniešu līdzdalības būtiskāko faktoru uzskata iespēju piedalīties projektos. No iegūtajiem datiem var secināt, ka dalību projektos var uzskatīt par jauniešu līdzdalības sekundāro faktoru.

Lai palielinātu jauniešu skaitu, kas iesaistītos biedrības darbā, ir nepieciešams nodrošināt aktivitāšu biežumu un pasākumu dažādību, lai tie atbilstu jauniešu interesēm un vajadzībām, kā arī veicinātu jauniešu informētību par notiekošajām aktivitātēm lielākajai auditorijai.

Jauniešu anketas pētījuma rezultāti ļauj secināt, ka nevalstiskās organizācijas – biedrības „Jaunatnes Čemodāns” pedagoģiskā darbība ir vērtīga, jo tā atbalsta jauniešu personības attīstību un pilnveidošanu ar projekta un angļu valodas palīdzību, kas ir ļoti būtiskā mūsdienās.

2018.gada aprīlī tika veikta ārzemju brīvprātīgo aptauja, lai noskaidrotu, vai Eiropas brīvprātīgiem, kuri strādā jaunatnes jomā, ir izstrādāta stratēģija jauniešu līdzdalības veicināšanai. Vairāk par pusi (17) respondentu, atzīmēja, ka viņiem nav izstrādātas stratēģijas, kā veicināt jauniešu līdzdalību. Tikai 13 respondenti atzīmēja, ka viņiem ir darba stratēģija.

Iegūtie dati parāda, ka stratēģijas izstrāde varētu palīdzēt Eiropas brīvprātīgajiem strukturēt savu darbību, izvērtēt jau sasniegto, parādītu iespējas, ko varētu uzlabot, lai palielinātu jauniešu skaitu brīvprātīgo darbā. Stratēģijas esamība palīdz nodēfīnēt un izprast darbības virzienus, mērķus, uzdevumus un sasniegtus rezultātus, ļauj saplānot turpmāko darbību.

Secinājumi un ieteikumi *Conclusions and recommendations*

1. Pētījums apliecināja teorētiski pamatotus divus vadošus jauniešu līdzdalības veicinošus faktoros: iespēja pilnveidot angļu valodu un dalība projektos, ieskaitot līdzdalību Eiropas brīvprātīgo darba projektā, kā arī ar šķērstabulu metodi tika noteikti jauniešu līdzdalības veicinošie faktori: primārais faktors – angļu valodas pilnveide un sekundārais faktors – dalība projektos.
2. Pētījums parādīja galvenos jauniešu iesaistīšanas iemeslus NVO „Jaunatnes Čemodāns”. Tika noskaidrots, ka visvairāk jauniešu ir ieinteresēti Eiropas brīvprātīgo rīkotajās aktivitātēs, piedalīties jauniešu projektos un uzlabot angļu valodu, tāpēc ieteikums NVO darbībā ieviest Eiropas brīvprātīgā darba projektus un citus jauniešu projektus, lai veicinātu jauniešu motivāciju darboties NVO.
3. Pētījums parādīja, ka pastāv vairāki jauniešu līdzdalības šķēršļi: jauniešu nepietiekamas angļu valodas zināšanas, jauniešu kautrīgums un motivācijas trūkums, tāpēc līdzdalība brīvprātīgo darba projektos un NVO darbībā jauniešiem sniedz vairākus ieguvumus: iespēja pilnveidot angļu valodas zināšanas, liekot uzsvaru uz praktisko pielietojumu; iespēja piedalīties jauniešu projektos, kļūt par Eiropas brīvprātīgo ārzemēs; apgūt jaunas prasmes, attīstīt sarunvalodu, pārvarēt bailes runāt un kļūdīties, kā arī saņemt nepieciešamo atbalstu un pilnveidot sevi kā personību.
4. Datu analīze apliecināja faktu, ka lielākajai daļai aptaujāto Eiropas brīvprātīgo (17 respondenti) Latvijā nav izveidota darba stratēģija. Ieteikums NVO kopā ar Eiropas brīvprātīgajiem un jauniešiem izstrādāt programmu – stratēģiju, lai izvirzītu mērķus, uzdevumus turpmākajam darbam, strukturētu brīvprātīgo darbu, saplānotu darba metodes un motivēšanas formas un noteiktu paredzamos rezultātus jauniešu līdzdalības nodrošināšanai. Stratēģijas esamība veicina jauniešu līdzdalību NVO darbībā.

Summary

Nowadays the problem of youth participation is one of the most important issues among politicians, scientists, teachers, youth specialists and employees. There are several challenges and problems, that slower youth engaging in active participation. They are: youth passivity and low motivation and the lack of interest; insufficient awareness of young people about opportunities to participate and actively engage in various non-formal education activities; the lack of entrepreneurship and communication skills; the youth policy strategy in Rezekne has not been developed and approved.

The aim of the research: to explore youth participation in volunteers' work in NGO and to analyze the factors for improving the effective participation of youth in the work of NGO. The article provides mostly practical parts of the research: checking the effectiveness of promotion of youth participation in volunteers' work.

The existing situation in the NGO "Youth Case" was clarified by analyzing the obtained data.

The research confirmed the theoretically justified two key factors that promotes youth participation - the possibility to improve English and participation in projects, including participation in the European volunteers work project. What is more, the cross-tabulation method has identified the factors that improve and promote youth participation - the first - improvement of the English language and the second factor – youth participation in projects.

The research showed the main reasons of youth involvement in the NGO "Youth Case". It was found that most of youth are interested in activities organized by European volunteers. They are also interested to participate in youth projects and improve English, therefore, the recommendation for NGOs is to realize European voluntary service projects and other youth projects to promote youth motivation to work for NGOs.

The study showed that there are several obstacles of youth participation: insufficient English language skills, shyness and the lack of motivation. Participation in European voluntary service projects and NGO activities provides several benefits for youth. Namely, the opportunity to improve English language skills, putting emphasis on practice; the opportunity to participate in youth projects, to become a European volunteer abroad; to learn new skills, to develop conversational language and overcome the fear of talking and errors, and to receive the necessary support and to develop yourself as a personality.

Data analysis confirmed the fact that most European volunteers did not have a work strategy in Latvia. Recommendation for NGOs is to develop a program - a strategy together with European volunteers and youth for setting goals, tasks for the future work, to structure volunteering, to plan work methods and forms of motivation, and to foresee outcomes of youth participation. The existence of the strategy contributes to the participation of youth in the activities of NGOs.

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ПУГАНИЕ ДЕТЕЙ ВЗРОСЛЫМИ И ЕГО ПОСЛЕДСТВИЯ

Frightening of Children by Parents and Its Consequences

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Abstract. *The article attempts to generalize data on such a complex pedagogical and psychological phenomenon as the deliberate frightening of children by adults. Despite an obvious or apparent harm, it is still included in the established set of methods of family education. In our study, we studied the origins of this phenomenon, the degree of its prevalence in the practice of family education at the present time, and the consequences of using threats in the process of education in the assessments of the adults who were brought up in this way. To achieve the research objectives, a number of former children who were frightened in childhood by their parents, the content of adults' threats, the motives for frightening children and its influence on the further development of the child were studied.*

Keywords: *the image of the world, the frightening of children in the process of education, the content of adults' threats to children in the process of education.*

Введение

Introduction

Ухудшение психического здоровья населения в странах постсоветского пространства, увеличение агрессивности детей и подростков в школе и вне ее заставило искать истоки данных явлений. Многие философы и психологи увеличение напряжения современного человека, его вселенский страх объясняют тем, что все наши устремления являются «бытием-направленным-к-смерти» (Хайдеггер, 2003: 9). Этот страх, как считают некоторые психологи, символизирует некую глубинную, не осознаваемую нами тревогу или некую проблему, на решение которой у нас не хватает сил (Холлис, 2010). Д. Холлис, в русле психоаналитической традиции, современное состояние психики людей объясняет исчезновением магических ритуалов, которые снижали тревогу. Развеивание, как он считает, мифической иллюзии или веры как мнимой защиты от бессмысленности и страха, призвано заставить человека возмужать. Автор

призывает взглянуть в лицо подобному страху и, тем самым, принять и изжить его.

Проводятся конференции, призванные заставить человека смириться со смертью (Савчук, 1993: 38), большой популярностью пользуются рассказы о «загробном» опыте людей, переживших клиническую смерть. Между тем, христианская традиция учила воспринимать смерть как важный, но только один из этапов человеческой жизни. Никакой психологической травмы и, следовательно, увеличения страха или агрессивности данное обстоятельство у людей не вызывало. Наоборот, еще в 19 в. Россия с ее православной верой, была в числе стран с самым низким числом самоубийств - 1,2 человека на 100 000 населения. Воспитание детей предполагало заботу о них, воспитание их в страхе Божиим (т.е. соблюдении заповедей, норм поведения) и в радости, чтобы дети, по словам апостола Павла, не были унылыми (О христианской семье, 1996: 5).

Страх Божий страхом в общепринятом смысле не является: это благоговейное отношение, боязнь огорчить, желание послужить.

Преднамеренное пугание детей считалось в русской педагогической мысли свидетельством низкой культуры педагога, его беспомощности. Ничем не оправданным и крайне вредным для здоровья считал пугание детей В. М. Бехтерев (1912). В настоящее время объяснение феномена пугания детей можно найти в материалах по изучению, а) традиционной культуры славянских и других народов; б) национальной культурной концептосферы отдельных этносов; в) характеристик Образа мира каждого народа и г) модели воспитания в каждой культуре.

Интерес в контексте нашей темы вызывает представление каждого народа о нормативности поведения, о ребенке и его будущем, а также содержание образов, которыми пугают детей. Пугание в этом случае может означать аффективное усвоение представлений о мире и правил жизни в нем и желание направить развитие ребенка в правильное русло.

Отдельную линию изучения народных представлений о мире составляют т. наз. «смертные песни», широко, по мнению некоторых исследователей, распространенных именно в русском детском фольклоре колыбельных с пожеланиями смерти ребенку. Споры вокруг данного явления ведутся с конца 19 в..

В рамках данной темы важным представляется также исследование педагогических и психологических последствий использования страшных образов и угроз в воспитании детей. Во-первых, изучения требует действенность данных методов, которая должна оказаться высокой, раз их

используют так упорно. Во-вторых, важно выявить мотивацию взрослых, причины, по которым они угрожают ребенку. В-третьих, необходимо убедиться в безвредности для ребенка, для его психического состояния подобных действий взрослых. Трудно предположить, что родители сознательно вредят детям.

В психоаналитической традиции страхи являются краеугольным камнем построения личности. Страх сопровождает человека от начала до конца и является непреодолимым в принципе. Человек только с большим или меньшим успехом его «изживает» (Холлис, 2010). Такие взгляды вроде бы подтверждаются наличием страха у пациентов психоаналитиков. Однако здравый смысл и педагогический опыт свидетельствуют, что не все дети подвержены немотивированному непреодолимому страху. Нас интересует, сколько детей стали бояться в результате запугивания взрослых.

Своеобразной реакцией на угрозы взрослых выступают т. наз. «ужасные» рассказы самих детей. Их содержание также помогает выявить предметность страхов и их источник.

Итак, **объектом нашего исследования** является феномен пугания детей в практике воспитания.

Предмет исследования – последствия данной практики для развития детей

Целью нашего исследования явилось определение распространенности такого педагогического явления как пугание детей родителями и его влияния на развитие ребенка.

Для достижения исследовательских целей решались следующие задачи:

- а) путем опроса выявить количество людей, которых в детстве пугали родители;
- б) выявить предметность угроз взрослых;
- в) изучить мотивы пугания детей и его влияние на дальнейшее развитие ребенка.

В исследовании приняли участие взрослые от 19 до 38 лет (репрезентативная выборка). Исследование проводили преподаватель и студенты РВШПУО (РРІVА) в 2015-16 гг.

Материалы и методы включают теоретический анализ литературы, опрос, наблюдения и анализ полученных данных.

Постановка проблемы *Definition of problem*

Анализ исследований и публикаций. Часто прием пугания детей выводят из свойств т. наз. мифологического или народного сознания. В. В. Усачева (2008) в своем глубоком исследовании обобщила данные научных источников, отражающих обычаи и обряды нескольких славянских близко живущих народов.

В каждом народе мотив здоровья и духовной радости в т. наз. народной культуре, синкретическом образовании языческих и христианских обычаев, является преобладающим. Автор видит в этом известное отклонение от христианства, которое якобы желает видеть всех аскетами. «Для живого человека здоровье – драгоценность, а болезнь – тяжелая напасть. Здоровье считается даром от Бога и причисляется к жизненным благам, в то время как болезни приписываются враждебным человеку силам, против которых надо принимать защитные меры» (Усачева, 2008: 268). Как пишет автор, основываясь на анализе источников, в болгарском народном календаре существовали, например, многочисленные праздники для охраны здоровья матери и детей, где им желали здоровья и духовного веселья как аналога психического здоровья.

Постоянная забота о нормальном развитии ребенка, его здоровье являлась главной обязанностью матери. Бездетность являлась большим несчастьем, поэтому при помощи обрядов бездетные супруги пытались переменить свою судьбу и испросить дитя (Усачева, 2008: 255).

С болезнью боролись, при соблюдении обрядов ее, в том числе, пытались обмануть, устрашить, принять иной внешний вид, чтобы та не узнала человека. Со страхом болезни тоже боролись. Если болезнь бояться, она может напасть.

В. В. Усачева (2008) считает, что ритуальный обман в его вербальном и акциональном вариантах является, по народным представлениям славян, действенной мерой в борьбе с нечистой силой, в том числе с болезнями, постоянно докучающим человеку. Как видим, никаких доказательств, что родители якобы могли желать смерти своему ребенку, нет. Наоборот, они всеми силами старались вырастить его физически и духовно здоровым. Нет никаких оснований исключать из традиционной славянской культуры русский этнос. Разгадку «смертных колыбельных» следует продолжать искать.

Сохранению здоровья способствовало сохранение запретов. Существовало много запретов, связанных с возможными нарушениями границ (дома, двора, дня и ночи и т.п.). Вспомним «не ложися на краю» из русской колыбельной. Именно на границах живут сущности, вредящие человеку.

Феномен границы в детерминации активности ребенка исследовала М. А. Ишкова (1998). Она считает «границу» категорией человеческого бытия, а идею «границы» - движущим началом существования и становления человека. Идею «границы», ее установление автор считает побудителем, мотивом человеческой деятельности, реализующейся посредством влечения индивида к пределу, его желанию перейти предел, устремленности к беспредельному действованию. При запрете переступить границу существует сближение с разграничительным стимулом, стремление повторно пережить «аффект прохождения границы», мотив риска, осмысление границы как преодоления (Ишкова, 1998: 7). В контексте нашей темы данные выводы означают, что установление границ способствует активности ребенка, его желанию достичь в своей деятельности высоких результатов, приобрести упорство, как черту характера и т.п. В таком случае пугание детей может способствовать их более высокой жизнестойкости. К сожалению, эмпирических данных, подтверждающих эти положения, нет.

Д. Туминас (2008) вслед за В. В. Головиным считает младенца находящимся еще на границе миров: настоящего мира живых и мира потустороннего. Ребенок, по мнению этих авторов, является еще недочеловеком. С «того» света он тянет за собой «чужие» сущности, которых и «умерщвляют» взрослые (прежде всего, мать) в «смертных» колыбельных. Таким образом, настоящее рождение ребенка происходит при пении ему колыбельных, в том числе и «смертных».

Приведем несколько примеров таких колыбельных.

*Баю, бай да люли,
Хоть теперь умри,
Завтра у матери кисель да блины,
То поминки твои.
Сделаем гробок
Из семидесяти досок,
Выкопаем могилку
На плешивой горе,
На плешивой горе,*

*На господской стороне.
В лес по ягоды пойдём,
К тебе, дитяtko, зайдём.*

*Баю, бай,
Хоть завтра помирай.
Пирогов напечём,
Поминать пойдём,
К тебе дитяtko, зайдём.*

*Ой, люли, люли, люли,
Ты сегодня умри,
Завтра похороны,
На погост понесём,
Пирогов напекём,
Со малиной,
Со гречневым крупам,
Будем Шуру поминать,
Себе брюхо набивать.*

*Баюшки, баю!
Колотушек надаю.
Бай да люли!
Хоть ныне умри.
У нас гречиха на току,
Я блинов напеку,
Я тебя, дитяtko,
На погост поволоку.
Завтра мороз,
А тебя на погост,
Я соломы насеку,
Я блинов напеку.
Пойду дитяtko поминать,
Попу брюхо набивать.*

*Баюшки, баю!
Не ложися на краю.
Заутро мороз,
А тебя на погост!
Дедушка придёт,*

*Гробок принесёт,
Бабушка придёт,
Холстинки принесёт,
Матушка придёт,
Голосочек проведёт,
Батюшка придёт,
На погост отнесёт.
Баюшки, баю,
Колотушек надаю!*

*Спи, дитя моё мило,
Будет к осени друго,
К именинам третьё,:
Седни Ванюшка помрет
Завтра похороны,
Будем Ваню хоронить,
В большой колокол звонить.*

*(Записано Калининковым в Архангельской губ.,
Онежском уезде. 1912 г.)*

*Бай, бай да люли
Хоть сегодня умри.
Сколочу тебе гробок
Из дубовых досок.
Завтра мороз,
Снесут на погост.
Бабушка-старушка,
Отрежь полотенце,
Накрыть младенца.
Мы поплачем, повоем,
В могилу зароем.
Баю-баюшки, баю,
Колотушек надаю,
Колотушек двадцать пять,
Будет Ваня лучше спать.*

(Бессонов П. Детские песни. 1868)

*Баю-баюшки, баю,
Колотушек надаю,
Колотушек двадцать пять,
Будет Ваня лучше спать.*

(Бессонов П. Детские песни. 1868)

Объяснение мотивов возникновения данных текстов колебалось от отсутствия нравственного чувства у матерей-крестьянок, их тяжелой доли и непосильного труда до привычности смерти в многодетной семье и заговорном характере песен (Мельников, 1987). Некоторые авторы считали, что мать понарошку пугает плаксивое беспокойное дитя. Не существует, к сожалению, объяснений самих опрашиваемых.

Наше исследование показало, что народные колыбельные песни с точки зрения структуры отражаемого в них образа мира, ценностей определенных культур и прогнозируемого будущего ребенка являются мощным средством формирования положительного образа мира. Выявились как общие черты, присущие песням носителей различных культур (латышской, русской и украинской): оптимизм, светлый характер образов, «нестрашность» отрицательных персонажей, четкая целесообразная и реалистичная система устройства мира, четкая прорисовка образа ребенка в мире, желаемое будущее ребенка; так и различия, касающиеся отношений между ребенком и другими людьми, особенностей наказаний, средств достижения целей, системы ценностей.

В латышских колыбельных представлен очень небольшой круг отрицательных персонажей, вредящих ребенку. Это Мара, черная птичка, которые мешают спать. «Чужих» в славянском понимании, как плохих людей, плохих существей в латышских колыбельных нет. Все свои. Вероятно, теплые слова, сказанные о матери и других близких, позволяют обратить внимание прежде всего на хорошие черты «своих». Однако, забегаая наперед, скажем, что главным объектом устрашения детей в реальной жизни являются именно плохие люди. Медленное формирование концепта «чужой», что вообще свойственно латышским колыбельным, приводит к нераспознаванию его в реальной жизни.

Исключением в светлом мире латышской колыбельной песни является тяжкая доля внебрачного ребенка: он будет спать под кустом и укрываться колючкой. Будущее такого ребенка мрачное. Скорее всего его ждет смерть. Это объяснялось неспособностью матери прокормить в одиночку внебрачное дитя (Ромenkova, 2009).

В отличие от этого, как в украинских, так и в русских колыбельных очень тщательно проговариваются особенности всех существ, которые вредят ребенку. Это Бука, Бабай, Басалай, Бахахай, Угомон, собака, волк и т.п., которые стремятся украсть или съесть младенца. Пугание может усиливаться действием взрослого - матери или няньки. Они изменяют голос, поскрипывают ногой (Головин, 2000: 19). Ребенок испытывает эмоциональное напряжение и после этого засыпает. Для того, чтобы сбить истерику, плач, крайнее возбуждение, иногда необходим устрашающий текст. В. В. Головин считает, что послушных и спокойных детей не пугали.

Анализ рассмотренных источников позволяет сделать вывод о высокой ценности ребенка и его здоровья как в традиционной, так и современной культуре. Следовательно, пугание детей призвано их успокоить, предупредить, научить отличать «своих» от «чужих».

Изложение материала

Results

В исследовании принимали участие взрослые люди обоего пола в возрасте от 19 до 45 лет (репрезентативная выборка). В составе выборки мужчин и женщин было поровну. Опрос и беседы проводили студенты РВШПУО, г. Рига, Латвия. Основной материал был получен В. Шмите в ходе бакалаврского исследования.

Из всех опрошенных взрослых 95 % в детстве родители пугали. Как правило, опрашиваемые отмечали, что угрозы родителей возникали как реакция на очень активную деятельность, шалости, любопытство, игру вблизи колодцев, леса и т.п. Так, не разрешали искать и трогать гнезда птиц, т.к. в противном случае ребенка заберет черный ворон, обрывать верхушки молодых деревьев т.к. родится ребенок без пальчиков, отдадут дворничихе, если не будет есть суп, и т.п. Иногда дети понимали, что их пугают и не боялись.

В нашем исследовании выяснилось, что чаще пугали младших детей, вероятно, как более подверженных риску несчастного случая.

Попадались экзотические виды угроз ребенку. Так, одному из детей в сельской местности, где кроме соседей он никого не видел, не велели выходить со двора, иначе он может встретить грузина. До сих пор уже взрослая женщина с интересом воспринимает все, связанное с грузинами.

Детей пугали людьми, животными, сверхъестественными существами и другими объектами (доктор сделает укол и др.). Большинство

опрошенных благодарны своим родителям за то, что они старались уберечь их от опасностей. Все (!) считают, что в детстве они были непослушными и их надо было каким-то образом укротить.

Таблица 1. Чем родители пугали ребенка в детстве? (Шмите, 2006)
Table 1 What parents used for scaring children in the childhood?

| Люди | Животные | Сверхъестественные силы | Другое |
|-----------------|-----------------|-------------------------|---|
| Чужой дядя* | Черный кот | Нечистые | Не будет нравиться девушкам |
| Бородатый дядя* | Лягушки в пруду | Бабай (bubulis) | Видят через телевизор, что делают дети |
| Полицейский | Черный ворон | Водяной дух (Būzelis) | Если не съест всю тарелку, будет плохая погода и не выйдет погулять |
| Грузин | Волк | Хозяйка леса | Не дадут сладостей |
| Дворник | | Чудовища | Не получит подарка на Рождество |
| Доктор | | Водяные жители | Мама уйдет из дому |
| Чужая тетя* | | Старик, нагоняющий сон | Оставят одного дома |
| | | | Доктор Березкин (прут) |

*в латышском языке не носит негативного подтекста (просто, чужой)

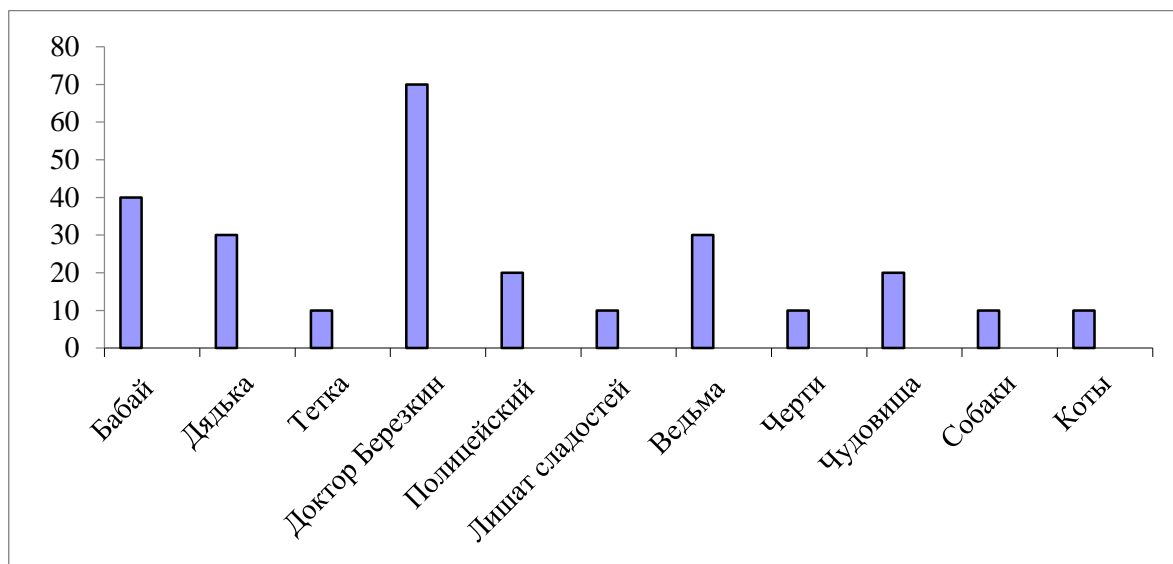


Рис. 1. Вид устрашения ребенка родителями (Шмите, 2006)
Fig. 1. Types of scaring children used by parents?

Из диаграммы видно, что чаще всего детям угрожали физическим наказанием (пороть березовым прутиком - доктор Березкин). Этот «доктор» всегда находился на видном месте, а то и под рукой. Как правило, хватало одних угроз, чтобы дети послушались. Сравнительно редко детей пугали сверхъестественными существами.

Обстоятельства, при которых применялись угрозы детям, значительно различались для городских и сельских детей. Сельские дети, по прошествии лет, очень точно могли сказать, от чего родители хотели их защитить и уберечь.

90 % обследованных взрослых подтвердили, что в семье пугали всех детей. 10% детей, проживая в многодетной семье, не получали угроз от старших, хотя других детей пугали.

78,5 % взрослых с пониманием и юмором относятся к полученному в детстве опыту и утверждают, что он не повлиял на них негативно. Эти респонденты считают устрашение действенным, быстрым и хорошим методом и применяют его при воспитании собственных детей. Если ребенку начать подробно рассказывать опасные свойства реки, колодца или леса дети, по их мнению, еще больше будут туда стремиться.



Рис. 2. От чего, пугая, хотели защитить детей родители (Шмите, 2006)

Fig. 2. From what parents wanted to protect children by scaring them?

21,5 % уже взрослых людей с опаской относятся к объектам, которыми их пугали в детстве: не могут спокойно видеть полицейских, боятся собак, не могут установить контакта с девушками и т.п. У части бывших детей осталась обида на родителей, которые не учли впечатлительности ребенка и

применили неправильный метод воспитания. Среди тех, на кого негативно повлияло пугание, по нашим данным, почти все мужчины.

5 % детей в детстве родители не пугали, а разъясняли неправильные действия.

Выводы **Conclusions**

В заключение сделаем некоторые выводы.

В настоящее время пугание детей - это, к сожалению, обычная практика семейного воспитания, которая позволяет родителям быстро и эффективно достичь своей цели. Почти все опрошенные, при воспитании которых использовали пугание, пугают и своих детей.

Как правило, применяя какое-либо средство воспитания, родители исходят из собственного опыта, опыта своих родителей и никогда не опираются на письменные или устные рекомендации педагогов.

Примерно пятая часть детей в детстве очень боялась угроз, а во взрослом возрасте считает, что родители использовали неправильные методы воспитания. Вероятно, в критических обстоятельствах им будет труднее сохранить высокую самооценку, самообладание.

В ходе исследования мы не получили подтверждения тому, что родители, как утверждают психоаналитики, путем запугивания хотят получить власть над детьми. Основными мотивами пугания было уберечь детей от опасности, предотвратить продолжение недостойного поведения ребенка, мотивировать на выполнение какого-то полезного действия или прекратить нежелательное.

Родительский опыт запугивания детей почти никак не соприкасается с педагогическим просвещением.

Психологические рекомендации, в которых утверждается, что запугивание приводит к поголовной невротизации, представляются родителям преувеличенными, и они продолжают использовать подобные приемы воспитания. Необходимо продолжить исследование поднятой проблемы с тем, чтобы найти точки соприкосновения родителей и учителей с целью создания благоприятной воспитательной среды.

Summary

In the lullabies of different nations there are characters that can cause fear. In Latvian lullabies there is a very small group of negative characters that harm the child. This is Mara, a black bird that disturbs sleep. There are no “strangers” in the Slavic understanding, bad people, bad beings in Latvian lullabies (Romenkova, V. (2009)).

In contrast, both in Ukrainian and in Russian lullabies there are very carefully described features of all entities that harm the child. These are Buka, Babai, Basalay, Bahahai, Ugomon, dog, wolf, etc., who seek to steal or eat the infant. The frightening can be intensified by the action of the adult – mother or nurse. They change their voice, scrape with their foot (Golovin, V. V. (2000): 19). The child experiences emotional tension and then falls asleep. To bring down the hysteria, crying and extreme excitement, sometimes a scary text is needed. V. V. Golovin believes that obedient and quiet children were not frightened.

An analysis of the sources reviewed allows us to conclude that the child and his health is highly valued in both traditional and modern culture. Consequently, the frightening of children is designed to calm them, warn them, teach them to distinguish their “own” from “strangers”.

The purpose of our study was to determine the prevalence of such a pedagogical phenomenon as the frightening of children by parents and its impact on the development of the child.

To achieve the research objectives, the following tasks were set:

- a) through a survey determine the number of people, who were frightened by parents in childhood;
- b) reveal the objectivity of adult threats;
- c) study the motives of frightening children and its impact on the further development of the child.

Summary of the main material. The study involved adults of both sexes aged 19 to 45 years (representative sample). In the sample men and women were equally divided. The survey and interviews were conducted by the students of the RTTEMA, (RPIVA), Riga, Latvia. The main material was received by V. Smite during the bachelor's research.

Of all the adults interviewed, 95 % were frightened by their parents as children. As a rule, the respondents noted that the threats of the parents arose as a reaction to high activity, naughtiness, curiosity, playing near wells, forests, etc. Sometimes children understood that they were frightened and were not afraid.

In our study, we found that the younger children in the family were frightened more often, probably because of being more at risk of an accident. Children were frightened with people, animals, supernatural beings and other objects (the doctor will make an injection etc.). Most of the respondents are grateful to their parents for trying to protect them from dangers. All (!) believe that as a child they were disobedient, and they had to be disciplined in some way.

90 % of adults surveyed confirmed that in their family all children were frightened. 10 % of children, living in a large family, did not receive threats from the elders, although other children were frightened.

78,5 % of adults relate to the experience gained in childhood with understanding and humor and argue that it did not affect them negatively. These respondents consider frightening to be an effective, quick and good method and apply it in the upbringing of their own children.

If the dangerous properties of a river, a well or a forest are described to a child in detail, children, in their opinion, will be even more eager to go there.

21,5 % of the adults are apprehensive about objects they were frightened of as a child: they are uneasy when seeing a policeman, they are afraid of dogs, they cannot establish contact with girls, etc. A part of the former children still had a grudge against their parents, who did not consider the impressionability of the child and applied the wrong method of upbringing. Among those who were negatively affected by the frightening, according to our data, with rare exceptions, were all men.

5 % of children in childhood were not frightened by their parents, instead they explained the wrong actions.

Conclusions

At present, frightening children is, unfortunately, the usual practice of family upbringing, which allows parents to quickly and effectively achieve their goal. Almost all the respondents, who raised up with frightened, frighten their children.

As a rule, when using any means of upbringing, parents use their own experience, experience of their parents and never rely on written or oral recommendations of teachers.

About a fifth of children in childhood were very afraid of threats, and in adulthood believe that parents used the wrong methods of upbringing. It is possible that in critical circumstances it will be more difficult for them to maintain high self-esteem and self-control.

During the study, we did not receive confirmation that parents, as psychoanalysts claim, through frightening want to gain control over children. The main motives of frightening were to save children from danger, to prevent disgraceful behavior, to motivate the carrying out of some useful action or to stop an undesirable one.

The parental experience of frightening children in almost no way comes into contact with pedagogical awareness.

Psychological recommendations, which state that frightening leads to general neuroticism, are seen by parents as exaggerated, and they continue to use such methods of upbringing. It is necessary to continue research on the problem raised to find common ground between parents and teachers in order to create a supportive educational environment.

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DZIĻĀS MĀCĪŠANAS NOZĪME KOMPETENCĒS BALSTĪTAS IZGLĪTĪBAS IEVIEŠANĀ

The Role of the Deep Teaching for Implementation of the Competency-Based Education

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Abstract. *At the moment, learning are very limited, mostly dominated by a frontal teachers work and tasks that encourage repeating. Educational content should provide students with tasks, that are as close as possible to life situations, so that students know, how to act and require the use of all available resources.*

The aim of the article is to draw teachers' attention to the importance of deep teaching in organizing the teaching process, and to identify the most important aspects of the deep teaching, of the implementation of competence-based education.

Research methods: analysis of pedagogical and psychological scientific literature and normative acts, student and teacher survey, data processing in SPSS 22.0.

Keywords: *deep teaching, deep learning, competence-based education.*

Ievads

Introduction

Neskatoties uz pasaules pārmaiņām, kuras noris nepieredzētā ātrumā, izglītības pārmaiņas ir bijušas lēnas. Vēsturiskā inerce ir viens no šķēršļiem, kas neļauj norītēt mērķu, standartu un mācību programmu satura izmaiņām. Šobrīd skolēni iedziļinoties mācās ļoti ierobežoti, pārsvarā dominē frontāls skolotāja darbs un uzdevumi, kas rosina atkārtot. No visa mācību procesa skolās tikai 10 % stundu ir tās, kas prasa no skolēniem dziļo domāšanu, 55 % stundu skolēniem mācīšanās mērķis ir skaidrs un saprotams, 45 % stundās mācību process tiek organizēts tā, lai skolēniem notiktu sadarbība un savstarpējs darbs (Namšone & Čakāne, 2015). Skolai jānodrošina skolēniem tādi uzdevumi, kas būtu iespējami pietuvināti dzīves situācijām, lai skolēni zinātu, kā rīkoties, un prastu izmantot visus pieejamos resursus. Skolēniem lielāku interesi par mācību saturu var radīt, ja skolotājs saista mācību saturu ar uzdevumiem, kuri skolēnam ir personiski nozīmīgi un balstīti uz viņa vajadzībām, interesēm un spējām. Skolotājam

jācenšas radīt mācību motivāciju, izmantojot skolēna iekšējos mācību sasniegumu ietekmējošos faktoros: motivāciju apgūt mācību saturu, skolēna pozitīvas attieksmes veidošana pret mācību saturu, vajadzība pēc zināšanām un ieinteresētība par apgūstamo vielu.

Motivācija ir būtisks faktors: ja skolēns ir iekšēji motivēts, viņš ir gatavs jauno integrēt savā zināšanu un izpratnes kopumā, rezultātā radot jauno (Jurāne-Brēmane, 2018). Skolēnu motivāciju būtiski ietekmē atmosfēra skolā un klasē, attiecību skolēns – skolēns un skolēns – skolotājs kvalitāte, kā arī skolotāja prasme precīzi formulēt mērķi un veicamo uzdevumu (Beckers, van der Voordt, & Dewulf, 2015). Tas ir ceļš uz dziļo mācīšanos, kad jaunais apgūtais saturs tiek integrēts personīgajā pieredzē, zināšanās un interesēs un ir vērts uz izpratni (Ramsden, 2003; Lynch, McNamara, & Seery, 2012).

Raksta mērķis - vērst skolotāju uzmanību uz dziļās mācīšanas nozīmi mācību procesa organizēšanā, un noteikt svarīgākos dziļās mācīšanas aspektus kompetencēs balstītas izglītības ieviešanai.

Pētījuma metodes: pedagoģiskās un psiholoģiskās zinātniskās literatūras un normatīvo aktu analīze, skolēnu un skolotāju anketēšana, datu apstrāde programmā SPSS 22.0.

Teorētiskā analīze *Theoretical analysis*

Skolēna mācīšanās rezultāta attīstīšanai jeb kompetencei ir nepieciešams pārdomāts un labi organizēts skolotāja darbs, kas balstās prasmēs vadīt dziļo mācīšanos, reflektēt un analizēt, un sadarboties. D. Namsone norāda, ka mācību satura apguves virsmērķis ir nevis skolēna zināšanas, bet spēja šīs zināšanas nostiprināt līdz lietošanas līmenim. Piemēram, skolēns ne tikai zina matemātikas formulas, bet spēj tās pielietot arī citos mācību priekšmetos un reālajā dzīvē (Namsone, 2017).

Lai skolēns varētu savas zināšanas un prasmes brīvi pielietot reālajā dzīvē, skolā ir nepieciešama mācīšanās iedziļinoties. Kompetences attīstīšanai un nostiprināšanai ir nepieciešama skolēna pilnīga izpratne par mācību saturu un tā apguves nozīmīgumu. Skolotāja darbs iegūst jēgu, ja skolēns tiek rosināts mācīties labprātīgi, ja tas bagātina skolēna izpratni par lietu un parādību likumsakarībām. Galvenais ir nodrošināt skolēnam patstāvīgu izziņas darbību, kuras rezultātā skolēns uzkrāj zināšanas un prasmes, un veido attieksmes (Jurgena, 2002).

Ar dziļo mācīšanos saprot to, ka:

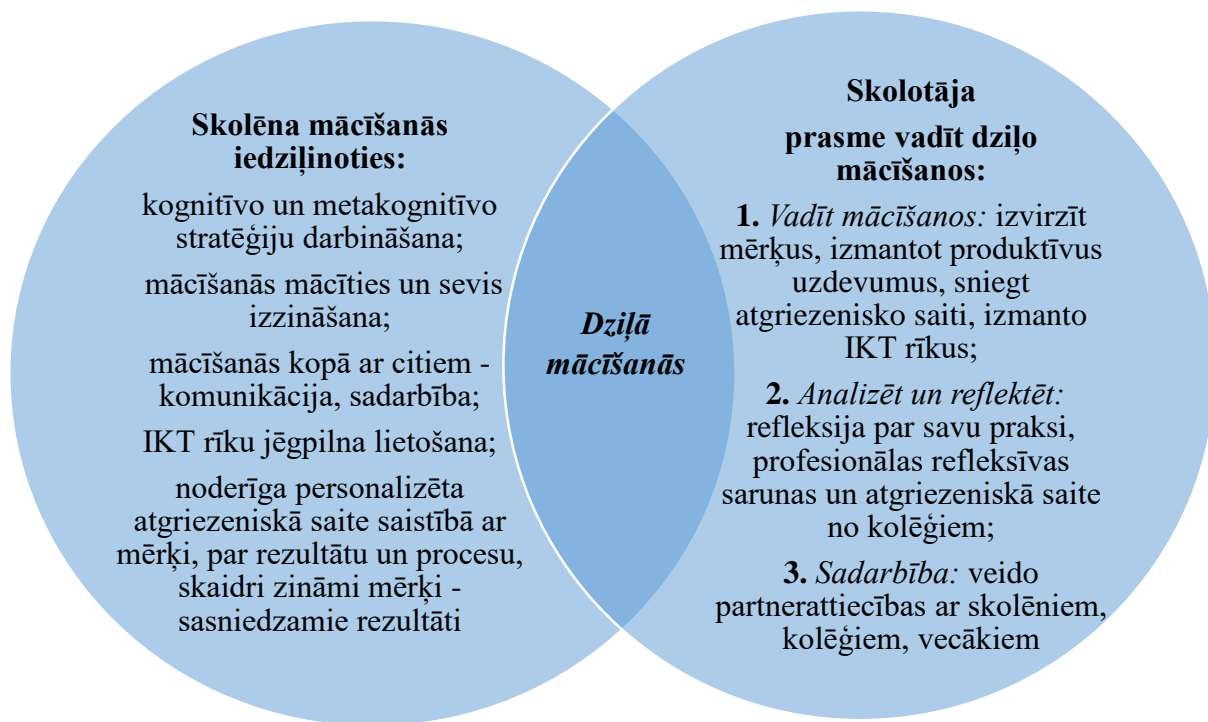
- skolotājs nosaka skolēniem skaidrus un ar dziļāku izpratni vērstus sasniedzamos rezultātus;
- skolotājs sniedz skolēnam mērķtiecīgu atbalstu, piedāvā secīgus, daudzveidīgus un jēgpilnus uzdevumus, kas ir vērsti uz skolēna mācību satura apguvi;
- skolēns saņem atgriezenisko saiti, kas ir attīstoša un ar kuras palīdzību skolēnam ir skaidrs ceļš uz nosprausto mērķi;
- skolotājs motivē skolēnus domāt par savu domāšanu, rosina būt atbildīgiem par savu mācīšanos (Namsone, 2017).

Skolēnu efektīvai dziļai mācīšanai, skolotājam ir jāīsteno pieci vienojoši faktori, tie ir:

- skaidri mācīšanās mērķi;
- kompleksi mācību uzdevumi;
- efektīva atgriezeniskā saite;
- skolotāju un skolēnu attiecības, kas balstās uz partnerību;
- neuzkrītoša skolotāja kontrole pār skolēnu (LU Starpnozaru izglītības inovāciju centrs, 2017).

Grāmatā „Četru dimensiju izglītība” (Fadels, Bialika, & Trilings, 2017) tiek uzsvērts, ka nav svarīgs iegūtās informācijas apjoms, bet svarīgs ir šīs informācijas jeb zināšanu dziļums. Tāpat tiek uzsvērtā mācību tēmu padziļināta apguve, nevis informācijas atkārtošana, kas pārklājas citos mācību priekšmetos. Pasīva zināšanu iegaumēšana arī neliecina par dziļo mācīšanos, zināšanu modelēšana un problēmu risināšana ir viens no dziļās mācīšanās struktūrelementiem. Starptautiskā organizācija „Izglītības satura pārveides centrs” akcentē, ka svarīga ir sadarbības un komunikācijas prasmju attīstīšana, kas balstās uz ideju, secinājumu un argumentu izteikšanu un formulēšanu, kā arī to mācīšanu citiem un prasmi ieklausīties citos (Fadels, Bialika, & Trilings, 2017).

Analizējot ieteikumus izglītības politikas un rīcībpolitikas veidotājiem, autore apkopojā informāciju, kas raksturo dziļo mācīšanos. Dziļās mācīšanās procesa galvenie elementi ir skolotāja prasme vadīt dziļo mācīšanos un skolēna vēlme mācīties iedziļinoties. Šie divi elementi sastāv vēl no vairākiem kritērijiem, kuri ir savstarpēji saistīti (skat. 1. attēlu).



1. attēls. Dziļās mācīšanās raksturojums

Fig. 1. Deep learning characteristics

J. Bukins, V. Siliņa un I. Vuškāne (2017) uzskaita īpašības, kurā jāpiemīt skolotājam, lai savā pedagoģiskajā darbā izmantotu dziļo mācīšanu:

- jāizprot un jāpieņem pārmaiņu nepieciešamība mācību procesā, no kuras ieguvēji būs gan skolēni, gan skolotāji;
- jābūt drosmīgam, radošam, nebaidoties no kļūdām un sarežģījumiem, kā arī spējai pieņemt un uz klausīt ieteikumus savam darbam;
- zinošam ne tikai savā priekšmetā, jāpilnveidojas vispusīgi profesijai;
- būt atvērtam uz jaunu sadarbības formu starp kolēģiem un skolēniem;
- gatavam uzņemties papildu darbu un laika ieguldījumus lielākai mācību procesa plānošanai;
- motivētam mācīt skolēnus, noticot skolēnu vēlmei mācīties un spējām uz labākiem rezultātiem.

Autori uzskaita ieguvumus skolēnam, ja skolotājs mācību procesu integrē dziļās mācīšanās faktoros, tie ir:

- lielāka skolēnu iniciatīva, ieinteresētība un aktīvāks mācību process;
- izprotot zināšanu un prasmju nozīmi un to sasaisti ar reālo dzīvi, skolēnu mācīšanās būs jēgpilnāka;

- skolēna domāšanas maiņa – pats apzinās, kāpēc viņam ir jāmacās, kur tas viņam noderēs;
- skolēns pilnveido savas domāšanas prasmes – ģenerēt idejas, risināt problēmas, pamatot, argumentēt, interpretēt, secināt;
- radošuma attīstīšana;
- skaidra kriteriālā vērtēšanas sistēma un prasības;
- attīstītas komunikācijas un sadarbības prasmes (Bukins, Siliņa, & Vuškāne, 2017).

Skolēnam lielāks stimulētājs ir tad, ja viņš redz savām apgūtajām zināšanām un prasmēm nākotni savā dzīvē un ikdienā. Dziļā mācīšanās ļauj skolēnam izprast zinātni, nevis rēķināt tukšas formulas, kas nav nekas, tikai darbību atkārtošana. Skolēnam ir prieks ierasties uz mācību stundu, kad redz, ka skolotājs māca vielu ar lielu entuziasmu un interesi. Skolēniem saistošs ir mācību process, kad skolotājs pats ir iesaistījies procesā un ar degsmi viņus māca. Dziļā mācīšanās ir mācīšanās visiem, kas pirmsākumos ir nepieciešama skolotājiem kā profesionālā pilnveide, sadarbība, darba analīze un pieredzes apmaiņa. Skolai nepieciešams sniegt atbalstu skolotājiem.

Ar mācīšanos iedziļinoties skolēns no virspusēju faktu apgūšanas nonāk pie dziļākas izpratnes veidošanas, prasmju un rakstura attīstīšanas. Tas ir neatkarīgās un kooperatīvās mācīšanās rezultāts, process, kad paaugstinās paša skolēna atbildība un viņam nepieciešams līdzdarboties un pašam meklēt un nonākt līdz atbildei (Jiang, 2014). Skolēna dziļo mācīšanos var pielīdzināt SOLO taksonomijai (Biggs & Collis, 1982) pēc novēroto un sniegto rezultātu struktūras. Skolēna rezultātus var sastrukturēt pēc līmeņiem, kas aprakstīti taksonomijā, tādā veidā nosakot skolēna izpratni par mācību vielu. SOLO taksonomija ir izziņas rīks, ar kuru var izvērtēt kvalitatīvu zināšanu un prasmju virzību no virspusējām uz dziļu mācīšanos. Taksonomija skolotājam var būt kā palīgs un virziena rādītājs, lai noteiktu, cik dziļi domā skolēns. Šī taksonomija pašam skolēnam var palīdzēt virzīties uz augstāko līmeni, cenšoties uzlabot savus mācību rezultātus un spriest par mācību uzdevuma sarežģītību un kognitīvo līmeni (LU Starpnozaru izglītības inovāciju centrs, 2017).

Skolēna lietpratības jeb kompetences attīstīšanai ir nepieciešama mācīšanās iedziļinoties. Var secināt, ka dziļā mācīšanās ir efektīvs veids, kā rast skolēnam lielāku jēgu un izpratni par zināšanu un prasmju apgūšanu un lietderīgumu dzīvei. Skolotājs, izmantojot savā pedagoģiskajā darbā dziļo mācīšanos, skolēniem attīsta augstākās domāšanas prasmes – sintezēt, analizēt, izvērtēt, risināt problēmas.

Pētījuma metodoloģija *Research methodology*

Pētījuma bāze – Austrumlatvijas Tehnoloģiju vidusskolas (ATV), 10 skolotāji un 58 skolēni.

Pētījuma metodes – anketēšana.

Visiem respondentiem tika piedāvāti apgalvojumi par darbībām, saistītām ar dziļo mācīšanos, kuriem bija jānovērtē to pielietojums un efektivitāte mācību procesā. Skolotājiem anketu iespējams izmantot kā pedagoga pašnovērtējuma un atgriezeniskās saites sniegšanai. Skolēnu anketēšanas mērķis – noteikt, cik bieži un efektīvi skolēnu vērtējumā skolotāji pielieto dziļās mācīšanas aspektus mācību procesā. Analizējot visu respondentu atbildes pielietojuma apgalvojumiem, tad visaugstāk vērtētais apgalvojums ir, ka pirms pārbaudes darba ir zināmi vērtēšanas kritēriji (Mean 3,209), augstākais vērtējums (Mean Rank 44.75) ir skolotājiem, un zemākais vērtējums (Mean Rank 32.11) ir skolēniem.

Viszemāk vērtētais pielietojuma apgalvojums ir par atgriezeniskās saites nepieciešamību stundas beigās (Mean 2,925), augstākais vērtējums (Mean Rank 45,40) ir skolotājiem, un zemākais vērtējums (Mean Rank 32,00) ir skolēniem.

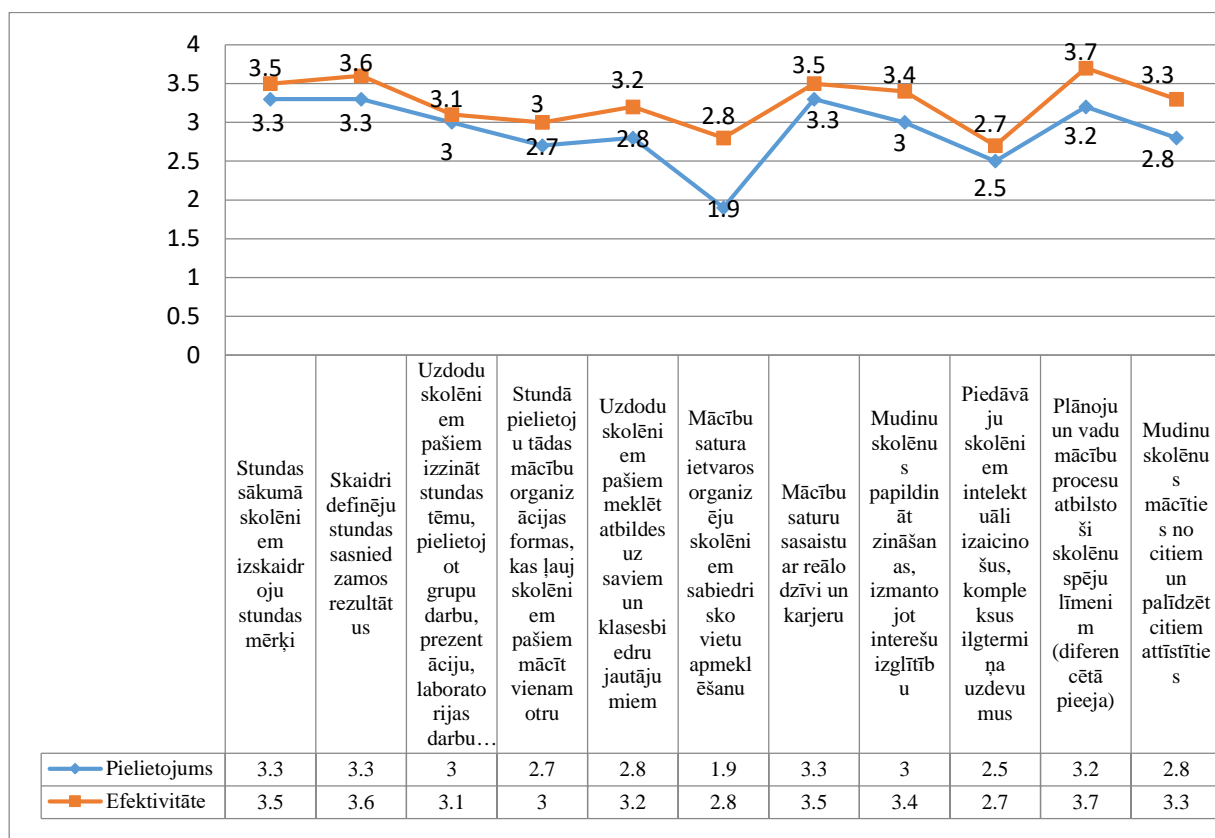
Visu respondentu atbildēs skatot efektivitāti, tad visaugstāk vērtētais apgalvojums ir, ka skolēni stundā darbojas praktiski un secinājumu veidā nonāk pie jaunām zināšanām (Mean 3,522), augstākais vērtējums (Mean Rank 35,91) ir skolēniem, un zemākais vērtējums (Mean Rank 23,10) ir skolotājiem.

Viszemāk vērtētais efektivitātes apgalvojums (Mean 3,030), augstākais vērtējums (Mean Rank 35,15) ir skolotājiem, un zemākais vērtējums (Mean Rank 33,80) ir skolēniem.

Skolotāju anketēšanas rezultāti liecina, ka skolotāji visvairāk savā pedagoģiskajā darbā pielieto šādas dziļās mācīšanās darbības: *stundas sākumā skolēniem izskaidroju stundas mērķi* (Mean 3.30); *skaidri definēju stundas sasniedzamos rezultātus* (Mean 3.30); *mācību saturu sasaistu ar reālo dzīvi un karjeru* (Mean 3.30). Viszemāk skolotāji pielieto dziļās mācīšanas rādītāju - *mācību satura ietvaros organizēju skolēniem sabiedrisko vietu (muzejs, laboratorijas, bibliotēka, u.c.) apmeklēšanu labākai tēmas apguvei* (Mean 1.90).

Par visefektīvākajām dziļās mācīšanas skolotāji uzskata šādas darbības: *plānoju un vadu mācību procesu atbilstoši skolēnu spēju līmenim (diferencētā pieeja)* (Mean 3.70); *skaidri definēju stundas sasniedzamos rezultātus* (Mean 3.60); *mācību saturu sasaistu ar reālo dzīvi un karjeru* (Mean 3.50). Par viszemāk efektīvu skolotāji novērtējuši dziļās mācīšanas darbību – *piedāvāju skolēniem*

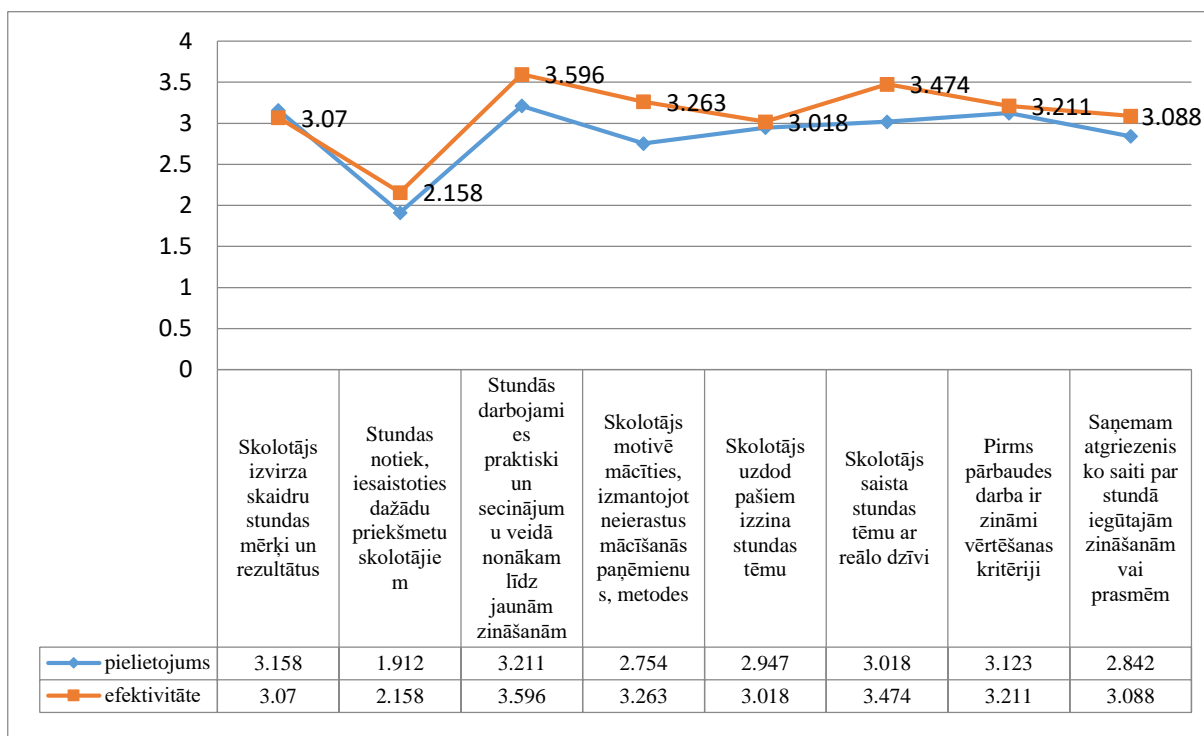
intelektuāli izaicinošus, kompleksus ilgtermiņa uzdevumus (Mean 2.70). Visu darbību pielietojamības un efektivitātes novērtējumi attēloti 2. attēlā.



2. attēls. Vidējās vērtības pielietojuma un efektivitātes novērtējumā (skolotāju atbildes)

Fig. 2. Average Values for Application and Efficiency (Teacher Answers)

Skolēnu atbildes liecina, ka visvairāk skolotāji mācību procesā pielieto dziļās mācīšanās darbību - *skolēni stundās darbojas praktiski un secinājumu veidā nonāk pie jaunām zināšanām* (Mean 3.211), un par visretāk pielietoto dziļās mācīšanās darbību norādījuši - *stundas notiek, iesaistoties dažādu priekšmetu skolotājiem* (Mean 1.912). Skolēni kā visefektīvāko darbību ir novērtējuši - *stundās darbojamies praktiski un secinājumu veidā nonākam pie jaunām zināšanām* (Mean 3.596), un par visneefektīvāko - *stundas notiek, iesaistoties dažādu priekšmetu skolotājiem* (Mean 2.158). Skolēnu novērtējumi darbību pielietojamībai un efektivitātei attēloti 3. attēlā.



3. attēls. Vidējās vērtības pielietojuma un efektivitātes novērtējumā (skolēnu atbildes)

Fig. 3. Average Values for Application and Efficiency (Student Answers)

No anketu rezultātiem izriet, ka visnozīmīgākās darbības dziļās mācīšanas pilnvērtīgai norisei ir praktisko darbību īpatsvars mācību procesā, kā arī skaidra stundas mērķa un rezultātu noteikšana. Augsti rezultāti skolotāju dziļās mācīšanas rādītāju pielietojumā apstiprina, ka skolotāji pilnvērtīgi izpilda vienu no kompetencēs balstītas izglītības kritērijiem. Dziļās mācīšanas kritērijs ir fundamentāls citiem kompetencēs balstītas izglītības kritērijiem, piemēram, kā pieejas maiņas, sadarbības kritērijiem.

Secinājumi Conclusions

1. Skolotāji, izmantojot dziļās mācīšanās pieeju, būs ieguvēji, jo skolotājs nebūs vairs zināšanu nodevējs skolēniem – darbs no frontālā mācību procesa pāriet uz skolēnu savstarpēju sadarbību.
2. Dziļās mācīšanās process paredz skolēniem praktisko mācību metožu un uzdevumu īpatsvaru mācību procesā, kas notiek vairāku stundu garumā.
3. Skolēniem mūsdienīgāku un saistošāku dziļās mācīšanās procesu var īstenot, izmantojot IKT (Informācijas komunikāciju tehnoloģijas).

4. Visu respondentu anketas uzrādīja, ka visaugstāk pielietojumā vērtētais dziļās mācīšanas apgalvojums ir, ka pirms pārbaudes darba ir zināmi vērtēšanas kritēriji.
5. Skolotāji visvairāk savā pedagoģiskajā darbā pielieto dziļās mācīšanas apgalvojumu, ka stundas sākumā skolēniem izskaidro stundas mērķi.
6. Skolēni visvairāk novērtējuši, ka skolotāji visbiežāk mācību procesa vadīšanā pielieto dziļās mācīšanas apgalvojumu - skolēni stundās darbojas praktiski un secinājumu veidā nonāk pie jaunām zināšanām
7. Raksta autore par svarīgākajiem dziļās mācīšanas aspektiem kompetencēs balstītas izglītības ieviešanai uzskata: stundas sākumā skolēniem tiek izskaidrots stundas mērķis un uzdevumi; skolotājs uzdod skolēniem pašiem izzināt stundas tēmu, pielietojot grupu darbu, prezentāciju, laboratorijas darbu u.c.; stundā skolotājs pielieto tādas mācību organizācijas formas, kas ļauj skolēniem pašiem mācīt vienu otru; skolotājs motivē skolēnus papildināt zināšanas, izmantojot interešu izglītību; uzdod skolēniem pašiem meklēt atbildes uz saviem un klasesbiedru jautājumiem; skolotājiem mācību saturu saistīt ar reālo dzīvi un karjeru; piedāvāt skolēniem intelektuāli izaicinošus, kompleksus ilgtermiņa uzdevumus; skolotājam plānot un vadīt mācību procesu atbilstoši skolēnu spēju līmenim (diferencētā pieeja).

Summary

At the moment, learning are very limited, mostly dominated by a frontal teachers work and tasks that encourage repeating. Educational content should provide students with tasks, that are as close as possible to life situations, so that students know, how to act and require the use of all available resources.

The aim of the article is to draw teachers' attention to the importance of deep teaching in organizing the teaching process, and to identify the most important aspects of the deep teaching, of the implementation of competence-based education.

Research methods: analysis of pedagogical and psychological scientific literature and normative acts, student and teacher survey, data processing in SPSS 22.0.

From the results of the questionnaires, the most important activities for the full-fledged practice of deep teaching are the proportion of practical activities in the study process, as well as the clear definition of the purpose and results of the lessons, at the beginning of the lesson. High results in the use of teachers' in-depth teaching practice confirm, that teachers fully is fulfill one of the competency-based learning criteria. The criterion of in-depth teaching is fundamental to other competence-based learning criteria, such as changing approaches, criteria for co-operation.

The author of the article writes about the most important aspects of the deep teaching of the introduction, of competence-based education: at the beginning of the lesson, the students are explained purpose and tasks of the lesson; instruct students to study the subject of an

themselves, using group work, presentation, laboratory work, etc.; in an lessons, there forms of a learning organization allowing students to teach each other themselves; encourage students to supplement their knowledge through interest education; instruct the students themselves to look for answers to their questions and classmates' questions; teachers associate teaching content with real life and career; offer students with intelligently challenging, complex long-term tasks; plan and manage the teaching process according to the level of students` ability (differentiated approach).

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SKOLOTĀJU PRASMES NOVĒRTĒT UN PLĀNOT KĀ PRIEKŠNOTEIKUMS EFEKTĪVAS MĀCĪŠANAS VADĪŠANAI SKOLĒNU DZIĻAS IZPRATNES UN KOMPETENCES VEIDOŠANĀ

*Teachers' Skills of Evaluation and Planning as a Prerequisite for
Managing Effective Learning for the Development of Students'
In-Depth Understanding and Competence*

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Abstract. *Teaching and learning is a bilateral process and students' learning outcomes depend to a large extent on the motivation and performance of each individual teacher in the classroom and on the activities of all school teachers. Teacher's ability to evaluate and plan teaching and learning is one of the most important professional skills because systematic evaluation, planning and re-evaluation are an integral part of learning and maximization of development, which makes teaching effective and provides students with a profound understanding and competence. These are the means by which it can be ascertained that the results achieved are in line with national and local educational requirements. The paper analyzes the teachers' understanding of effective teaching and their skills to evaluate the teaching/learning process and to plan effective teaching as well as the need to improve teachers' evaluation and planning skills.*

Keywords: *effective teaching, evaluation, planning, teachers' skills.*

Ievads

Introduction

Mūsdienu pasauli raksturo globalizācija, strauja informācijas tehnoloģiju attīstība, nepārtraukta vērtību maiņa un to daudzveidība. Šodien neviens nezina, kādā politiskajā, ekonomiskajā, sociālajā un kultūras situācijā dzīvos šodienas bērni un jaunieši, kad kļūs pieauguši. Nav iespējams paredzēt viņu darbību dažādās jomās. Pasaules ekonomikas forums paredz, ka 65 % no bērniem, kuri pašlaik uzsāk mācības skolā, strādās profesijā, kāda šodien neeksistē (VISC, 2016). Šodienas skolēniem nākotnē pašiem būs jārada līdz šim nepieredzēta un mums nezināma politiskā, ekonomiskā, sociālā un kultūras vide. Tāpēc ir svarīgi,

lai skolu absolventi būtu sagatavoti dzīvei 21. gadsimtā un viņiem būtu nepieciešamā kompetence, kas ir indivīda spēja kompleksi lietot zināšanas, prasmes un paust uzskatus, risinot problēmas mainīgās reālās dzīves situācijās (LU SIIC, 2017). Izglītības veiksme vairs nav zināšanu reproducēšanā, bet gan zināšanu praktiskajā lietojumā, piemērojot tās jaunās un nebijušās situācijās. Vairs nav svarīgi, ko zinām, bet gan ko varam izdarīt ar to, ko zinām.

Pašlaik notiek akcentu pārbīde uz zināšanu lietošanu daudzveidīgās situācijās un kontekstos, produktīviem uzdevumiem, sadarbību, iesaistīšanos un uz jēgpilnu atgriezenisko saiti par mācīšanās procesu, jo 21. gadsimta izglītība aizvien vairāk ir par radošumu, kritisko domāšanu, komunikāciju un sadarbību, apzinoties, atzīstot un izmantojot jauno tehnoloģiju potenciālu (Šleihers, 2017).

Pasaules izglītības sistēmas ir ceļā uz dziļmācīšanos (Deep Learning) (Leahy, 2016), kas attīsta skolēnu spēju vispārināt, pārnest jaunās zināšanas un prasmes uz nezināmām situācijām, izvirzot mācīšanas priekšplānā procesus, ar kuru palīdzību zināšanas tiek iegūtas, ne tikai uzkrāts noteikta satura apjoms. Mācīšanās iedziļinoties ir cieši saistīta ar skolēnu kompetences attīstīšanu, kur līdzās pamatprasmēm, tiek akcentētas vērtības, ieradumi un caurviju prasmes – problēmu risināšana un kritiskā domāšana, jaunrade, pašiniciatīva un uzņēmējspēja, digitālā un medijpratība, pašvadība, pašizziņa, mācīšanās mācīties, sadarbība un līdzdalība.

Lai skolēnu mācīšanās rezultāts būtu kompetence, ir kardināli jāmaina pieeja mācīšanai un skolas darba organizācijai. Skolotājiem ir jāizmanto jaunas pieejas, paņēmieni, metodes un moderno tehnoloģiju iespējas, jāveido sasaiste ar reālo dzīvi, noliekot izglītības procesa centrā skolēnu, kurš mācās domāt, sadarboties, meklēt atbildes un tādējādi pats iesaistās, iedziļinās un konstruē apgūtā jēgu. Latvijas valsts pētījumu programmā INOSOCTEREHI veiktā pētījuma rezultāti parāda, ka ir nepieciešama akcentu maiņa no gatavu zināšanu nodošanas un atprasīšanas uz jautāšanu, sarunu, situāciju analīzi, produktīviem uzdevumiem, radot jaunas zināšanas; no frontāla procesa uz iesaistīšanos un sadarbību; no faktoloģisku zināšanu iegaumēšanas uz zināšanu lietošanu daudzveidīgās situācijās un kontekstos, lai skolēni iegūtu šādas vingrināšanās un pārnesuma veidošanas pieredzi; no tikai summatīvās vērtēšanas uz jēgpilnu atgriezenisko saiti par mācīšanās procesu, refleksiju, mācīšanās apzināšanos (LU SIIC, 2017).

Mūsdienās skola apvieno skolēnu, skolotāju un sabiedrības intereses zināšanu uzkrāšanai un kopīgai rīcībai, kurā mācību saturs ir veidots no starpdisciplināriem projektiem vai mācību priekšmetiem un kuras mācību pamatā ir reālu dzīves problēmu un dilemmu risināšana. Skolotājs šādā skolā ir mācīšanās procesa organizators, kas palīdz skolēniem informāciju pārveidot zināšanās un

zināšanas dzīves gudrībā (Burceva, Davidova, Kalniņa, Lanka, & Mackēviča, 2010). Skolotājiem ir jāpārvalda ļoti daudzi un dažādi faktori, kas ietekmē mācīšanās ilgspēju un rezultātus.

Pētījumos ir pierādīts, ka, sistemātiska novērtēšana, plānošana un atkārtota novērtēšana ir mācīšanās un attīstības maksimizēšanas sastāvdaļa, kā arī līdzekļi, ar kuru palīdzību pārliecināties par sasniegto rezultātu atbilstību nacionālajām un vietējām prasībām izglītībā, tāpēc jo vairāk skolotājs zina par katru skolēnu, jo labāku atbalstu viņš var sniegt un paplašināt skolēnu mācīšanos (Tankersley u.c, 2016).

Tas liek skolotājiem nepārtraukti pilnveidot savu profesionālo kompetenci, lai īstenotu metodisko pieeju, kas virza mācīšanos iedziļinoties un dod iespēju skolēnam darbināt augsta līmeņa domāšanas prasmes (analizēt, sintezēt, izvērtēt, risināt problēmas), attīsta skolēnu metakognitīvās prasmes, lai skolēns spētu konstruēt apgūtā jēgu un izmantot pieredzi, risinot kompleksus uzdevumus jaunās situācijās un kontekstos (LU SIIC, 2017).

Aktuāls ir jautājums par to, kā skolotāja prasmes vērtēt un plānot ietekmē skolēnu dziļmācīšanos un kompetences veidošanos un attīstību.

Pētījuma mērķis ir pētīt skolotājam nepieciešamās profesionālās kompetences komponentes, lai efektīvi īstenotu dziļmācīšanos un parādīt to ietekmi uz skolēnu mācīšanos iedziļinoties.

Pētījuma metodes: dokumentu analīze, zinātniskās literatūras analīze, metodiskās literatūras analīze, skolēnu un skolotāju aptauja.

Efektīva mācīšana *Effective teaching*

Mācīšanas jēdziens parasti aptver atbildi uz četriem vissvarīgākajiem jautājumiem: kam jā māca (skolēns, students ar individuālām īpašībām), kas jā māca (saturs), kāpēc jā māca (pamatojums, motivētība) un kā jā māca (metodes, organizatoriskās formas, saskarsme). Mācīšana ietver arī iedrošināšanu, uzmundrinājumu, kas palīdz skolēnam nostiprināt ticību savām spējām un rezultāta sasniedzamībai (Kalniņa, 2010).

Saskaņā ar vienu no definīcijām, mācīšana ir mērķtiecīga palīdzība skolēnam viņa individuālajā izziņā, mācību izziņas organizēšana. Skolotāja darbība, kas atvieglo izglītojamā pieredzes bagātināšanos, rosina izziņas uzdevuma veidošanos, intensificē garīgo attīstību, attieksmju veidošanos, lai skolēns iemācītos patstāvīgi izziņāt, risinot aizvien jaunas grūtības pakāpes intelektuālus un praktiskus uzdevumus (Žogla, 2001).

Jaunzēlandes – Austrālijas izglītības statistiķis Džons Hetijs (John Hattie) savos pētījumos ir noskaidrojis, ka skolēnu mācīšanos un mācību rezultātus vistiešāk ietekmē skolotāja prasmes un darbība stundā, nevis skolēnu spējas, attieksme, uzvedība vai sociālais stāvoklis. Pētījumos ir noskaidrots, ka būtiska pozitīva ietekme uz skolēnu mācīšanos ir skolotāja stratēģiskai skaidrībai; skolēniem izaicinošu sasniedzamo rezultātu izvirzīšanai; izziņas un metakognitīvo stratēģiju mācīšanai; atgriezeniskās saites sniegšanai skolēniem; skolotāja – skolēnu sadarbības attiecību veidošanai (Hattie, 2012).

Fullan un Langworthy (2014) uzskata, ka efektīvu mācīšanu raksturo mācīšanās mērķi, mācību uzdevumi, atgriezeniskā saite, skolēnu – skolotāju attiecības, skolotāja kontrole un partnerība. Saskaņā ar 2015.gadā publicētajiem Hattie pētījumu rezultātiem par mācīšanas efektivitāti, kā galvenais mācīšanas efektivitāti veicinošais faktors tiek minēts tas, ka skolotājs rūpīgi plāno skolēnu sasniegumus. Tālāk seko efektīva skolotāju sadarbība, pašnovērtējums un citi faktori, starp kuriem tiek minēti arī agrīna skolēnu mācīšanās problēmu atklāšana un uzticība skolotājam (Hattie, 2015).

Efektīvā mācību procesā skolotāji un skolēni ir partneri un mācās kopā, izvirzot skaidru mācību mērķi un veicot mācīšanās progresu mērījumus, sniedzot nepārtrauktu atgriezenisko saiti par skolēnu mācību sasniegumu progresu, analizējot un ņemot vērā datus par skolēnu progresu, lai ieviestu nepieciešamās izmaiņas mācīšanas un mācīšanās procesā. Skolotāja mērķu skaidrība palīdz skolēniem pašiem formulēt mērķus, sekot savai virzībai uz tiem, sniegt un saņemt atgriezenisko saiti, lai koriģētu mācīšanās procesu un virzītos uz pašvadītu mācīšanos. Ilgtermiņa, integrētu mācību uzdevumu izmantošana mācīšanas procesā, prasa no skolēniem iedziļināšanos saturā, kā arī attīsta prasmi plānot, monitorēt un koriģēt savu darbību. Veidojot sadarbības attiecības ar skolēniem, skolotājs pretstatā neefektīviem modeļiem, kur skolēniem ir vai nu pārāk liela autonomija, vai gluži otrādi – pārāk liela kontrole, īsteno partnerību, kas prasa skolēniem izdarīt apzinātas izvēles un uzņemties atbildību. Efektīvas mācīšanas parametru ievērošana veicina mērķtiecīgu un jēgpilnu skolēnu līdzdalību mācību procesā, attīsta skolēnu spēju vispārināt, pārnest jaunās zināšanas un prasmes uz nezināmām situācijām kā arī pastiprina savstarpējo sadarbību, nodrošinot nepārtrauktu informācijas apmaiņu starp skolēniem, skolotājiem, vecākiem un skolas vadību.

Skolotāja prasmes efektīvas mācīšanās vadīšanai *Teacher skills for managing effective learning*

Efektīvas mācīšanas pieeja, kuras rezultāts ir dziļa izpratne un kompetence, maina skolotāja lomu – no skolotāja, kurš nodod zināšanas skolēnam, uz skolotāju, kurš vada skolēna mācīšanos (Biemans u.c., 2004). Mācīšana un mācīšanās ir divpusējs process un skolēnu mācību sasniegumi lielā mērā ir atkarīgi gan no katra atsevišķa skolotāja motivācijas un snieguma klasē, gan no visu skolas skolotāju kopīgās darbības (Kozlovska, 2015), skolotāja profesionālā kompetence ir būtiski svarīgs priekšnoteikums, lai veidotos un attīstītos skolēna kompetence.

Šodienas skolotāju izaicinājums ir – kā padarīt mācīšanu efektīvu, lai skolēna mācīšanās rezultāts ir dziļa izpratne, kas ietver apzinātu kognitīvo un metakognitīvo stratēģiju darbināšanu zināšanu konstruēšanai dažādos kontekstos un situācijās, un kompetence, tas ir, lai skolēni spētu skolā apgūtās zināšanas un prasmes pārnest uz iepriekš neparedzētām un reālām dzīves situācijām, lai viņiem veidotos dziļa izpratne par attiecīgo jomu, viņi prastu lietot zināšanas, prasmes un paust savu attieksmi.

Tāpēc ir būtiski, lai katrs skolotājs izprastu mācīšanas efektivitāti raksturojošos un veicinošos parametrus un prastu tos izmantot kā instrumentus, ar kuru palīdzību analizēt un novērtēt savas darbības efektivitāti, pārlicināties par sasniegto rezultātu atbilstību noteiktajiem mērķiem un plānotu turpmāko darbību.

Saskaņā ar valsts programmas INOSOCTEREHI veiktā pētījuma rezultātiem (LU SIIC, 2017) skolēnu dziļmācīšanās vadīšanai un kompetences veidošanai skolotājam ir nepieciešamas prasmes vadīt, analizēt un reflektēt, sadarboties (skat. 1. tab.).

1. tabula. **Skolotāju prasmes dziļas mācīšanās vadīšanai**
Table 1 Teachers' skills for Deep Learning

| | |
|-----------------------------|--|
| Mācīšanās vadīšana | Izvirza mērķus. Māca saprast savu mācīšanos. Izmanto produktīvus uzdevumus. Iesaista. Sniedz atgriezenisko saiti. Izmanto IKT rīkus. |
| Analizēšana un reflektēšana | Refleksija par savu praksi. Profesionālas refleksīvas sarunas. Atgriezeniskā saite kolēģiem. |
| Sadarbošanās | Veido partnerattiecības ar kolēģiem, skolēniem un vecākiem. Mācās sadarboties ar kolēģiem. |

Avots: LU Starpnozaru izglītības inovāciju centrs

Ievērojot, ka skolotāji un skolēni atrodas nepārtrauktā mijiedarbībā un tikai augsti kvalificēti skolotāji, kuriem piemīt noteiktas prasmes var veidot un attīstīt tās arī skolēniem (Vilkašte, 2017), aktuāls ir jautājums par skolotāja prasmi vadīt atbilstošu mācīšanos, analizēt, reflektēt un sadarboties. Lai patstāvīgi uzlabotu mācīšanu un līdz ar to uzlabotu arī skolēnu sasniegumus, vienas no svarīgākajām skolotāja prasmēm ir prasmes vērtēt un plānot mācīšanu un mācīšanos, jo sistemātiska novērtēšana, plānošana un atkārtota novērtēšana ir mācīšanās un attīstības maksimizēšanas sastāvdaļa, kā arī līdzekļi, ar kuru palīdzību iespējams pārliecināties par sasniegto rezultātu atbilstību nacionālajam un vietējām prasībām izglītībā (Tankersley u.c., 2016).

Novērtēšana *Evaluation*

Mācīšana un mācīšanās ir divpusējs process, kurā viens procesa dalībnieks atkarīgs no otra un ietekmē viens otru. Novērtēšana parāda, cik labi mēs mācām un cik labi mācās bērni (Kelleough & Kelleough, 2003).

Prasme analizēt un vērtēt palīdz skolotājiem saprast, kad skolēni ir patiešām gatavi, lai viņiem mācītu jaunas zināšanas, prasmes un attieksmes, tas ir veidotu skolēnu kompetenci, un sniegtu atbalstu, lai skolēni varētu atrast vislabāko veidu, kā to darīt. Taču vērtējot ir svarīgi saprast un apzināties, ka neskatoties uz to, ka skolēni apgūst vienu un to pašu STEM jomas izglītības programmu un viņu sākotnējie mācību sasniegumu formālie (izteikti 10 ballu skalā) rādītāji ir vienādi vai līdzīgi, to attīstība ir dažādā līmenī, viņiem ir dažādas intereses, atšķirīga pieredze, personības īpašības, temperaments, mācīšanās stili, stiprās puses un vajadzības (Tankersley u.c., 2016).

Pētījumos ir apstiprinājies, ka sistemātiska, formatīva un autentiska novērtēšana ļauj attīstīt skolēnu pašapziņu, attīsta viņos pozitīvu pašuztveri, ļauj sniegt skolēniem nepieciešamo atbalstu, paaugstina skolēnu kompetences izjūtu un spēju pārnest zināšanas un prasmes uz iepriekš neparedzētām un reālām dzīves situācijām, kā arī rada skolēniem pārlicību par spēju risināt jaunas problēmas nepierastās situācijās, kas ir dziļās izpratnes un kompetences rādītājs. Tāpat sistemātiska, formatīva un autentiska novērtēšana paātrina mācīšanās progresu un veicina skolēnu aktīvu un ilgstošu iesaistīšanos mācīšanās procesā.

Formatīvā vērtēšana, kā nepārtrauktas vērtēšanas veids, nodrošina skolotājiem un skolēniem atgriezenisko saiti, kas palīdz patstāvīgi pilnveidot skolotāju mācīšanu un skolēnu mācīšanos. Pētījumi apstiprina, ka formatīvā novērtēšana paaugstina skolēnu zināšanu līmeni (Black & Wiliam, 1998), motivē

skolēnus mācīties un pilnveidoties un palīdz skolotājiem pieņemt efektīvus lēmumus par turpmāko darbu (Jonāne, 2011).

Autentiskā novērtēšana, kas tiek definēta kā dabisks process, kurš notiek reālajā dzīvē vai atveidojot kādu reālu situāciju (Epstein, 2007; Ormiston, 2011) un notiek ilgā laika posmā un nav atkarīga no subjektīviem un objektīviem apstākļiem novērtēšanai paredzētajā laikā, palīdz skolotājam nonākt pie skolēnu reālā zināšanu un dažādu prasmju (valodu, digitālo, komunikācijas, sadarbības u.c.) līmeņa izpratnes, kā arī palīdz analizēt skolēnu domāšanas, problēmu risināšanas un citas prasmes.

Novērtēšanas sistemātiskums ne tikai nodrošina vērtīgu informāciju skolotājiem, skolēnu vecākiem un pašiem skolēniem, atklājot izmaiņas skolēnu mācību sasniegumos un attīstībā, bet arī sniedz pozitīvu ietekmi uz jaunu mērķu izvirzīšanu un palīdz veidot jaunus un efektīvus plānus tālākai skolēnu attīstībai.

Skolotāja spēja izprast novērtēšanas galvenos mērķus, tās dažādo paņēmieni un līdzekļu izmantošanas mērķtiecību, kā arī prasme saskaņot novērtēšanas individuālos un izglītības programmas mērķus palīdz veidot mācīšanas stratēģijas (Hyson, 2003), kā arī palīdz spriest par mācīšanas efektivitāti un veido skolēna līdzatbildību par saviem mācību rezultātiem, savienojot skolotāja vērtējumu un skolēna pašvērtējumu (Krastiņa & Pipere, 2004).

Plānošana *Planning*

Laba plānošana ir būtiska mācīšanas un mācīšanās procesam. Mācīšanas plānošana palīdz skolotājiem ne tikai efektīvi organizēt stundas laiku, bet arī izvēlēties efektīvas stratēģijas, pieejas, formas, paņēmienus un metodes mērķu sasniegšanai, kā arī rada jaunus izaicinājumus nākošajiem skolēnu attīstības līmenim (Tankersley u.c., 2016). Pētījumi un pieredze izglītībā liecina, ka bez plānojuma izglītības process var pārvērsties par bezjēdzīgu darbošanos.

Prasme plānot ir viens no skolotāja profesionālās kompetences svarīgākajiem rādītājiem arī pārejot uz kompetencēs balstītu izglītības modeli, kas paredz skolotāju kopīgu mācību darba plānošanu un sadarbību dažādos līmeņos. Skolotāja prasme plānot ir īpaši svarīga, jo pāreja uz kompetencēs balstītu izglītības modeli paredz dot skolām lielāku brīvību organizēt mācību darbu, savienojot dažādus tematiskos moduļus katras jomas ietvaros un starp jomām, integrējot vairākus mācību priekšmetus, piedāvājot skolēniem iedziļināšanās pieredzi apjomīgāku uzdevumu, projektu darbu, mācību ekskursiju veidā u.tml. (VISC, 2016).

Prasme plānot, izstrādāt un izveidot plānu, kādas stratēģijas izmantot un kādas aktivitātes organizēt, lai vienlaikus atbalstītu gan skolēnu sasniegto domāšanas līmeni un citu prasmju līmeni, gan radītu zināmu izaicinājumu nākošajam attīstības posmam (Epstein, 2007) mūsdienās ir viens no skolotāja efektīvas mācīšanas priekšnoteikumiem.

Izglītības pētījumi parāda, ka vislabākie rezultāti tiek sasniegti, ja skolotājs plāno mācīšanu un mācīšanos ievērojot skolēnu attīstības līmeni un intereses, atrod iespēju un veidu, lai atbalstītu skolēnu individuālos mācīšanās stilus un atšķirīgos tempus, atrod līdzsvaru starp individuālo, mazo grupu un visas klases mācīšanās pieredzi, plāno pietiekamu aktivitāšu daudzveidību, kas piedāvā jaunus izaicinājumus. Ir svarīgi, ka skolotāja plāni un aktivitātes ir pietiekami elastīgas, lai varētu ņemt vērā un iestrādāt mainīgos apstākļus un skolēnu vajadzības, jo viņu aktīva iesaistīšanās plānotajās aktivitātēs ir īpaši svarīga mācīšanās procesā (Laevers, 2005).

Ir nepietiekami tikai vienkārši plānot aktivitātes (Tankersley u.c., 2016), jo skolotājam ir jāprot novērtēt, vai plānotā aktivitāte ir vislabākais veids, kā mācīt skolēnam domāt, sadarboties, meklēt atbildes un konstruēt apgūtā jēgu.

Plānojot mācīšanu, kura balstās uz skolēnu attīstības līmeņiem, individuālo mācīšanās stilu, daudzveidīgajām inteliģencēm un skolēnu interesēm, mācīšanās notiek visiedarbīgākajā līmenī – tuvākās attīstības zonas ietvaros, zināšanas un prasmes tiek apgūtas labāk, jo skolēni ir labāk motivēti un vairāk iesaistījušies mācīšanās procesā. Tāpat skolēni spēj veidot un attīstīt atbilstošas kompetences visās mācību satura jomās.

Mācīšanas procesā ir svarīgi ņemt vērā skolēnu iniciētās aktivitātes, kas prasa no skolotāja nopietnu plānošanu, lai iesaistītu skolēnus ilgstošā savstarpējā mijiedarbībā un domāšanas procesā, iedrošinātu risināt problēmas neierastos apstākļos, veidojot saikni ar mācību saturu, kā arī atbalstītu līderību, veicinot indivīda izaugsmi un optimizējot skolēnu mācīšanās pieredzi. Skolēnu iniciēto un skolotāja plānoto aktivitāšu līdzsvarošana mācīšanas plānošanā māca skolēniem risināt problēmas un veido to pašregulācijas prasmes.

Līdzsvaru starp individuālo, grupu un visas klases mācīšanās pieredzi ļauj atrast visaptveroša pieeja plānošanai, kas iekļauj mācīšanās mērķu saskaņotību ar izvēlētajās grupas īpatnībām, laiku, vietu un mācīšanās veidu. Ir svarīgi, lai skolēni būtu aktīvi iesaistīti mācību procesā, jo tā tiek veidotas un nostiprinātas sociālās un sadarbības prasmes, kas mūsdienā skolēniem bieži ir nepietiekami attīstītas.

Būtiska ir skolotāja prasme plānot daudzveidīgas aktivitātes, kas rada skolēniem jaunus izaicinājumus, lai pārvarētu viņu individuālajam attīstības līmenim atbilstošu grūtības pakāpi un virzītu skolnieku uz nākamo attīstības un

mācīšanās līmeni. Plānojot daudzveidīgas aktivitātes nepieciešams nodrošināt atbilstošus resursus un plānot laiku skolnieku patstāvīgajam darbam un darbam dažādās grupās, lai sadarbotos ar citiem skolniekiem, kā arī laiku eksperimentiem, pētniecisko uzdevumu risināšanai un darbam ar alternatīviem izziņas materiāliem. Minētais māca skolēnus būt radošiem un inovatīviem, kā arī attīsta individuālos mācīšanās stilus un sadarbības prasmes.

Ievērojot, ka mācīšanas un mācīšanās procesu ietekmē dažādi subjektīvi un objektīvi faktori, un ne vienmēr viss notiek tā, kā gaidīts skolotājam ir jāapzinās, ka skolotājam pašam un viņa plānam ir jābūt elastīgam, lai varētu ņemt vērā pastāvīgi mainīgos apstākļus un operatīvi un efektīvi reaģētu uz notikumiem, skolēnu ierosinājumiem, vajadzībām un interesēm.

Pētījuma organizācija un rezultāti *The organization and results of the research*

Katram skolotājam ir jāsaprot, kas ir efektīva mācīšana un kādā līmenī ir viņa prasmes objektīvi novērtēt un sekmīgi plānot mācīšanas procesu, tāpat kā jāsaprot, kuras prasmes ir jāpilnveido, lai gan pašam, gan skolēniem būtu skaidri saprotams plānotais galarezultāts, kurš ir izaicinošs, taču sasniedzams un nozīmīgs īstenotājam, kā arī izmērāms un izpildāms tam atvēlētajā laikā.

Lai apzinātu skolotāju, kas strādā skolā, kur īpaša uzmanība tiek veltīta dabaszinātnēm, inženierzinātnēm un skolēnu pētnieciskajai darbībai, viedokli par to, kādā līmenī ir viņu mācīšanas un mācīšanās procesu novērtēšanas un plānošanas prasmes un kādi uzlabojumi ir nepieciešami, lai skolotāju organizētā un vadītā mācīšana un mācīšanās būtu efektīva, laikā no 2017. gada novembra līdz 2018. gada janvārim tika veikts pētījums vienā no skolām, kas īsteno minēto programmu. Pētījumā tika iesaistīti 12 skolotāji un 64 skolēni. Pētījuma veikšanai tika izveidotas anketas. Tajās tika iekļauti jautājumi, kuri konstatēja skolotāju izpratni par efektīvu mācīšanu un to veidojošiem un ietekmējošiem faktoriem, parādīja skolotāju prasmes izmantot sistemātisku, formatīvu un autentisku novērtēšanu un plānot mācīšanas procesu, kā arī parādīja viņu viedokli par nepieciešamajiem uzlabojumiem un identificēja profesionālās pilnveides vajadzības. Skolēniem adresētajās anketās tika iekļauti jautājumi, kas atklāja viņu viedokli par to vai un kā skolotāju veiktais novērtējums un mācīšanās procesa plānošana ietekmē viņu mācību sasniegumus.

Ievērojot novērtēšanas nozīmi mācīšanās procesā, tās pozitīvo ietekmi uz mācīšanās progresu un skolēnu iesaistīšanos mācīšanās procesā, pētījumā tika noskaidrots skolotāju viedoklis par prasmi novērtēt mācīšanos, kā arī prasmi

mācīt skolēniem sevis un citu skolēnu novērtēšanu. Respondentu atbildes parāda, ka 75 % no aptaujātajiem skolotājiem savu prasmi novērtēt mācīšanos uzskata par labu un 8,3 % par ļoti labu. 93,75 % aptaujāto skolnieku uzskata, ka skolotāji sniedz objektīvu mācīšanās procesa un rezultātu novērtējumu. Savukārt, 78,13 % skolnieku apgalvo, ka skolotāji iesaista viņus novērtēšanas procesā, mācot analizēt savus un citu skolnieku sasniegumus. Gan skolotāji, gan skolēni apgalvo, ka novērtēšana ir sistemātiska. Lai gan visi aptaujātie skolotāji atzīst, ka mācīšanās autentiskā novērtēšana ir ļoti svarīga, jo atklāj skolēnu reālo zināšanu un prasmju līmeni, tomēr tikai 41,66 % to izmanto, ko saista ar tās sarežģītību, ilgu sagatavošanu un īstenošanu, kā ar pieredzes trūkumu. Tāpat aptaujas rezultāti atklāj, ka 54,5 % respondentu vērtē savas analīzes un sintēzes spējas kā labas, bet 36,4 % domā, ka tās ir ļoti labas. 83,3 % skolotāju apgalvo, ka regulāri dažādo novērtēšanas paņēmienus un līdzekļus.

Lai noskaidrotu viedokli par skolotāju prasmi plānot mācīšanu respondentiem tika lūgts novērtēt plānošanas svarīgumu, paust savu viedokli par efektīvu plānošanu, kā arī novērtēt savu izpratni par mācīšanās stiliem, inteliģencēm, reakciju uz izmaiņām, prasmi novērtēt skolēnu attīstību, izvirzīt mērķus un uzdevumus, pamatot metožu un paņēmienu izvēli, spēju ņemt vērā skolēnu ierosinājumus un koriģēt savu darbību.

90,9 % aptaujāto skolotāju uzskata, ka plānošana un plāns efektīvai mācīšanai ir ļoti svarīgi. Vairums (77,78 %) respondentu uzskata, ka labu plānu raksturo mērķtiecība (91,67 %), pamatotība (66,67 %), konkrētība (75 %). Tāpat skolotāji uzskata, ka plānam jābūt viegli uztveramam (100 %) un reāli izpildāmam (91,67 %). 81,8 % respondentu uzskata, ka plānam ir jābūt elastīgam.

Pētījums atklāj, ka visiem pedagogiem ir izpratne par individuālajiem mācīšanās stiliem. Tāpat 91,67 % aptaujāto skolotāju, izmantojot dažādas metodes, ir noteikuši savu individuālo mācīšanas stilu, taču tikai 66,67 % ņem vērā skolēnu individuālo mācīšanās stilu un saskaņo to ar savu mācīšanas stilu. Savu spēju ātri pielāgoties jaunām situācijām un mainīt plānu, kas ir svarīga, lai reaģētu uz neparedzētiem notikumiem vai skolēnu ierosinājumiem 63,6 % respondentu vērtē kā labu un 36,4 % kā ļoti labu. Tieši tāpat 63,6 % respondentu kā labu un 36,4 % kā ļoti labu vērtē prasmi izvēlēties atbilstošas metodes un paņēmienus, lai veidotu efektīvas mācīšanas stratēģijas, līdzsvarojošas individuālo, mazo grupu un klases mācīšanās pieredzi. Tomēr 25 % aptaujāto skolotāju saka, ka viņiem grūtības sagādā visaptveroša pieeja plānošanai – ne vienmēr izdodas efektīvi saskaņot mērķus, mācīšanās veidu, metodes, vietu un laiku.

Pētot respondentu viedokli par efektīvu mācīšanu, to raksturojošiem un ietekmējošiem parametriem un faktoriem, respondentiem tika lūgts novērtēt savu zināšanu un izpratnes līmeni robežās no 1 (nepietiekams) līdz 4 (optimāls).

Lielākā daļa (83,33 %) aptaujāto skolotāju apgalvo, ka viņu zināšanas un izpratne par efektīvu mācīšanu ir optimālā līmenī, sakot, ka to raksturo skaidri un izaicinoši mērķi (100 %), saprotami uzdevumi (100%), efektīva atgriezeniskā saite (81,8 %), skolotāju un skolēnu partnerība (75 %).

Apkopojot respondentu atbildes, var secināt, ka iegūtie rezultāti norāda uz to, ka skolotājiem ir labas zināšanas un pilnīga izpratne par efektīvu mācīšanu, to veidojošiem un ietekmējošiem faktoriem, kas ļauj tos izmantot kā instrumentus, ar kuru palīdzību analizēt un novērtēt savas darbības efektivitāti un pārlicināties par sasniegto rezultātu atbilstību noteiktajam līmenim. Skolotāji sekmīgi izmanto sistemātisku, formatīvu un autentisku novērtēšanu, tā paātrinot mācīšanās progresu un veicinot skolēnu aktīvu un ilgstošu iesaistīšanos mācīšanās procesā. Tomēr norāda arī uz to, ka efektīvas mācīšanas nolūkā, ir nepieciešams pastāvīgi uzlabot prasmi novērtēt mācīšanos un mācīšanu, meklējot un radot labākos veidus un paņēmienus, ievērojot skolēnu individualitāti, lai veicinātu katra un visu attīstību un izaugsmi. Nepietiekama prasme efektīvi plānot mācīšanas procesu var kavēt ne tikai produktīvu stundas laika organizāciju, bet arī efektīvu stratēģiju, pieeju, formu, paņēmieni un metožu izvēli, kas ietekmētu skolnieku dziļas izpratnes un kompetences veidošanos. Visi (100 %) respondenti apzinās nepieciešamību pastāvīgi pilnveidot prasmi novērtēt. 90,9 % respondentu uzskata, ka prasme plānot mācīšanu ir ļoti svarīga, lai sasniegtu mērķus un radītu jaunus izaicinājumus nākošajam skolēnu attīstības līmenim, tāpēc ir gatavi to uzlabot un attīstīt. Tas ļauj domāt, ka skolotāji izprot un apzinās savu novērtēšanas un plānošanas prasmju profesionālo līmeni un ir gatavi to pilnveidot.

Respondentu atbildes iezīmē atsevišķas pretrunas starp skolotāju un skolēnu viedokļiem par vieniem un tiem pašiem jautājumiem. Lai gan 100 % aptaujāto skolotāju apgalvo, ka vienmēr izvērza skaidru mērķi un definē sasniedzamos rezultātus, tikai 78,13 % aptaujāto skolēnu piekrīt šim apgalvojumam. Pretstatā 68,75 % skolnieku, kuri saka, ka skolotāji izmanto interesantas un saistošas mācību metodes, 90,9 % aptaujāto skolotāju apgalvo, ka tās izmanto ļoti bieži. Tas liek domāt par vienu un to pašu apgalvojumu, tai skaitā jēdzienu, dažādu uztveri, izpratni, interpretāciju un nozīmīgumu. Apkopotās atbildes norāda uz korelāciju starp skolotāju prasmi efektīvi plānot un novērtēt mācīšanas un mācīšanās procesus un skolēnu dziļas izpratnes un kompetences veidošanos un attīstību. Gan skolotāji (91,66 %), gan skolnieki (96,87 %) pilnībā piekrīt apgalvojumam, ka dziļai izpratnei ir svarīga mācību satura saistība ar reālo dzīvi.

Tāpat sakrīt skolotāju un skolnieku viedoklis par formatīvo novērtēšanu. Gandrīz visi (90,9 %) skolotāji piekrīt, ka formatīvā novērtēšana motivē skolniekus mācīties un 93,75 % skolnieku apgalvo, ka objektīva atgriezeniskā saite par mācīšanos palīdz saprast kas darbojas un kas nedarbojas, kā un kāpēc ir jāveic uzlabojumi, kā arī rosina izdarīt pārmaiņas un motivē mācīties.

Secinājumi **Conclusions**

1. Skolotāja prasmes vērtēt un plānot mācīšanu un mācīšanos ir viens no svarīgākajiem profesionālās kvalifikācijas rādītājiem, kas ļauj pastāvīgi uzlabot mācīšanu un līdz ar to uzlabot arī skolēnu sasniegumus, jo sistemātiska novērtēšana, plānošana un atkārtota novērtēšana ir mācīšanās un attīstības maksimizēšanas sastāvdaļa, kā arī līdzekļi, ar kuru palīdzību iespējams pārlicināties par sasniegto rezultātu atbilstību nacionālajam un vietējām prasībām izglītībā.
2. Skolotāju prasmes vērtēt un plānot mācīšanu un mācīšanos būtiski ietekmē skolēnu dziļas izpratnes un kompetences veidošanos un attīstību, tai skaitā spēju apgūtās zināšanas un prasmes pārnest uz iepriekš neparedzētām un reālām dzīves situācijām, lai risinātu dažādas problēmas un paustu savu attieksmi.
3. Veiktā pētījuma rezultāti norāda uz to, ka skolotājiem ir pilnīga izpratne par efektīvu mācīšanu, to veidojošiem un ietekmējošiem faktoriem, taču ir nepārtraukti jāuzlabo skolotāju prasmes izmantot sistemātisku, formatīvu un autentisku novērtēšanu un jāpilnveido skolotāju prasmes plānot mācīšanas procesu, lai efektīvi organizēt stundas laiku, izvēlētos efektīvas stratēģijas, pieejas, formas, paņēmienus un metodes mērķu sasniegšanai, kā arī radītu jaunus izaicinājumus nākošajam skolēnu attīstības līmenim, kas paātrinātu mācīšanās progresu un veicinātu skolēnu aktīvu un ilgstošu iesaistīšanos mācīšanās procesā.
4. Ir nepieciešama diskusija par to kā efektīvi pilnveidot skolotāju prasmes plānot un vērtēt mācīšanu un mācīšanos, lai īstenotu metodisko pieeju, kas virza mācīšanos iedziļinoties un dod iespēju skolēnam darbināt augsta līmeņa domāšanas prasmes un attīsta skolēnu metakognitīvās prasmes.

Summary

Nowadays the school combines the interests of students, teachers and society in order to accumulate knowledge and to perform a joint action, in which the curriculum is based on interdisciplinary projects or subjects, and which is based on solutions of real life problems and dilemmas. A teacher at such a school is an organizer of the learning processes that provides effective teaching and helps students develop a deep understanding and competence of curriculum.

The aim of the study is to do the research on teacher's skills of evaluation and planning of teaching and learning in order to implement effective teaching that provides students with an in-depth understanding and competence in STEM (*Science, Technology, Engineering and Mathematics*) curriculum; to demonstrate their impact on pupils' learning at school, where a special attention is devoted to science, engineering and students' research work.

To achieve the goal, there were analyzed factors influencing effective teaching and learning, effective assessment of learning and effective planning of teaching and their impact on student's development, as well as how and what has to be improved by the teacher in order to make his activity in learning management more effective and to have a positive impact on learning achievements and learning sustainability.

The study results are as follows:

An effective teacher's activity for the management of in-depth learning, including skills of evaluation of learning and planning of effective teaching, is an essential prerequisite for the development of student's in-depth understanding and competence, as well as the student would like and would be able to position himself in a rapidly changing world where creativity, critical thinking, communication and cooperation take an essential role. Teachers' knowledge and understanding of effective teaching, their characterizing and constitutive factors create preconditions for using them as tools for analyzing and assessing the effectiveness of their work, ensuring that the results achieved are consistent with the stated level and to plan the further learning activities. The teacher's ability to assess and plan positively influences student's achievement and learning sustainability. Teachers' skills need to be continuously improved because systematic, formal and authentic assessment accelerates learning progress and facilitates the active and continuous involvement of learners in the learning process. It is necessary to improve the teachers' skills to plan the teaching process in order to efficiently organize lessons, to select and / or to form effective strategies, approaches, forms, techniques and methods to achieve goals, and to create new challenges for the next level of students' development.

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THE DEVELOPMENT OF AN ADOLESCENT'S PHYSICAL, EMOTIONAL AND SOCIAL BALANCE AND INCLUSIVE EDUCATION

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Introduction

The study summarises scientific and theoretical information that provides the basis for the use of telerehabilitation methods in the promotion of the development of physical, emotional and social balance for 12 – 13 year old adolescents in the context of inclusive education. The study describes the efficiency of modern technologies for the improvement of the physical and mental health of adolescent learners, as well as suggests services of social rehabilitation which could be provided from the distance.

The target audiences of the study are teachers with different professional competence, researchers and the education policy makers.

Topicality of investigations of balance

The topicality of the program for the mitigation and prevention of uncoordinated balance is determined by several factors. Among them are the Public Health guidelines for 2014 – 2020 developed in accordance with the Latvian National Development Plan 2014 – 2020 and the World Health Organization's European regional strategy “Health 2020” to promote public health. These guidelines, among others, aim at increasing the number of healthy

years of life, as well as the quality of life in Latvia. The document highlights the importance of interdisciplinary cooperation for improving the population's health.

Human beings and the environment make an interconnected dynamic system that is constantly evolving through the interaction process. However, in each individual's life stage such interrelations can be individually distinctive; it is particularly important in adolescence. Research in the various scientific fields confirms that during this period significant changes in an individual's biological, psychological and social aspects occur. In general it can be described as a transition period between childhood and maturity. At the same time an individual's social status in society also changes.

In spite of the fact that scientific literature, media and various adult education courses provide a lot of appropriate information on the promotion of adolescent physical and mental development there are still various pedagogical problems which are rooted in low educational attainment levels, truancy, being sick frequently, inappropriate and aggressive behaviour etc. Such problems cause difficulties not only for parents and teachers, but also of children and adolescents themselves. They create negative emotional experiences, physical discomfort and communication constraints. Rapidly growing and maturing, the adolescent body is really difficult to control, sometimes causing displeasure, irritation and aggression that affect the adolescent's well-being, educational achievement, and communication.

Physical discomfort or serious health problems usually cause negative emotions, lost interest in learning, aggressive behaviour or being introverted. Physical and mental problems accumulate and by restricting mutual understanding, make a negative impact on pupils, teachers and parents. The consequences are teenage aggression, insecurity, fear, disbelief in themselves, loss of interest in specific tasks and life in general or a tendency to manipulate others and prove themselves in a destructive way. In other words, an adolescent's ability to feel good about themselves, the desire to learn and to communicate is related to his/her physical well-being. The context of dynamic development often leads to adolescent needs for a specific support. Most often it affects directly the physical balance of the development area.

In general, physical balance can be defined as the ability to maintain one's musculoskeletal statistical position, operate effectively and control the posture in motion while stabilising free movement and responding to external stimuli (Krauksts, 2003).

However, looking at personal development holistically, it can be concluded that it is not only physical functioning. First, the physical development covers

functioning of the entire body. Second, the motility is more than a movement; there is a relationship between movement and mental development (mental motility) and between movement and perception (sensory motility). At the same time it affects an individual's sensitivity, self-esteem, behaviour, communication, cognitive aspects and the involvement in social relationships (Antor, Bleidick, 2006).

The above mentioned challenges are largely dependent on adolescent physical activity. In this context, the European Commission's Eurydice report on physical education and physical activity in schools in Europe (2013) indicates that physical education can have a significant impact on young people's personal growth, by helping them to become more aware of their physical abilities, improving an individual's overall physical well-being and thereby contributing to the formation of self-reliance and self-esteem (*Sporta izglītība un fiziskās aktivitātes Eiropas skolās*, 2013). The report emphasizes the importance of physical education in developing pupil's willpower, sense of responsibility, patience and courage. At the same time it ensures realistic support to the growth of their physical and mental capacity. In turn, this contributes to appropriate decision-making, appropriate action is taken to development one's own human qualities, and acceptance and tolerance towards the formation of differences in others. The document emphasises the learner's physical and mental unity in conjunction with these personality traits which need to be constantly developed. This confirms the link between physical health promotion and self-confident, self-assured behaviour in different social situations. At the same time sport activities are to be regarded as an opportunity for children and young people to discover how to deal constructively and cope with negative emotions and stress.

However, currently teenage development problems are often associated with low levels of their physical fitness (Porozovs, Porozova, & Valdemiers, 2012) and lack of regular activities in this field. Such a situation is found through investigations in Latvian schools. This confirms that adolescent and youth health status is being negatively affected by the emotional stress and lack of physical activity. The authors of the study accentuate that despite the fact that regular physical exercise performance positively affects the body's functional state, only a small number of young people pay the necessary attention to their physical fitness and health. Empirical study found that physical activity among Latvian teenagers has decreased. Currently, the number of children and young people with posture defects has increased. Physical fitness is below average for more than a half of the pupils, about a third of them have reached a medium level, and only 6% - above average. Alarming is the fact that about half of the students only

occasionally attend sport activities, while 13% of pupils hold a negative attitude towards them. The study also reveals health problems for about a third of the pupils. Certainly, this leads to truancy for a long period of time (a month or more). At the same time the number of teenagers with physical injuries has significantly increased (Porozovs, Porozova, & Valdemiers, 2012).

This problematic situation may be due to the limited number of sports classes at schools. These are provided only twice a week. By contrast, a large number of pupils have no sports activities in addition to those at schools, or they are occasional or of episodic character. In many cases, the involvement of adolescents in sports is restricted by several factors, such as weather, seasonal opportunities, parental occupation or material deprivation. As a result, the teenagers might have and even have a feeling that their physical activity and health status predominantly depends on different external factors. Therefore, it is important to help them understand that teenagers themselves are responsible and can do much in favour of their physical and mental health and well-being as a whole. At the same time adults also need adequate assistance to understand that adolescent development and growth is closely linked to the parents 'and teachers' growth and their attitude towards physical balance and health; it should be accompanied with the desire and ability to learn from each other, with a sense of responsibility and with respect for each other.

Attention to challenging situations can serve as a source for inspiration about adolescent physical, mental and social development, development of rehabilitation programs, focusing on targetted and effective delivery of support. In this context, major importance is given to the investigation of adolescents' views, as well as that of their parents', teachers', supporting staff's opinion related to the mental and physical nature of the problems and opportunities for prevention.

As human physical and mental development is closely correlated with their state of health and contributes to the quality of life throughout the life-span, achieving the desired results has become an interdisciplinary pedagogical affair. This means that not only scientific knowledge in pedagogy and psychology is essential but also the search for solutions in other sciences and social fields of life, including social rehabilitation becomes topical. Specifically the implementation of inclusive education more than ever needs theoretical underpinnings and well-prepared practical integration achieved through emphasising the use of psychological knowledge in pedagogical practice and psychological regularities in the learning process to facilitate development of the adolescent personality.

To this end, it is appropriate to draw the learners', their parents', teachers', pedagogical and psychological support staff specialists' attention to the implementation of innovative rehabilitation methods. Telerehabilitation methods nowadays are considered as an important resource for the implementation of rehabilitation tasks in conjunction with the educational process. ICT developments make it possible to extend the use of new technologies in the field of social rehabilitation. In this way, individually required services are provided through telecommunication networks or online resources. Therefore, it can reduce or even overcome the limits of human development in the physical, as well as in the social field. At the same time telerehabilitation services promote individuals' autonomy, strengthen personal responsibility for their own development and reduce the barriers caused by social environment.

The research aims to analyse theoretical findings, work out theoretical statements for underpinning the usage of the materials and methods of telerehabilitation in two ways: to investigate 12-13-year old teenagers' physical, emotional, and social balance and to facilitate development of balance in the context of inclusive education.

The research follows a theoretically grounded hypothesis that facilitating of the teenagers' physical, emotional, and social balance is effective if the teenagers' development is based on regular reflections; educational and social rehabilitation means mutual interplay to be effective; the content and organisational setting of the teenagers' rehabilitation corresponds to their developmental peculiarities, motives and possibilities.

To reach the above set goals the investigation covers the following objectives

- Analysis of the theoretical sources in pedagogy, psychology, philosophy, and didactic related to the peculiarities of balance in teenagers' physical and mental development.
- Evaluation of the model of inclusive education which is used in Latvia in its international context displayed in normative documents and through theoretical assumptions.
- Analysis of the theoretical assumptions and experiences related to the tools used in telerehabilitation and their effectiveness for supporting teenagers' physical and mental development.

Research tools

- Analysis of the theoretical sources;
- Analysis of the issues by international organisations and their educational policies;

- Analysis of the documents related to the state educational system;
- Analysis of the documented data of the empirical investigations.

Time and place

The research includes 223 sources:

- 152 printed sources,
- 71 electronic sources.

Chapter 1. Physical and Mental Peculiarities of Development in Adolescence

This chapter summarises the findings of various scientific fields in relation to the adolescent age-specific physical and mental peculiarities of development and concludes that the investigated age of individual development is a complex and controversial period. Different key words are used to characterise this period: hormonal storms, change of authorities, conformism, moral relativism, opposition, criticism, self-affirmation, sensitivity, self-esteem, claim elevations, infantilism, emotional compensation reactions, character accentuation. This stage of development is seen in biological, psychoanalytical and psycho-social aspects (Freida, 2010; Guttmanova et al., 2008; Jessor, 1992; Usmiani & Daniluk, 1997; Youngblade & Theokas, 2006; Крайг, Бокум, 2008; Пиаже, 2008).

Looking at the specific new formations in adolescence, the theory suggests a number of areas in one's personal development, which in practical life are closely related to each other or mutually dependent and interfere with each other (Figure 1).

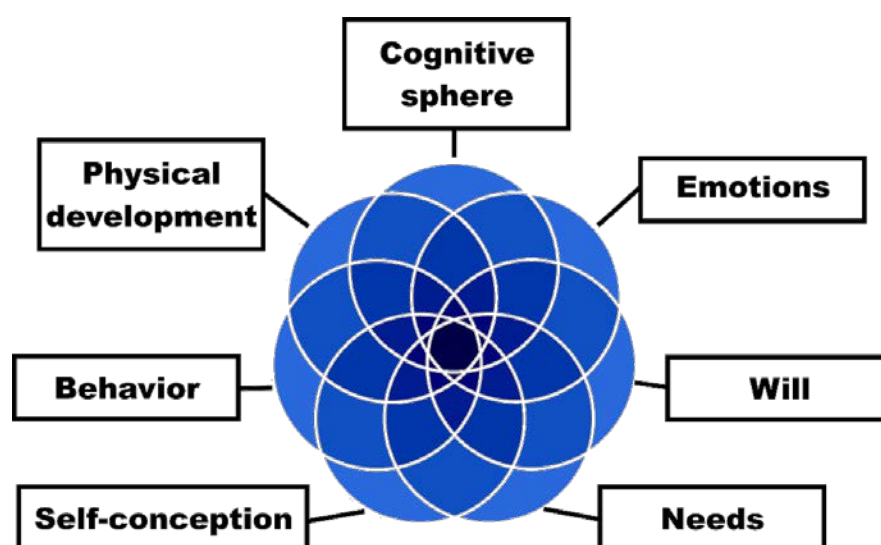


Figure 1. **Interaction of the developmental spheres** (Rutka, 2012, 16)

Physical development includes growth, maturation, health, appearance, other changes and factors which are designated as a transitional step from child to adult;

Cognitive development is one of the most important learning factors, it includes feelings, perception, attention, memory, imagination, speech, thinking, as well as the integration of the cognitive processes;

Emotional development and **will** are inter-related areas;

Behaviour is a complex, diverse, multi-layered and dynamic phenomenon and can be defined as a set of activities and actions carried out by the individual when interacting with the environment (Мамайчук, Смирнова, 2010);

Needs of individuals in the period of adolescence is a set of specific developmental features with a certain structure, which depends on the awareness of their identity and social skills, adequate behaviour development, awareness of their duties and performance, as well as on cooperation and mutual relations with teachers and peers.

Research in the field of developmental psychology shows that the **self**-concept begins forming at a very early and develops throughout life, however, the fastest development takes place within the period of adolescence (Erikson, 1950, 1968; Harter, 2006; Левина, 2012; Marsh, 2007; Вьготский, 1984).

Chapter 1 summarises the findings; it is concluded that adolescence is very important for development along with research of various overlapping spheres: physical, emotional, will-power, cognitive, self - concept, interpersonal relations, especially with a focus on the balance between physical, emotional, social development and its promotion, including the teenager's harmonious development of the whole person.

Chapter 2. Physical, Emotional, Social Balance: Risks, Challenges and Promotion of Development in Adolescence

This chapter deals with the structure of physical, emotional and social balance (Figure 2).

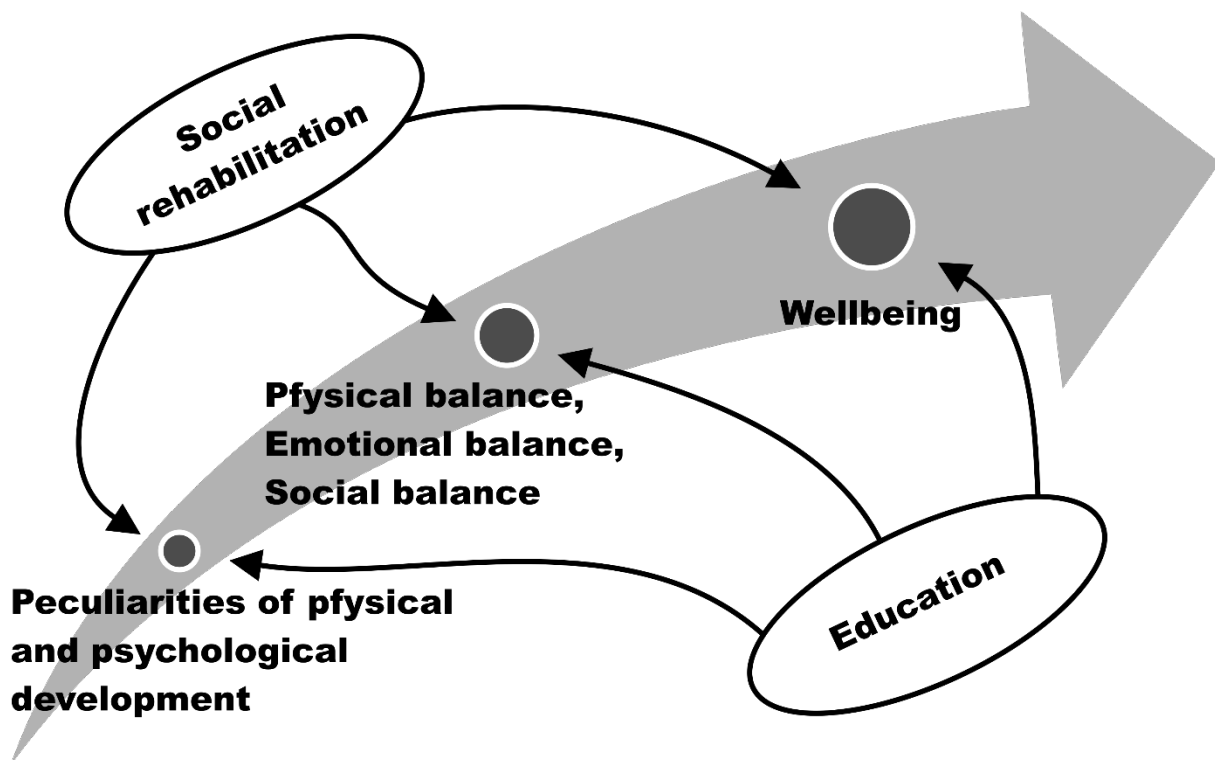


Figure 2. Progress of Adolescent's Development

In connection with these items of progress the adolescence inherent challenges are addressed, which could create obstacles to balance investigation.

Having in mind that the sense of **physical balance** is one of the most important of the body's capabilities, allowing a human to maintain a vertical position and navigate spaces, special attention has been focused on research in this area. For this purpose the BIOSWAY portable platform has been used. In this way the research creates opportunities to obtain objective results of neuromuscular control and somato-sensor activity, as well as provide for combination of testing and training technologies.

Emotional balance, in accordance with scientific knowledge, is an essential component of human personal wellbeing, which depends on the relationship between the surrounding world and oneself. Psychological balance and imbalances significantly influence an adolescent's relationships with self- concept and behaviour.

Social balance in accordance with scientific knowledge appears in interactions affecting personal subjective wellbeing and social networking (Diener, 1984). It is also noted that social contacts improve human wellbeing, regardless of the individual's subjective needs (Schwarzer & Leppin, 1989).

Steady coordination problems in children and adolescents are caused by various diseases or injuries (Agrawal et al., 2009; Greve et al., 2013; Potaga,

2001; Portfors-Yeomans & Riach, 2008), that affect an individual's physical, mental and social development.

Summing up the findings described in Chapter 2, it is concluded that balance coordination problems become even more complicated not only for children and adolescents, but also for their families, physicians and educational institutions. This means that any problem that can lead to negative feelings of self-worth, can also lead to more dangerous consequences for mental and physical health and slow down the process of socialisation. Therefore in adulthood, it is important to pay attention to a pupil's physical and emotional balance problems, and it is the most appropriate age to improve balance.

Chapter 3. Special needs of adolescents

This section reminds readers that the research conducted as part of SRP INOSOCTEREHI does not accentuate any specific disorder with respect to the above mentioned balance. In this context, adolescents with special needs are considered to be representatives of the target group, all pupils, who are equally involved in the process of living in their specific environment.

The third chapter summarises the findings from the viewpoint that special needs related to adolescent physical development may be affected by a variety of factors - injuries, vision and hearing problems, etc. (Children's Health, 2014; Harwey & Reid, 2005; Piek & Dyck, 2004; Pitcher, Piek, & Barrett, 2002; Portfors-Yeomans & Riach, 2008; Greve et al., 2013; McGraw et al., 2000; Kejonen, 2003; Lee, Lin, 2007; Bergeest et al., 2011). Personality-forming components of teenagers with special needs like those of any child and adult develop within a system of their interactions. Changes in one sphere of development contribute to changes and new qualities in another. This is the way that development of certain behaviours, attitudes, emotional and physical senses is facilitated. Movement disorders include a diverse range of movement restrictions with different origins and of different degrees, therefore problems of living, of taking part in activities, prospects and security, belong to a range of spheres, both medical and social care ones, as well as that of education. In this context, much attention is focussed on the improvement of material provisions and the social environment. Findings from a long period of research show that teacher understanding and viewpoints also have a significant impact on adolescent development which impact upon the rules governing personal attitudes towards people with disabilities (Cloerkes, 1997, 7).

Summarising the findings, Chapter 3 concludes that the prevention of social obstacles for adolescents with special needs, like for their peers with unlimited physical potential, self-evaluation skills and promotion of their initiative and abilities is crucial. At the same time it is essential that circumstances are provided which allow people to learn about lifestyle diversity, anticipate the other person's needs and expectations. Nowadays, such learning and development opportunities are considered normal features of inclusive education.

Chapter 4. The Context of Inclusive Education

This chapter emphasises that the Latvian education policy is geared towards implementation of the concept of inclusive education. It is based on non-discriminatory treatment of disabilities, as well as incentives for, and flexibility towards, process-oriented education. During the last fifteen years education policy has focussed on the improvement of support systems. Currently, inclusive education models, practical activities and content are discussed as part of the background for this research. The inclusive approach is subjected to discussions, diverse interpretations, as well as to improvements. However its structure remains unchanged and consists of three interlinked dimensions that characterise an inclusive environment and education (Figure 3).

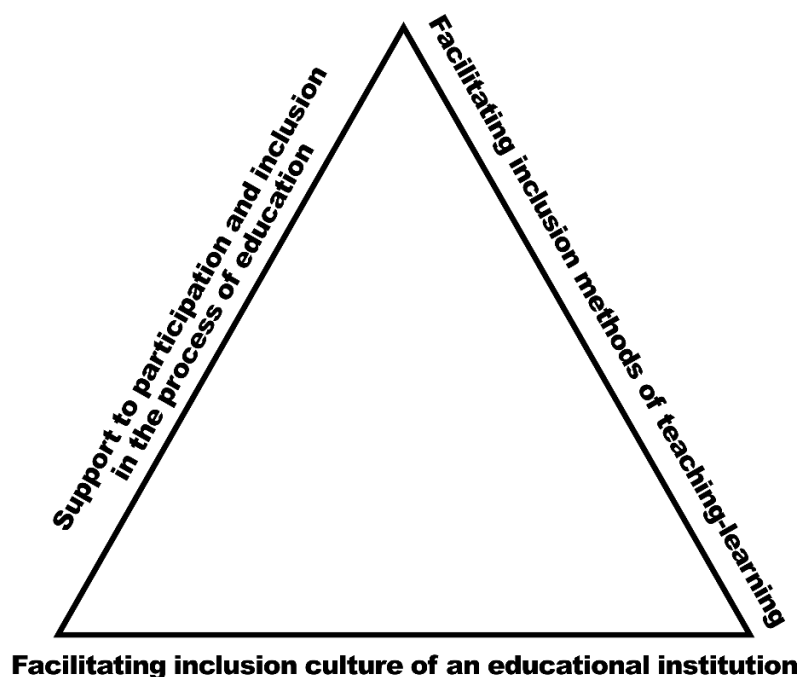


Figure 3. The dimensions for implementation of inclusive education
(Boban & Hintz, 2004)

The scheme reflects an acceptable model of education when the culture of an educational institution provides for inclusion and impacts upon inter-related areas: support for participation, security and diversity in the educational process, as well as including appropriate training methods and instruction for use of resources.

To summarise the findings in Chapter 4 (Reid, 2006, Mitchell, 2005; Gurung & Schwartz, 2009; Brooks & Goldstein, 2007; Gurung & Schwartz, 2009; Rose & Tilstone, 2004; Reid, 2006) inclusion is not an event, a situation, a method, but a gradual and successive educational system, a developmental process where the starting point is the student. Inclusion is not a situation or a method, but a gradual and successive education system development process the starting point of which is the learner. Implementation of inclusive education is focussed on the acceptance of diversity and creating of a sustainable model for positive relations between individuals with different physical and social developmental resources.

Chapter 5. Interaction between social rehabilitation and the system of education in developing teenager physical and psychological balance

This chapter emphasises that nowadays the ideas and approaches to the rehabilitation process have changed: from the predominantly medical approach to a psychological and socio-cultural one, both of equal importance (Altman et al., 2010; Brown & Hughson, 1993). In this context, the significance of the individual's own activity is of great importance as well. At the same time this expands the number of rehabilitation clients. Naturally children of various ages, adolescents and young people are included. Along with the development of inclusive education and security, more and more the importance of interaction among the areas of education and rehabilitation becomes clear (Figure 4).

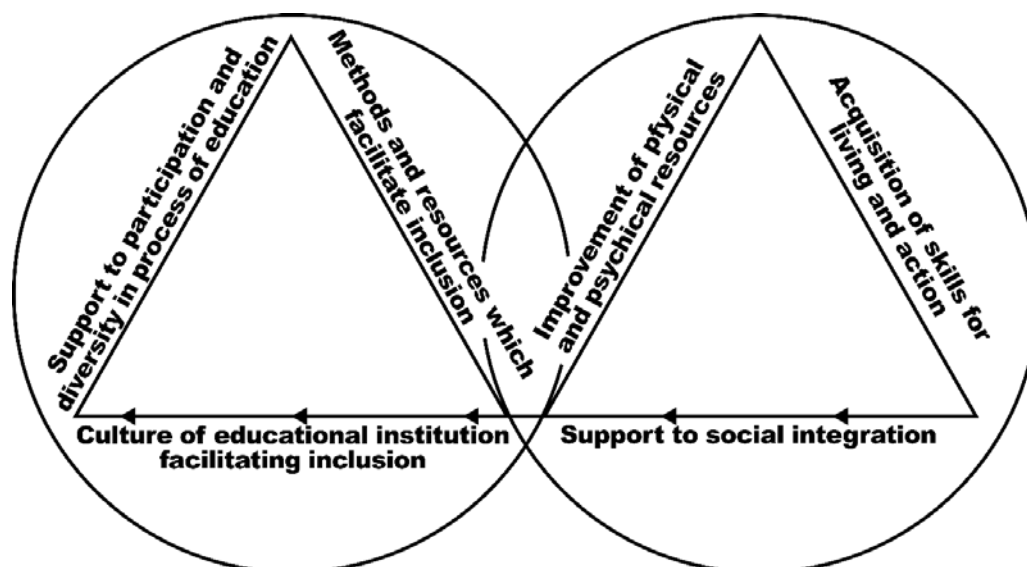


Figure 4. **Interaction between the dimensions of inclusive education and social rehabilitation**

In this chapter the impact of social tele rehabilitation is accentuated which opens up opportunities for wider social rehabilitation services and access for each pupil. This provision also applies to those cases when a nationally regulated minimum of rehabilitation is not provided, however, certain requirements for education and activities that encourage the feasibility and sustainability of rehabilitation are formulated. Thus, pupils have access to the provision of physical and mental resources, as well as the enrichment of these resources directly in conjunction with the educational process.

Chapter 5 introduces the findings of the investigation of adolescent balance measured with BIOSWAY according to the State research program INOSOCTEREHI conducted in schools of Latvia, as well as provides technologies for testing. Perceptions about the importance of the empirical research results might arise from reports on the most typical case descriptions.

Chapter 6. Requirements for effective application of technologies of telerehabilitation in adolescence

This chapter deals with the tele rehabilitation technologies which provide for the possibility to diagnose the rehabilitation needs of certain areas of an individual's **development**. These technologies can be used for diagnostics. Maximum effectiveness and security of this process depends on two conditions:

1. the individual must have an active interest in, and be a keen user of, ICT;
2. the social environment system in which the individual lives and works, promotes adequate motivation to participate and use ICT.

To summarise the findings in Chapter 6 (Leonard, Withers & Sherblom, 2010; Jonassen et al., 2003; Bitter & Pierson, 2002; Nanjappa & Grant, 2003) one can conclude, that by introducing models and methods of tele rehabilitation in conjunction with ethical aspects of teacher actions and communication, effective teacher and pupil cooperation is promoted for the development of adolescent physical, emotional and social balance.

The main findings and conclusions

- Modern political and social requirements stress provision of inclusive education related to teenage pupils – a particularly controversial stage of development. The practical implementation of this concept is complicated on the one hand by the educational paradigm shift, on the other by the contradictory character of teenager socialisation and formation of their self-concept. Furthermore, conceptually inclusive education has expanded the approach from one of taking care of pupils with special needs to an approach that respects student heterogeneity and diversity.
- By integrating a number of assumptions of the researchers from different branches of the sciences, it can be concluded that there is a close relationship between teenagers' physical, mental and social development. Consequently, at the stage of development, when teenagers have a heightened need to identify with adults and achieve autonomy, but the lack of experience to achieve the desired values, there are calls for pedagogical assistance with the investigation of cognitive and emotional development, as well as socialisation and self-concept, communication and special needs, which together lead to internal balance and harmony.
- Developmental disorders consist of several features which can be categorised and classified into groups related to sports and complex health-improving opportunities:
 - Problems related to the body's physical functioning and changes in the structure of the body (impairment);
 - Limitation of activities;
 - Socially created obstacles for teenagers to meet their urgent social need;

- Participation restrictions.
- The biological nature of balance reveals a complex function of the body's mechanism governed by the visual, vestibular and proprioceptional system, which in turn, is contributed to by the educational process. Body balance is in close connection with the central nervous system's innervations and practical responses, involving muscle strength balance, as well as a timeframe and these are characteristics which can be trained.
- Provision of support for participation and diversity in the education process requires literacy of human values and their practical implementation; this approach considers what each pupil brings to a situation along with his/her individual potential for physical, mental and social development. Taking into account the fact that teenagers go through substantial changes in biological, psychological, and social aspects of a development, this period is demanding of specific individualised support, especially in the areas of physical, emotional and social balance.
- The appropriate level of support is based on a complex and continuous empirical research into teenagers' needs, enabling the identification of the special needs and the potential risk factors, as well as transference of emphasis from sports events that create an experience of individual events and a 'culture of performing' (Cole et al., 2014), towards the systematic strengthening of health as a priority objective of the school.
- Reduction of developmental risks, as well as prevention of realised disorders should be targetted towards creating objective conditions for an individually oriented rehabilitation system valuable for interaction with teenagers, their parents and agents in educational settings. The efficiency of a social rehabilitation system depends on its regular functioning, compliance and availability, subjective individual interests and abilities. Only under these circumstances is it possible to ensure the teenager's personal responsibility for involvement with, or joining in, the social rehabilitation process.
- Modern technologies and their use in telerehabilitation are effective, theoretically and practically justified for teenager involvement in activities aimed at their social rehabilitation. The efficiency of telerehabilitation as a component of social rehabilitation is dependent upon the teenagers' involvement and integration in inclusive education. To reach this target teenagers need assistance based on professional ethical principles and support by parents, teachers, other members of the educational process.
- Theoretically-based knowledge proves the potential usefulness of telerehabilitation for teenagers' physical, mental and social development. At

the same time it allows for the collection and analysis of empirical data in this area.

- The National Research Program INOSOCTEREHI confirms the topicality of further interdisciplinary research, focussing on coordinated research of teenagers' development, personal opportunities, and priorities. It also confirms the need to change the paradigm of physical education and implementation of programs supporting this paradigm shift, as well as sports' class teacher training and continuing education.

The research was developed in cooperation with researchers, doctoral and masters' students representing the direction of Personality Socialisation Research of the Institute of Regional Studies of Rēzekne Academy of Technologies, the Centre of Distance Education of Riga Technical University, the University of Latvia and the Institute of Educational Sciences of Liepāja University.

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THE ESSENCE OF CONSUMER EDUCATION IN ELEMENTARY SCHOOL

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Introduction

Social changes associated with joining the European Union, opening Latvia's borders, accession to international organizations, exchange of intellectual and material values challenge the targeted improvement of education system for creation and consumption of values. This process is focused on development of a personality who is capable of self-determination, therefore, able to choose independently own strategy of development and self-realization in the market economy relations, especially in terms of today's changing circumstances of global economic crisis.

The 21st century comes with modernization of equipment, increasing amount of information, new opportunities for mobility and growth of globalization processes; as a result, people's attitudes change, respected values and goals of life transform, which, in turn, puts forward new requirements for education in connection with basic principles of humanistic pedagogy.

Robertson S.L. (Robertson, 2005) characterizes the following changes in education:

- long-term economic growth will be associated with new knowledge; the balance between knowledge and resources (labor force and capital) moves to knowledge;
- education will be essential for economic growth, but education systems will have to respond differently to the needs of knowledge society.

Changes affect all areas of life, including general education. Therefore, it is necessary to be clear about means and ways of an action, factors influencing development of a personality that will ensure an effective teaching-learning process, facilitate a more efficient path to a goal and self-fulfillment, participation in creation of a skilled human values system in order to promote students'

personal development and readiness for life in a community with included balance between social relations, creation and consumption of values.

Due to various cultural, social, economic and technical influences, consumers are faced with enormous problems of lifestyle and consumption habits, caused by the loss of balance between creation of material and spiritual values, on the one hand, and their consumption, on the other hand. The increasing mobility of human, production, symbols, money and information transforms individual characteristics and draws attention to the disappearance of loyalty. This has led to the fact that people make up their individual characteristics in a much different way than before. Consumption is a “natural” and acceptable way to create own personal qualities for most individuals.

On the other hand, this development has created the need to become consumers who can interpret relevant information, share it with each other, and take the appropriate decisions. Not all people are able to evaluate critically the impact created by the manufacturing and advertising sectors; information and education is needed, as well as understanding of the difference between the real and the supposed needs, consumer culture as a component of the individual citizen-personality culture and ethical principles.

Year 2011 was announced the Year of the Citizen Consumer in the United States of America (Kaplan, 2010). Consumer education will not solve all the problems, but it is an important component of consumer education nowadays. There is a need to improve the education process respectively in order develop balanced students’ understanding of themselves and others, different needs, experiences and perspective in new circumstances,

H. Thorelli and S. Thorelli (Thorelli & Thorelli, 1977) have put forward the theory that the free market economy can exist effectively only when supported by an educated consumer. They claim that the open-market economy will serve the needs of modern society only when at least some consumers will make intelligent decisions. Consumer education is a way to balance the power between producers and consumers. The objective of consumer education is to encourage individuals to analyze and make decisions based on personal values and in accordance with their needs and desires. It can also help individuals to make decisions that may affect the wider society. Consumer education is aimed at the educational institutions (schools), institutions of interest education, courses of continuing education and workshops within adult education.

Consumer education is formation of the attitude (knowledge, experience, action) that is necessary for life during economic crisis.

There is negative understanding of the term “consumer education” in modern society as well. It is described as a desire to encourage people to consume more and more. In fact, the truth is that the objective of consumer education is to promote understanding of structures and systems that take place inside the market, how consumers’ habits affect the economy, environment and society to make an informed decision. Consumer education provides an insight that is necessary for forming citizens into consumers with responsible and intelligent action that is based on the consumer culture. It is the responsibility of learning that contributes to the personal development of the individual's ability to manage his/her own life in the context of the global society. Consumer education is related to individual, social, economic and ecological development of the personality (Karpijoki, 1999).

General Description of the Research

Problem: There are lots of facts and publications on consumer education at present, but there is lack of consumer education content for schools that is appropriate for cultural conditions in Latvia, theoretical basis of consumer education for action in this area is not identified, as well as students’ opportunities of consumer education development in everyday life and the state education system for students to identify and purposefully develop their individual consumer skills through studies and practice, thus realizing the pedagogical paradigm shift in consumer education.

In order to deal with consumer education issues in pedagogy, it is necessary to develop a theoretically grounded and modern methodological framework that complies with the students’ needs and transforms the teaching process into the learning process by giving students the opportunity not only to understand the needs of society and the individual, but also to promote awareness of the importance of consumer education curriculum and learning methods.

Research object: *student’s consumer education* in the educational process at elementary school in Form 8 and Form 9.

Objective: to identify the essence of consumer education, pedagogical legality in the process of comprehensive elementary school, to establish a methodological framework for integration of consumer education content in the curricula of school on that basis by transforming teaching process into the student's learning process.

The research is based on the assumption that adolescents will obtain appropriate consumer education understanding that complies with Latvian culture conditions in the context of European countries’ experience within consumer

education process. It is based also on the idea of educational potential that develops the student's as the consuming citizen's education, contributes to the student's participation in the society that is oriented on sustainable market development during the global economic crisis.

Identification of consumer education content and methods will allow development of curriculum and its implementation methods that correspond with the contemporary Latvian reality by changing the teaching process into the student's learning process.

Hypothesis: student's consumer education is being implemented as a component of general education if:

- the concept of "consumer education" is formulated, based and included in the curriculum;
- the content of consumer education is analyzed in the standard of primary education that offers proper action to students, includes study of students needs, a consumer's ability to work with information for forming decision-making and participation in the society that is oriented on sustainable development and market relations under the influence of economic recession;
- consumer education criteria and levels are developed, identified and used by a teacher and a student within the process of self-assessment and evaluation.

Tasks of the research:

- To analyze scientific literature and sources on the essence and development of consumer education in Latvian and European cultural environment within recession.
- Based on findings of scientific and methodological literature: to explore pedagogical regularities, to identify the concept of *consumer education* and the conceptual framework of consumer education within the study process at elementary school.
- To carry out the research on students' needs and determine the appropriate consumer education content for Latvian culture conditions.
- To develop the methodological framework for transformation of consumer education content from the teaching process into the student's learning process by using appropriate consumer education teaching methods.
- To develop the program "The Essence and the Content of Consumer Education for Formation of Student's Individual Consumer Education

at Elementary School”, to draw up the criteria and the levels of its approbation in practice, and to carry out approbation.

- To analyze the results of the program’s approbation and make recommendations for implementation of consumer education content in the study process in primary education, transforming the teaching process into the student’s learning process.

The research is based on the concept of humanism that is implemented in the social learning theory approach based on theories of psychology and pedagogy, economics and marketing.

The theoretical base of the research consists of:

- findings on the development of personality and understanding of the human potential in the social environment;
- findings of humanitarian pedagogy on collaboration between a student and a teacher in the education process by implementing the learning approach that is based on recognition of the student's needs and interests; on the student-centered learning approach;
- understanding of the concept and the essence of consumer education, analysis of the conceptual framework;
- correlations of sustainable development;
- findings of the social learning theory on the individual's behavior, as well as methods for its changing or modifying;
- findings of the marketing theory on consumer behavior;
- analysis of primary education content; development of student participation and models of consumer education implementation.

Research methods:

1. Theoretical methods. Research, selection, arranging, structuring and targeted analysis of philosophical, pedagogical and psychological, economic literature, internet sources, scientific databases and regulatory documents. LR and EU documents, statistics.

2. Empirical methods.

Data mining methods:

- survey of students for analysis of their needs (for acquisition of first-time data and development of consumer education program);
- keeping under observation students performance and behavior (for program approbation and practical use within the process of consumer education implementation at comprehensive school);
- teachers’ surveys for assessment of students’ learning outcomes in consumer education.

Data processing and analysis methods:

- quantitative data processing was performed in SPSS 16.0 data processing program using the Kendall's correlation (Kendall's tau - b) to determine the relationship, the Mann - Whitney U - test to compare independent samples, the Wilcoxon's test to compare characteristics of two measurements taken for the same selection, and the Friedman's test to compare features of more than two related selections.

The research base consists of:

The pilot research: for studying the students' needs in the field of consumer education – 310 students from 15 comprehensive schools of five districts in Latgale region:

Rezekne City – Rezekne Secondary School No.5;

Rezekne district – Vilani Secondary School, Malta Secondary School No.2, Kaunata Secondary School, Audrini Secondary School, Aizupe Elementary School, Dekšari Elementary School, Sakstagals Elementary School un Rezna Elementary School.

Balvi district – Stacija Elementary School;

Ludza City – Ludza City Gymnasium;

Ludza district – Zilupe Secondary School;

Kraslava City – Kraslava Elementary School;

Kraslava district – Dagda Secondary School;

Preiļi City – Preiļi Secondary School No.2.

For approbation of the program – 80 students of Form 8 and Form 9 from Vilani Secondary School in Vilani region.

Novelty of the research:

- the concept *consumer education* is identified and justified in the context of elementary school curriculum;
- the conceptual framework of consumer education is analyzed, consumer education content that is appropriate to Latvian cultural conditions is defined and assessment criteria for students learning outcome is developed;
- curriculum program for consumer education is designed by using specific education methods and means for transformation of the teaching process into the student's learning process.

Practical importance of the research:

- the research on adolescents needs is carried out in the theoretical and empirical level in order to create the educational program that would

- comply with Latvia cultural conditions for implementing consumer education in comprehensive school;
- the program's approbation is implemented, based on the criteria and the levels that can be used by students for self-assessment and teachers for evaluation;
- recommendations for the program's implementation in elementary school are prepared;
- the developed and tested consumer education content is the foundation for organization of consumer education in comprehensive education, allowing teachers to use the proposed basic content creatively.

Limits of the research

Limits of the research were identified in the process, including the link between consumer education topics in the elementary education curriculum content in 5 areas that make up the theoretical framework of the final program for implementation of consumer education content in elementary education.

The research of adolescents needs was carried out at 15 schools in Latgale region, and approbation of consumer education program was carried out in a single school, so the results cannot be considered representative of the country as a whole. It is necessary to identify the social context for using the program in other regions. The program, materials, evaluation criteria, indicators can be used as a basis for improving individual consumer education of students of Latvia comprehensive schools as citizens-personalities.

The research of literature and sources leads to the conclusion that, until now, scientists have studied the students' susceptibility formation, as well as consumer behavior, behavior models and attitudes, but the specific formation of customer-entrepreneur attitude in the learning process has not been studied. It is a topical issue in modern socio-economic conditions, and it creates the need for in-depth research in this area.

The research confirmed the need to study teachers' readiness for integration of consumer education in content of comprehensive education.

Content of the Research

The research consists of three parts. The introduction deals with the novelty, sets the objective, tasks, and hypothesis, summarizes the methodological basis of the research, describes the research base and the stages.

Chapter 1 **“Consumer Education in Theories and Normative Documents”** consists of three sections. The scientific literature and sources on

consumer education's development in Latvian and European cultural environment are analyzed in the first part of the research, as well as development of consumer education content under socially economical conditions and implementation opportunities in education. The conceptual framework of consumer education in elementary school and learning outcomes are studied.

The analysis carried out in **section 1.1 “Development of Consumer Education in Cultural Environment of Latvia and Other European Countries Within Contemporary Socio-Economic Situation”** suggests that *“consumer education” is a component of general education that complements the civic education and contributes to an individual's ability to manage own lives, promotes individual, social, economic and ecological development of the society.*

The analysis persuades that the concept of consumer education has become urgent in the economically developed countries in the face of an increase in consumption. It has happened a lot sooner than in Latvia, and it is analyzed not only in terms of legislation, consumption, consumer culture and ethics, but the content of consumer education and possibilities of implementation in the school curriculum are also actualized. It means that Latvian schools need a consumer education model that realizes the educational paradigm which is oriented on the student's action/learning by offering a variety of activities for students in the learning process, creating a student's as consuming citizen's education, and promoting his/her participation in the society that is oriented on the sustainable development and market relations under the conditions of economic recession.

Development of consumer education content in European and Latvian cultural environment is analyzed in **Section 1.2 “Development of Consumer Education Content Under the Impact of Socio-Economic Conditions and Its Introduction in Education”** (Lubkina, 1997, 2000, 2004; Thoresen, 2002; McGregor, 1994, 2006, 2007, 2010; Sandlin, 2005; Steffens, 1995; Suojanen, 1994) **of the research.** The analysis suggests that the separate subject in primary education is not introduced in Latvia; only a handful of consumer education topics such as nutrition, safety, etc., are included in the subjects “Social Sciences” and “Household and Technologies” and taught, starting from Form 1. It does not fully allow mastering the content of consumer education and forming consumer skills to make informed and responsible decisions based on sustainable development. The civic education is emphasized in the curricula of elementary education.

It was concluded by analyzing the models of consumer education implementation (Amanis, Lubiņš & Lubkina, 1997; Thompson, 1993; Vassileva, 2008; COBASE, 2011) that the most appropriate option for Latvian education system is to include and integrate topics into other subjects for avoiding

overburdening of the learning process; as a result, students not only show knowledge and skills to act within the framework of the educational process, but also shape personal attitudes, develop skills of building independent and deliberate choice of action which is the base of the modern education paradigm; it is important in consumer education to see consumer behavior in the context of economic, social and environmental sustainability that develops student's education and participation in the society that is oriented on sustainable development and market relations during the global financial crisis; consumer education is a cyclical process that will continue in a new, higher level: from information to promotion, and further to the student's responsible and deliberate action.

The analysis of the conceptual framework of consumer education, offered by the authors (COBASE 2011; Flowers, 2001; Kitson, 1999; Sandlin, 2004; Wells & Atherton, 1998), is carried out in **Section 1.3 “Conceptual Framework of Consumer Education in the Learning Process at Elementary School and Learning Outcomes” of the research**. It suggests that Latvian consumer education content needs to include topics that enable a student to develop knowledge, skills and attitudes in the following areas:

- consumer needs and behavior that complies with the educational aspect of the sustainable development of society;
- consumers in the market that is included in the economic and environmental aspect;
- personal resource management is involved in education for sustainable development in the economic aspect;
- consumer rights and responsibilities appears in the cultural aspect which is closely related to all other education aspects for sustainable development.

Table 1 Learning outcomes in the context of interconnection of social learning theory and education for sustainable development

| Topic of consumer education content | Learning outcomes | | |
|-------------------------------------|---|--|--|
| | Knowledge and understanding | Skills | Attitudes |
| needs and behavior of a consumer | <ul style="list-style-type: none"> - understanding of who is a consumer; - knowledge of how and why a consumer needs to chose; - understanding of necessity for effective and responsible usage of goods and services; - understanding of the needs characteristic for specific groups of the society in connection with consumers choice. | <ul style="list-style-type: none"> - explanation of factors influencing availability of choice and resources; - ability to evaluate possibilities of choice; - ability to take into account the needs of others; - ability to analyze consequences caused by the choice in the social context. | <ul style="list-style-type: none"> - respect for the needs of others; - readiness to participate in a discussion on consumer issues concerning individuals and groups; - assessment of active participation in making consumer decisions; - understanding of consumer influence in the local, national and global level. |
| management of personal resources | <ul style="list-style-type: none"> - understanding of principles for establishing and managing a budget; - knowledge of where and how to get help for improving the financial situation; - knowledge of modern technologies that give information and possibilities to consumers; - knowledge of own consumer rights; - knowledge and usage of shopping possibilities; - knowledge of how to limit inefficient use of resources | <ul style="list-style-type: none"> - ability to compare conformity of prices and quality; - ability to establish a budget and make records in a book of expenditure; - ability to plan the future and take responsibility for usage of personal financial resources; - ability to determine consumers' influence types on production and offering processes of goods and services. | <ul style="list-style-type: none"> - knowledge and assessment of money as a value; - respect for personal financial resources; - understanding of priorities and planning; - usage of effective financial resources; - assessment of available resources; - promotion of economic and eco-friendly usage of resources in a family; - responsibility for personal finances and participation in planning of a family budget. |

| | | | |
|---|---|---|---|
| <p>consumers in market</p> | <ul style="list-style-type: none"> - knowledge that producers advertise their goods and services; - knowledge of factors influencing the quality of goods; - knowledge of safety, reliability, ease of use, durability and sustainability of goods; | <ul style="list-style-type: none"> - ability to express personal likes and dislikes for choosing goods; - ability to analyze various types of determining quality of goods; - ability to perceive an advertisement and see the difference between an advertisement and | <ul style="list-style-type: none"> - responsibility for choosing goods and services; - understanding that consumers can influence the way how goods are offered in market; - respect for goods value; - care for the environment; - assessment, planning and organization of personal |
| <p>consumers in market</p> | <ul style="list-style-type: none"> - understanding of consumers behavior's influence on environment and personal welfare; - understanding of importance for honest and ethical check of goods. | <ul style="list-style-type: none"> - information; - ability to use various information available to consumers for making a good choice of goods and services. | <ul style="list-style-type: none"> - behavior according to basic principles of sustainable development; - acknowledgment that there are people and organizations that help consumers. |
| <p>consumer rights and responsibility</p> | <ul style="list-style-type: none"> - knowledge that consumers shall get a good service; - understanding of impact of consumption on environment; - knowledge of eco-friendly production; - knowledge of ecological labels; - knowledge of information on safety, reliability, ease of use and quality of goods; - knowledge how to deal with dangerous substances; - knowledge of organizations for consumer rights protection and their services. | <ul style="list-style-type: none"> - understanding that consumers in market have not only rights, but duties as well; - ability to reduce amount of household waste; - ability to identify results of particular consumer behavior and evaluate expenses by comparing necessity of this behavior; - ability to assess evidences; - ability to protect personal rights and rights of other consumers. | <ul style="list-style-type: none"> - ability to comment good or bad service or production; - readiness to file a complaint if it is necessary; - recognition of usefulness for a comment or a complaint; - awareness of industrial and domestic threats posed to the environment; - promotion of eco-friendly products consumption; - care for safety; - usage of consumer rights daily. |

In order to assess the level of consumer education in primary education, the evaluation criteria shall be specified in terms of learning outcomes that include knowledge, skills and attitudes (see Table 1). The following table summarizes the content of consumer education that is selected on the basis of studies, materials of international projects and the UNESCO Guidelines of Education for Sustainable Development (UNESCO, 2005), as well as the expected learning outcomes, based on interconnections of social learning theory and education for sustainable development as a result of acquisition of the consumer education content.

The analyzed introduction of consumer education in the elementary school curriculum and learning outcomes is a novelty for Latvian elementary schools, as well as to the research. It leads to the need for creating the learning outcomes' criteria and consumer education program for its content integration in elementary school by transforming the teaching process into the student's learning process.

Chapter 2 “Consumer Education Content and Its Learning Opportunities in Elementary School” of the research consists of two sections. The second chapter deals with the analysis of consumer education topics in the elementary education standard, research of students needs, development of consumer education content program.

Section 2.1 “Consumer Education Content in the Elementary Education Standard and the Learning Process” of the thesis involves analysis of topics included in the elementary education standards related to consumer education separately from four subject areas: Languages, Basics of Technology and Science, and Man and society. The content covered in elementary education subjects is studied, and its link with consumer education topics is analyzed, hence the relations between aims, objectives and content of subjects' areas and consumer education that points to the need to develop students' as consuming citizen's education promoting his/her participation in the society that is oriented on the sustainable development and market relations within the global economic recession

Section 2.2 “Introduction of the Consumer Education Content in Elementary Education” of the doctoral thesis include three sub-sections.

Findings on personality development and understanding of human potential in the social environment are analyzed in **Sub-chapter 2.2.1 “Description of Adolescents in the Social Environment, Development of Needs and Participation”**. By analyzing findings of various authors (Garleja & Vidnere, 2000; Gudjons, 1998; Lekrojs, Deilija & Miligens, 2001) on the aims and the content of socialization, importance of school in the socialization process, social skills, it is concluded that personality development during adolescence and social

skills obtained in this age determine largely the socialization quality in the future (Ušča, 2012).

It is hard to define the participation of consumers, but mostly it is interpreted as consumers' participation in planning, development and quality improvement of goods and services (Bennets, Cross & Bloomer, 2011). By analyzing findings of the marketing theory on consumer behavior (Dickson, 1994; Hawkins, 1989; Kalka & Mēsene, 2004; Praude, 2011) and development of student's participation (Bennets, Cross & Bloomer, 2011; Eriksen, 2008; Kotler & Armstrong, 1991; Uzunova, 2007), it is concluded that diverse educational content and educational methods that are based on student's actions/learning paradigm can be used in the consumer education process for development of students' deliberate and responsible participation in the society. In this way, students not only acquire academic knowledge, but also form personal attitudes and skills to make responsible decisions.

The results of the pilot research are analyzed in **Sub-section 2.2.2 “Pilot Research for Development of Consumer Education Content”**. The research was carried out within the framework of the European Social Fund project “Perfection of Competencies of Teachers in Latgale Region for Realization of the New Elementary Education Standard in the Comprehensive School” (Contract No. 2006/0088/VPD1/ESF/PIAA/05/ APK/ 3.2.5.2./ 0097/0160) that was implemented in Personality Socialization Research Institute of Rezekne Higher Education Institution in the period of time from 01 July 2006 to 30 June 2007. It was a survey “Consumer Education and Comprehension of Consumption Culture in Elementary School” in order to identify the needs of adolescents in relation to their everyday activities (shopping - clothing and food, collection of waste, energy and water consumption, leisure, work, society and the environment) and to clarify the content of consumer education topics.

310 students from 15 comprehensive schools of five districts in Latgale region took place in the pilot research:

Rezekne City – Rezekne Secondary School No.5;

Rezekne district – Vilani Secondary School, Malta Secondary School No.2, Kaunata Secondary School, Audrini Secondary School, Zarecnaja Elementary School, Deksari Elementary School, Sakstagals Elementary School un Rezna Elementary School.

Balvi district – Stacija Elementary School;

Ludza City – Ludza City Gymnasium;

Ludza district – Zilupe Secondary School;

Kraslava City – Kraslava Elementary School;

Kraslava district – Dagda Secondary School;
Preili City – Preili Secondary School No.2.

The research was based on the question of global consumer education which needs to be closely linked with social, economic and environmental protection processes and globalization.

The research conducted in Latvia and the opportunity to compare the data obtained with the global UNEP/UNESCO research data made it possible to draw the conclusion that surveys on consumer education issues in the world initially were conducted in 1999 and 2000, when this kind of terms and education just started to appear in Latvia. Survey of students was the first step in the study of students' consumer education in Latvia. The conducted research showed that it is necessary to integrate consumer education topics in elementary education process. It will give the opportunity to contribute to students' as consuming citizens' education and involvement in processes taking part in the society.

Stages of consumer's action and factors affecting them were determined within the framework of **Sub-section 2.2.3 "Development of Study Program of Consumer Education Content and Methodological Basis"**. As a result, students have the opportunity to build their consumer activities in accordance with the target set by consumer education and principles of sustainable development.

Taking into consideration stages of consumer's action and factors influencing them, on the basis of the social learning theory (Bandura, 1977; Lee, Conroy, & Hii, 2003), sustainable development theory (Davis, 2009; Salīte, 2002), CM Regulations No.530 and analysis of education standards, the program, called "The Essence and the Content of Consumer Education for Formation of Student's Individual Consumer Education at Elementary School", was developed within the framework of the report. Its aim is to develop student's individual consumer education and give the following possibilities to the students of Form 8 and Form 9:

- to identify the impact of desires and needs on the personal life and ongoing process in the society;
- to acquire skills for planning and managing the personal financial resources;
- to analyze consumers' impact on the environment, public opinion and advertisement's impact on a consumer, product and service quality, safety and sustainability;
- to develop participatory skills for sustainable development in the market-oriented society by analyzing consumer behavior.

The program includes consumer education objectives, tasks, education content, sequence of education content obtaining, study methods are described, the education tools necessary for acquisition of the curriculum are listed, and the criteria for evaluation of student achievement are established. Apart from the consumer group that owns a student, everyone has the opportunity to obtain the proposed consumer education content seen in Table 2.

Table 2 Plan of the education content

| Content of consumer education | Form 8 | Form 9 |
|------------------------------------|---|---|
| Needs and behavior of a consumer | <p>A student:</p> <ul style="list-style-type: none"> - develops understanding of differences between desires and needs; - develops skills to take into account the needs of others; - develops a tolerant attitude towards other individuals' wants and needs; - analyzes the impact of his/her needs on personal life. | <p>A student:</p> <ul style="list-style-type: none"> - develops understanding about choice and resource limitations; - develops skills to discuss the impact of choice on social processes; - improves skills to analyze consequences of own choice in the environmental and social context. |
| Management of personal resources | <p>A student:</p> <ul style="list-style-type: none"> learns the principles of budget establishment and management; - learns to plan personal financial means; - develops a deliberate and responsible attitude towards the usage of resources. | <p>A student:</p> <ul style="list-style-type: none"> develops understanding of necessity for management of personal financial means; - learns to limit the usage of inexpedient resources; - realizes and evaluates money as a value. |
| Consumers in market | <p>A student:</p> <ul style="list-style-type: none"> - develops understanding about the aspects influencing the consumer; - learns to determine the impact of public opinion and advertisement on personal wants and needs; - improves skills to analyze information and take responsibility. | <p>A student:</p> <ul style="list-style-type: none"> - develops awareness of indicators showing the quality and safety of goods and services; - learns how to use information for determining quality and safety; - is aware of consumers' impact on producers. |
| Consumer rights and responsibility | <p>A student:</p> <ul style="list-style-type: none"> - develops awareness of sustainable labeling of goods; | <p>A student:</p> <ul style="list-style-type: none"> - develops understanding about the impact of consumption on the social processes; |

| | | |
|--|---|--|
| | <ul style="list-style-type: none"> - learns how to reduce the amount of household waste; - develops a deliberate and responsible attitude towards consumption of eco-friendly products; - develops awareness and learns to protect personal consumer's rights. | <ul style="list-style-type: none"> - develops skills of analyzing consumer behavior; - improves abilities to analyze information and use personal consumer rights daily; - involves actively and responsibly in ongoing processes in the society. |
|--|---|--|

The content of the program is organized for integrated studies of consumer education, which is one of comprehensive manners of learning. It is based on students' needs and interests, linking it to their everyday lives, desires, and practical application (connection between the life and education content - life experience – for life), encouraging students to make their own knowledge transfer and promote self-education, students' understanding of the relationship between individuals and the society.

Search for integration of educational disciplines is analyzed in **Sub-section 2.2.3.1 “Study Methods for Integrated Studies of Consumer Education”** (Aisyah, 2013; Ellerani & Gentile, 2013; Osman et al., 2013). It is concluded that specific study methods are used in consumer education for transforming the teaching process in the students' learning process, and these methods respond to the social learning theory and the key elements of social learning:

- active learning methods, where learning takes place in action, based on student collaboration and communication;
- research methods (solving of problematic tasks) and cases that allow detecting inconsistencies actively in individuals' opinions that are based on personal preferences, needs and understanding of their implementation;
- CLIL (Content and Language Integrated Learning) allows integration of programs of different levels, variety of content and makes it possible to enrich the study content, form and quality;
- while working with information sources, dealing with case studies, using supplementary tools (telephone, mass media, computer, I-pad, I-phone, etc.), assessment, drawing conclusions and usage of the experience gained in new situations connected with consumer's everyday life.

Sub-section 2.2.3.2 “Evaluation and Acquisition Criteria of Consumer Education Content” offers insight in the evaluation stages of students' learning

outcomes that may serve as a basis for teachers within the evaluation process in consumer education.

As the result of theories by pedagogical scientists and analysis of consumer education content implementation, the following three evaluation levels were identified, showing the criteria – knowledge and understanding, ability to use knowledge of consumer education – of the student’s learning outcomes:

- Reproductive knowledge and understanding, reproductive ability - a student knows the concepts of consumer education, he/she is able to identify these concepts in sources of information. A student uses acquired knowledge and skills at set pieces by the sample.
- Interpretative knowledge and understanding, interpretive skill - a student is able to use the knowledge acquired in standard situations (shopping, use of services), and use knowledge and skills in new non-standard situations, based on a sample.
- Productive knowledge and understanding, productive skill - a student uses the gained knowledge and skills for solving non-standard situations, he/she is able to explain the reasons of action and analyze its consequences.

Based on scientific studies (Daniela, 2009; Špona, 2001; Žogla, 1994) and consumer education content analysis, the following two types were set for evaluating the criterion’s attitude within the student’s learning outcomes in consumer education: consumer education criterion for assessing treatment were raised in 2 ways:

- attitude of habits that forms by systematical practicing and experience accumulation. A student is aware of and respects not only personally important phenomena, but also opinion of bystanders and society.
- self-regulated attitude develops through the analysis of individual performance, the process of evaluation and correction. A student analyzes personal behavior in connection with the ongoing social, political and economic processes in the society.

Chapter 3 “Acquisition of Consumer Education in Elementary School: Content Implementation and Effectiveness Check” of the research includes 2 sections. It describes organization of the experimental research and approbation results of the developed program.

Section 3.1 “General Concepts and Organization of Experimental Research” describes the organization of the research, shows its stages and determines the processing methods of the results.

The research is based on the analysis of social learning theory and education for sustainable development in consumer education. Consumer education content is developed, study methods used in the learning process are offered and research of activities is carried out based on the analysis.

The program “The Essence and the Content of Consumer Education for Formation of Student's Individual Consumer Education at Elementary School” for introduction of consumer education content has been developed and approved as the result of the research. It includes methods and recommendations for development of elementary education's student as a consuming citizen and participation in the society that is oriented on sustainable development and market relations within the global economic crisis.

The following methods were used in the SPSS data processing program for data processing and analysis:

- Mann–Whitney U–test – a non-parametric method to compare two independent samples and determine differences;
- Kendall's correlation (*Kendall's tau – b*) is a non-parametric method to determine relationships;
- Friedman's test (*K-related samples; Friedman*) – a non-parametric method to compare features in more than two dependent samples. In order to analyze the dynamics of student's achievement, students' answers are compared at the beginning, middle and end of the research;
- Wilcoxon's test (W) is used to compare features in two measurements taken in the same sample. In order to analyze the program approbation results, students' achievements were compared at the beginning and the end of the research.

Section 3.2 “Analysis of the Research Results of Consumer Education Content Implementation According to the Set Criteria” includes three sub-sections.

Sub-section 3.2.1 “Quality of Students’ Knowledge in Consumer Education Content Acquisition” includes the analysis of the development of the learning outcomes’ criterion “Knowledge and Understanding” within the approbation of consumer education program. Levels for determining the quality of students' knowledge are shown in Table 3.

Table 3 Levels for determining the quality of students' knowledge

| Criterion | Topic of consumer education content | Levels |
|-----------------------------|-------------------------------------|---|
| Knowledge and understanding | Needs and behavior of a consumer | <p><i>Reproductive knowledge and understanding:</i> a student knows who is a consumer and understands differences of desires and needs.</p> <p><i>Interpretative knowledge and understanding:</i> a student understands the need for selection and problem of resource limitedness.</p> <p><i>Productive knowledge and understanding:</i> a student knows and understands the effective and responsible use of the goods and services.</p> |
| | Management of personal resources | <p><i>Reproductive knowledge and understanding:</i> a student understands the need for budget planning.</p> <p><i>Interpretative knowledge and understanding:</i> a student knows the basic principles of budget planning.</p> <p><i>Productive knowledge and understanding:</i> a student knows how to limit the wasteful use of resources.</p> |
| | Consumers in market | <p><i>Reproductive knowledge and understanding:</i> a student knows how manufacturers advertise goods and services.</p> <p><i>Interpretative knowledge and understanding:</i> a student knows and understands aspects that influence consumers.</p> <p><i>Productive knowledge and understanding:</i> a student knows and understands indicators of safety and quality of goods and services.</p> |
| | Consumer rights and responsibility | <p><i>Reproductive knowledge and understanding:</i> a student knows what is eco-friendly production, understands that consumers have certain rights and responsibilities.</p> <p><i>Interpretative knowledge and understanding:</i> a student knows and understands the nature of sustainable branding of goods.</p> <p><i>Productive knowledge and understanding:</i> a student understands the personal impact on the ongoing processes in the society.</p> |

Questions about students' individual consumption, factors influencing consumers' behavior, budget planning and eco-friendly products in the context of sustainability were asked for the analysis of students' knowledge and understanding, suggesting that students develop knowledge and understanding of consumer education at a level which allows their usage in the consumer's everyday contexts and promotes active and responsible participation in the society.

Sub-section 3.2.2 “Analysis of the Criterion “Skills” in the Context of Knowledge Usage” focuses on the criterion “skills” that was advanced for evaluation of student achievement in consumer education. The criterion's levels show students' proficiency to use the gained knowledge knowingly (see Table 4).

Table 4 **Evaluation levels for the criterion “Skills”**

| Criterion | Topic of consumer education content | Levels |
|---------------|-------------------------------------|--|
| Skills | Needs and behavior of a consumer | <p><i>Reproductive skills:</i> a student is able to distinguish own needs from desires.</p> <p><i>Interpretative skills:</i> a student can analyze differences between desires and needs in various situations.</p> <p><i>Productive skills:</i> a student analyzes and plans personal behavior for satisfaction of desires and needs.</p> |
| | Management of personal resources | <p><i>Reproductive skills:</i> a student is able to draw up a family budget according to a given sample.</p> <p><i>Interpretative skills:</i> a student is able to draw up a personal financial plan according to a given sample.</p> <p><i>Productive skills:</i> a student is able to plan the future and take responsibility for usage of personal financial resources.</p> |
| | Consumers in market | <p><i>Reproductive skills:</i> a student is able to talk about own likes and dislikes when choosing goods.</p> <p><i>Interpretative skills:</i> a student is able to determine the influence of public opinion and advertisements on personal desires and needs.</p> <p><i>Productive skills:</i> a student is able to use information for determination of quality and reliability.</p> |
| | Consumer rights and responsibility | <p><i>Reproductive skills:</i> a student is able to sort household waste.</p> <p><i>Interpretative skills:</i> a student is able to reduce the amount of household waste.</p> <p><i>Productive skills:</i> a student is able to identify results of specific consumer behavior and assess costs by comparing necessity for this behavior.</p> |

Sub-section describes the development dynamics of the student’s skills and application of acquired knowledge in everyday life situations that lead to the conclusion that consumer education content acquisition process not only teaches students how to handle standard situations, but gives the opportunity to develop the ability to analyze causes and consequences of personal actions in the aspect of environmental and social sustainability.

Sub-section 3.2.3 “Development of Deliberate and Responsible Attitude in the Result of Consumer Education Content Implementation” evaluates students’ attitude by using attitude evaluation levels determined in consumer education and shown in Table 5.

Table 5 Evaluation levels of students' attitude in consumer education

| Criterion | Topic of consumer education content | Levels |
|-----------|-------------------------------------|---|
| Attitude | Needs and behavior of a consumer | <i>Custom attitude:</i> a student respects needs of other people. <i>Self-regulated attitude:</i> a student analyzes own needs, their influence on personal life and state in the closest society, and evaluates consequences of personal choice in the environmental and social context. |
| | Management of personal resources | <i>Custom attitude:</i> a student respects personal financial resources. <i>Self-regulated attitude:</i> a student develops informed and responsible attitude towards usage of resources, recognizes and assesses money as a value. |
| | Consumers in market | <i>Custom attitude:</i> a student is aware that consumers can influence the way goods are offered in market. <i>Self-regulated attitude:</i> a student recognizes personal responsibility when choosing goods and services, assesses, plans and organizes own actions according to the basic principles of sustainable development. |
| | Consumer rights and responsibility | <i>Custom attitude:</i> a student is aware of environmental threats created by industries and households. <i>Self-regulated attitude:</i> a student is convincing in comments on good or bad service or goods; he/she participates in ongoing social processes actively and responsibly, promotes consumption of eco-friendly goods, takes care of safety and uses consumer rights in everyday life. |

Analysis of the results led to the conclusion that the students’ responsible attitude shapes in the consumer education process in the form of analysis of conscious personal consumption, needs and available resources when selecting goods and services, evaluation, planning and organization of personal actions in accordance with principles of sustainable development.

Conclusion

The research describes the conceptual framework of consumer education, studies the students' needs and sets the consumer education content appropriate to the Latvian cultural conditions and methodological basis for its integration in elementary school.

Along with the increase in consumption and society's need for development of economic thinking, susceptibility, culture and initiative, ability to make non-standard decisions in various unconventional situations, there is a need to identify and integrate in the educational process such consumer education content which is appropriate for the Latvian culture environment, realizing the pedagogical paradigm that is oriented on the student's action/learning, offering a variety of activities for students in the educational process, creating a student as a consuming citizen and promoting his/her participation in the society that is oriented on sustainable development and market relations within the economic recession.

By introducing consumer education in the Latvian education system, based on the experience of other countries, it is an appropriate option when topics are included and integrated into other subjects in order to avoid overburdening of the learning process; as a result, students not only show knowledge and skills for handling the study process, but they also form personal attitudes, develop the ability to make an independent and informed choice, which is a base of the modern education paradigm.

The research includes students' learning outcomes in consumer education in the context of interrelationships of social learning theory and education for sustainable development that is a novelty. It creates the need to develop a program for the student's individual consumer education by transforming the teaching process into the student's learning process.

The conclusions, contained in the relevant sections, are drawn up in the result of the theoretical and empirical research. The key conclusions of the whole research are as follows:

1. Consumer education in Western European countries has entered a stage that is associated with the consumer's quality of life in a new level, resource balancing due to the global economic crisis and new approaches to consumer education on the basis of ethical principles and the need for consumer culture within the development of civil society. This development is much slower Latvia, and that can be explained by the urgency for consumer education and consumer safety issues only in the 1990s.

2. “Consumer education” is a component of general education that complements the civic education and contributes to an individual's ability to manage personal life, promotes individual, social, economic and ecological development of the society. This confirms the hypothesis put forward in the thesis: a student's consumer education implements as a component of general education if the concept “consumer education” is formulated, based and included in the curriculum.
3. It is important in consumer education to view consumer behavior in the context of economic, social and environmental sustainability; it develops the student's education and participation in the society that is oriented on sustainable development and market relations within the global financial crisis.
4. Students in Latvia do not know and do not understand different consumer education issues (impact of personal consumption on the environment and social processes, consumer behavior and factors influencing the selection of goods, etc.) that affect their personal lives and participation in a variety of processes. Students also cannot take responsibility for the consequences of their actions that is why there should be included topics in consumer education content that promote analysis of personal consumption and develop student's involvement in the ongoing social, economic and political processes.
5. It is necessary to include topics in the Latvian consumer education content that give an opportunity to develop student's knowledge, skills and attitudes in the following fields: consumer needs and behavior that corresponds to the public aspect of education for sustainable development; consumers in market, which is included in the economic and environmental aspect; management of personal resources is included in the economical aspect of education for sustainable development; consumers rights and responsibilities is part of the consumer's cultural aspect, which is closely related to all other aspects of education for sustainable development.
6. Specific study methods are used in consumer education for transforming the teaching process in the students' learning process, and these methods respond to the social learning theory and the key elements of social learning: active learning methods, where learning takes place in action, based on student collaboration and communication; research methods (solving of problematic tasks) and

cases that allow detecting inconsistencies actively in individuals' opinions that are based on personal preferences, needs and understanding of their implementation; while working with information sources, dealing with case studies, using supplementary tools (telephone, mass media, computer, I-pad, I-phone, etc.), assessment, drawing conclusions and usage of the experience gained in new situations connected with consumer's everyday life.

7. A student develops responsible and deliberate action with financial resources within consumer education content acquisition process. It is an essential step to limit inefficient use of resources and sustainable consumption development; a student, identifying options for satisfying personal needs, takes into account the needs of surrounding people and the society, as well as analyzes personal behavior in the environmental and social context.
8. By viewing consumer education as a component of pedagogical system, developing realization of pedagogical paradigm for action/learning, using diversification of study methods in the consumer education content acquisition process and transforming the teaching process into the student's learning process, a student is given the opportunity not only to develop personal consumer education and improve own knowledge and skills to use them, but also to shape attitudes in the form of active and responsible participation in the society that is oriented on market relations and sustainable development under the changing economic conditions.

Recommendations for Teachers

Recommendations for teachers are drawn up on a base of the research carried out. Their main content is as follows:

- to find out and take into account students' interests and needs when creating the study content of elementary education subjects, to use them for topical and personally relevant choice of topics and identification and development of personal learning outcomes;
- to encourage students to suggest ways of solving problems and research methods; it enables students to feel their importance, satisfaction, sense of applicability of the gained knowledge and skills in situations related to consumer's behavior in everyday life;

- students participate willingly in researches during the learning process, so it is important for teachers to organize learning by doing, through active learning, research and with the use of information technology-related study methods;
- to use subjects' transdisciplinarity when planning the educational process; it can be achieved by using content and language integrated learning approach (CLIL), combining the topic of the subject, as well as consumer education issues, and language learning;
- in order to encourage adolescents' deliberate and responsible participation in educational activities and social processes, it is necessary to offer them an informative resource selection, provide access to information technology, choose the educational content according to their interests and needs.

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DEVELOPMENT OF NATURE STUDIES AND TECHNOLOGIES COMPETENCE IN THE CONTEXT-ORIENTED PROCESS OF LEARNING PHYSICS

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Theoretical Analysis of Physics Learning Process in a Context-Oriented Constructive Pedagogical Process

In the Part 1 of the monograph scientific literature about the guidelines of constructivism, context, the use of didactical reconstruction in teaching physics, neurocognitive learning theory, methods of neurovisualization has been analyzed, the curriculum of overall secondary education of physics and the possibilities of using elements of bionics in physics learning process have been analyzed.

In the chapter 1.1, by summarizing acknowledgements analyzed in different sources (Piaget, 1970; Bruner, 1996; Geidžs & Berliners, 1999) the authors conclude that the ideas of constructivism that are based upon cognitive theories, help the student to construct his/her own knowledge by noticing the difference between previous knowledge and new experience. Students improve their intellectual capabilities by seeking the balance between what they perceive, know, understand and what they see in every new event, experience or problem. If the student creates and verifies hypothesis on his/her own, experience in formulating overall laws and principles, identifying useful terms is generated. It is important for students to understand the topic being taught correctly, the understanding is based upon the abstract and the defined, a uninterrupted connection between the overall and the specific.

The main principles of constructivism are summarized in Table 1.

Table 1 **The main principles of constructivism**

| Principles of constructivism | Description of principles |
|-------------------------------------|--|
| Construction | Formation of knowledge by activity, action, problem solution |
| Understanding | The learning process is focused on thinking and formation of understanding |
| Context | Problems are solved, tasks are approximated to the real life and professional activity |
| Cooperation | Mutual assistance in problem solution, evaluation of ideas |
| Communication | Development of communicative skills through communication in group work, projects, formulating own ideas, asking questions |
| Responsibility | A pupil feels responsible for his/her learning from the moment when his/her learning is based on his/her questions, discoveries, and solutions |
| Transfer | Discovering own learning principles a pupil can apply them in other learning situations |
| Emotional experience | Emotional experience causes activity of cognitive processes, urge mind activity. Emotional experience is created by application of diverse, active forms of learning |

The chapter 1.2. includes two subchapters.

In the subchapter 1.2.1. the conception of context in physics is analysed. Physics education is important in realization of valuable everyday life, in training for professional activities and in development of worldviews and attitude towards the surrounding world. The fact that pupils can relate the learning content to be studied with their lives, thus being more motivated for the schoolwork, is an advantage of physics learning. The knowledge to be acquired in the learning process may be applied in real life situations and physics may be studied by analyzing these situations. On the basis of the aspect mentioned, it may be concluded that learning content of physics shall be viewed within the context. It means that learning content is related to the phenomena of everyday life, possible future career, elaboration of technical devices, or it is viewed within historical context of physics and as the influencing factor of technology development, society and its cultural achievements.

The word context comes from the Latin “contexere” which in translation means “to be weave together” or “that which gives coherence to its parts” (Cole, 1996). General definitions underlie the concept of context; therefore, spheres of origin of contexts shall be discussed in order to comprehend the essence of this definition completely. The origin of contexts which are used in physics learning

process is related to the personal, social and professional sphere, as well as to the scientific and technological sphere (Jong, 2006). Analyzing teaching strategies mentioned by F. Villalino, the contexts may be divided into five groups: context of life experience, cognitive context, context of knowledge application, cooperation context, and context of knowledge transference. The usage of the contexts of these groups ensures complete and varied physics learning process. O. Jong has classified contexts into groups according to the aspects of their usage (Jong, 2006). This classification includes the contexts which are used in the acquisition of theoretical issues and after explanation of theory, contexts which complement the content of teaching materials, encourage the application and summarization of knowledge and promote further investigation of issues.

By analysing the acknowledgements of different authors (J. Brunner, V. Klafki, R. McDermot, J. Mestre, E. Clark etc.) about context oriented learning the author concluded that context contains qualities that promotes the creation of the perception of content. E. Clark (Clark, 1997) interprets the context as over-content that helps define a meaningful understanding about what is taught concerning every day phenomenon: culture, politics, economy and ecology. Clark defines four fundamental types of context: subjective context, time context, symbolic context and the context of ecosystem or the global context. In the centre of attention of contextual constructivism are contexts. Context is one of the most important parts of learning process and not a separable factor. By connecting the curriculum with happenings of the real world, everyday lives of students and teachers, professional activities and career, the physics learning process becomes interesting and meaningful, it drives students to be more active and self-motivated to study.

In the subchapter 1.2.2. it is concluded that physics teaching is mostly centred around students and the curriculum, student's understanding of the world is developed in the teaching process. To develop a scientific understanding of the world in students, that is based upon previous knowledge, one must understand how students develop intuitive theories about the world. Learning is not an isolated activity but a social activity that is influenced by local contexts – the information about the task, the situation and the environment. These contexts are not analytically separated, but are very important for the learning process of the student. From this viewpoint a conceptual change happens both in the student and the context. Environments where context encourages the learning process should be created. Abstractions, that will allow the student to use this conception in other situations. Are connected to these conceptions. Environment has to promote both

the conceptual understanding of the particular situation and the ability to transfer this knowledge to other, connected situations (McDermott, 1993).

Context aids the formation of a meaningful understanding about the things that are taught and are connected to the happenings of everyday life, bionics. The contextual approach stimulates the development of the cognitive competency, the skills of using knowledge and the learning motivation and attitude. The application of principles of physics to different situations, by providing a more precise reflection of acquired knowledge in practice can be achieved with the use of contexts. Students build their understanding of the content in context and that cannot be separated from the student's learning context, in which it happens and how it corresponds to the basics of contextual constructivism. According to the acknowledgements of different authors, contextual approach in physics content and the process of organizing can be applied in three aspects – conceptual, thematic and methodological. Contextual approach creates the need for the creation of integrated physics curriculum, by noting the idea of interconnection, in order to give each student the opportunity to build his/her own meaningful understanding about the world and one's role in it.

A student tries to comprehend the surrounding world and, in order to do that, develops an understanding of science, technologies and society during the learning process. A student explores the nature, artificial man-made environment and social environment. Context-oriented approach emphasizes the relation between science, technologies and society in physics learning process. This approach declares studies as the process, within the framework of which a pupil acquires new information in the context of meaning, searching for sense and usefulness (Rose, 2012). Strategic learning elements – to relate, to experience, to apply, to cooperate, and to transfer – are expressed in context-oriented studies.

Several problems, which are related to the activities of a teacher and pupils, may be distinguished in the implementation of context-oriented studies:

- professionalism of a teacher during the implementation of context-oriented approach;
- choice of varied contexts which correspond to the issues of learning content and pupil's abilities to comprehend and understand;
- generalization of pupil's knowledge beyond the context;
- usage of contexts which reflect the learning context but may have negative emotional influence on the pupil.

The problems mentioned above can be solved by offering appropriate professional development programs for teachers, elaborating appropriate

methodological teaching materials, realizing an integration of various types of activities in the learning process, using well-known examples to the pupils which are faced in everyday life and technologies, and which are specific, interesting and useful, and can reflect phenomena of real life unmistakably. By the usage of context-oriented approach and analysis of the problem to be explored, it is possible both to ensure the acquisition of general concepts and laws of physics and to develop learning skills, systematic thinking, thus improving general competence of the pupils.

The chapter 1.3. includes three subchapters in which the acknowledgements about the didactical model of reconstruction in the learning process of physics are analyzed.

In the subchapter 1.3.1. by analyzing the acknowledgments of different authors (Kattman, 2004, 2007; Kattmann et al., 1997), the authors conclude that the model of didactical reconstruction is like a base to unify the professional and educational competencies in research and learning process. The model is aimed at explaining theoretical structures and methods of the lesson, as well as explaining the planning, realization and reflexion of learning process. It also allows to describe the role and function of didactical conception from teacher's viewpoint. The components of physics didactical reconstruction consist of:

- 1) analysis of physics content structure, that includes two connected processes – the definition of the subject and the analysis of the meaning of education (Driver & Ericson, 1983);
- 2) the studies of learning and teaching, that contain the empirical research of the specifics of learning environment;
- 3) the developments and evaluations of instruction tie together with instructional material, designing learning activities, teaching and learning process in physics (Duit, Komorek, & Müller, 2004).

In the subchapter 1.3.2. it is defined that the goal of the model of didactical reconstruction is to provide a framework to plan and research a physics lesson, which is student-oriented, constructive from the viewpoint of learning theory: students have to construct their own knowledge while they are, for example, experimenting on their own. Students have to be given the opportunity to gain their own experience during the lesson. The student's ideas about the knowledge of specific physics topics is also a topic for didactical research. In the model of didactical reconstruction of physics they have a central role in planning a lesson. The main goal of didactical structuring in lesson is a systematic coordination of professional explanation with the student's understanding of the topic, acknowledgements of student's ideas and previous knowledge about physics.

Besides, the complications that could occur during learning are included in the planning (Kattmann et al., 1977).

In the subchapter 1.3.3. the authors conclude that didactical reconstruction is focused towards the reconstruction of physics knowledge in order to help the students understand the most important parts. The common goal is to identify the connections between physics knowledge and alternative every-day systems of students (Kattman, Duit, & Gropengießer, 1998; Duit, Gropengiesser, & Kattmann, 2005). Physics knowledge is a result of abstraction and reduction processes, but physics teaching includes making the science viewpoint understandable for the student. The model of didactical reconstruction in learning is based upon theoretical explaining of lessons' methods and structures, it connects the elements of planning and leading a lesson in a systematic relevance. The author concludes that the main components of the model of didactical reconstruction is content analysis, empiric analysis of learning environment, projecting of physics learning process. In the model of didactical reconstruction physics curriculum is made more approachable to the students, despite it being more complex because it is included in different contexts and interacts with the students' learning capabilities.

The chapter 1.4. includes two subchapters in which acknowledgements about neurocognitive learning theory and methods of neurovisualization are analyzed.

In the subchapter 1.4.1. the authors conclude that the theory of neuroscience and research in education pay a lot of attention to the science of learning and teaching, emphasizing the cognitive theory and perspectives of constructivism. Neurocognitive learning theory is a synthesis of 3 different directions:

1. Neurophysiology, with an emphasis on biological basis, activities of brain and nerves
2. Cognitive science, focusing on the experience of information processing and internal representation.
3. Learning theory, that explains how, in general, people interact and adapt in different environments.

These ideas emerged in the second part of 20th century by integrating the model of neurocognitive information processing in context – students think that they are learning scientific ideas by using verifications (Anderson, 2009). Cognitive research analyses the qualitative characteristics and thinking processes. It is based upon the model of processing information, that is used in cognitive psychology, which describes a person as an active and targeted recipient, the

processor of information and the creator of information. Learning is an active processing of information. Constructivists emphasize students' learning and understanding as an activity not as information of outer world. (Fox, 2001). Learning depends on many factors. From the viewpoint of constructivism the deciding factors are the student's initial assumptions and experience, the character of information and context in which learning happens. In accordance with constructivism the most important role of the teacher is to create a learning environment in which student has the opportunity to analyse his/her previous experience and knowledge, be active acquirer of knowledge and process new information in a real and meaningful context.

In the subchapter 1.4.2 by analysing the methods of neurovisualization the authors conclude that visual perception is dominant in students starting from the pre-school period. Students gradually acquire the ability to perceive the colour, size, shape, proportions, frontal perspective of an object. In psychology it is also known that visual perception is the primary one. This characteristic should be taken note of in all subjects (Hibner, 1998). Physics is also easier perceived by the use of models, theory of visualization, by showing that physics is the connection between theory and praxis.

By analysing theory of neurocognitive learning, the authors concluded that neuroscience provides synthesis between the theory of neurocognitive learning which explains how people generally interact and adapt in different environments, and cognitive science, that focuses on the processing of information and experience. The construction of knowledge occurs in connection with new information, we create new knowledge using assimilation and accommodation by including models of constructivism. Student must not acquire information passively, but learn from the surrounding environment by connecting the system of brains and intellectual environment in order to coordinate inner and outer world. The main learning method of a student is context-dependant learning, where problems and situations topical to the student are used to include specific scientific content or problem tasks, and is connected to the neurocognitive model.

Chapter 1.5. includes two subchapters in which physics curriculum of secondary schools and inclusion of bionics elements into physics curriculum.

In subchapter 1.5.1. by conducting research on standards of learning physics, books of secondary school physics and other sources of literature, the authors conclude that physics curriculum is structured in here blocks – environment, society, technologies. In physics standard learning of research activities is emphasised, which includes work with information, predictions, planning of the experiment, experimenting, data processing and analysis,

introduction to acquired results. One of the tasks of the subject is to develop scientific thinking and improve the skills of research activity and cooperation in physics. In physics, the clarification of laws and diversity of phenomenon happens through scientific quest: by observing, experimenting, measuring, modelling, working with sources of visual and verbal information and using information technologies. Therefore a modern curriculum contains not only abilities and skills but also scientific methods in acquiring content. This block is structured according to the directions of the researcher:

- Development of skills of acquirement, the use of mathematical models and other cognitive actions,
- Development of experimental skills,
- Work with verbal and visual sources of information (communication skills, the use of information technologies),
- Development of skills of cooperation.

In the subchapter 1.5.2. the authors clarify that bionics is based upon the idea that the optimal solutions of practical problems must not be figured out anew – nature has solved them in an almost 4 billion year-long process which is called evolution. Supporters of bionics assume that nature is the main source of ideas and innovation. Nature is the world's most influential engineer, smartest physicist – provides countless ways how to create new and improve existing mechanisms using small, simple, inexpensive methods. For example flies and sea hedgehogs have vacuum suction cups, because of which the sea hedgehogs can climb very steep cliffs and flies – walk on the ceiling. Nature has gifted spiders with a hydraulic drive, that allows to move very quickly. (*Ищенко, 2008*). By experimenting the student creates understanding of the functioning of biological system, the student can model functional, technological solutions, seek the connection between nature and technology, seek a solution on how to improve the current ecological situation. The creation of connections between nature and technologies is a perspective way how to improve the ecological situation by developing harmony between nature and technology and development of such mechanisms and technologies that are nature-oriented. Author offers to integrate elements of bionics in the physics course in the corresponding topics.

The Improvement of Physics Methodics for the Development of Students' Natural Studies and Technologies Competence and Promotion of Acquiring Interest about Natural Sciences

In part 2 natural studies and technologies competence, didactical model of learning physics and criteria for its evaluation are described.

In the subchapter 2.1. the authors conclude that if students would be involved in the research of science problems in the context of real life, then the development of competency of natural studies and technologies competence is possible within a didactical model that integrates the student's knowledge about nature. Scientists (P. Perenoda, J. Kulahan, I. Maslo and I. Tiļļa) connect competence to the students' abilities to function in defined conditions, basing on knowledge, function effectively in given situations as well as the ability to gain experience.

Acquisition of nature studies and technologies is often related to basic competence; includes a capacity to apply scientific knowledge, formulate questions and draw substantiated conclusions to understand and help make decisions on the nature and changes in it caused by human action (Key competencies, 2002). The European Parliament and Council have adopted recommendations for basic skills in lifelong education. This document among the key competences mentioned the competence of nature studies and technologies. Competence in nature studies refers to the ability and wish to apply knowledge and methods to explain the world of nature, identify questions and draw substantiated conclusions. The competence of technologies is considered to include knowledge and methods needed perceiving human wishes and needs. Nature studies and technologies competence also includes understanding of human caused changes in natural environment and responsibility each member of society shall undertake (Mūžizglītības galvenās pamatprasmes, 2007). Competence shall be perceived as a set of knowledge, skills and attitudes needed for taking action (Tiļļa, 2003). The development of nature studies and technologies competence is necessary for personal growth and inclusion into society to apply consciously modern technological products, discuss on the progress of science and technology, and work in the field of natural sciences and engineering. Nature studies are a significant product of public culture an element of the world outlook, thus, it is natural for every educated person to be aware of the natural science thought. Exploration of scientific cognition of natural phenomena and formation of understanding are significant already at school. Acquiring natural sciences pupils get what is needed to increase their

understanding of the surrounding world. Sciences highlights the link between a human being and nature, it facilitates pupils' strive for knowledge, critical view and reminds of restricted use of natural resources (Science Teaching in Schools in Europe, 2006).

The process of learning physics at school is significant in world cognition. It is essential to increase the effectiveness of teaching physics and promote the attractiveness of this subject because:

- it provides understanding of science to pupils who shall become full-fledged members of technologically developed society;
- it encourages young people to devote themselves to the career in the field of science.

Natural studies and technologies competence can be attributed to the ability and willingness to use knowledge and methods in order to explain the world, make conclusions based upon evidence by using knowledge and methods according to the persons wishes and needs.

In the subchapter 2.2. the authors have developed a context-oriented didactical model, that includes students' knowledge about the nature for physics learning, the idea of which is connected to the integration of elements of bionics into physics curriculum therefore providing the unity of learning, nature and technology and realising the learning process in a social dialogue and interaction with nature and technologies (Figure 1). This mentioned model foresees a more effective acquisition of physics knowledge, a deeper understanding of physics curriculum, the interaction between nature and technology, the use of physics knowledge, the development of abilities of scientific enquiries, enrichment of positive emotional attitude, development of expressions of scientific reflexion. Theoretical basis of the model is based upon the theory of constructivism that explains that learning is a process of constructing knowledge which is in turn based in social interaction, student's previous experience of student working with context-oriented, systematically created curriculum that integrates the student's knowledge about nature (Figure 1).

In the developed didactical model of learning physics it is expected to view the interaction- dialogue, „student-teacher”, „student-student”, „student-nature”, „student-technology”, by activating previous experience, widening the abilities to use knowledge by developing research skills. The use of these interactions in the learning process of physics spark students' interest, draws attention, activates students' learning activities, connects learning process to practical life. By including bionics in physics curriculum, the biological system and the

technological solution of this system is viewed in context, which allows praxis to be used in theory and vice versa.

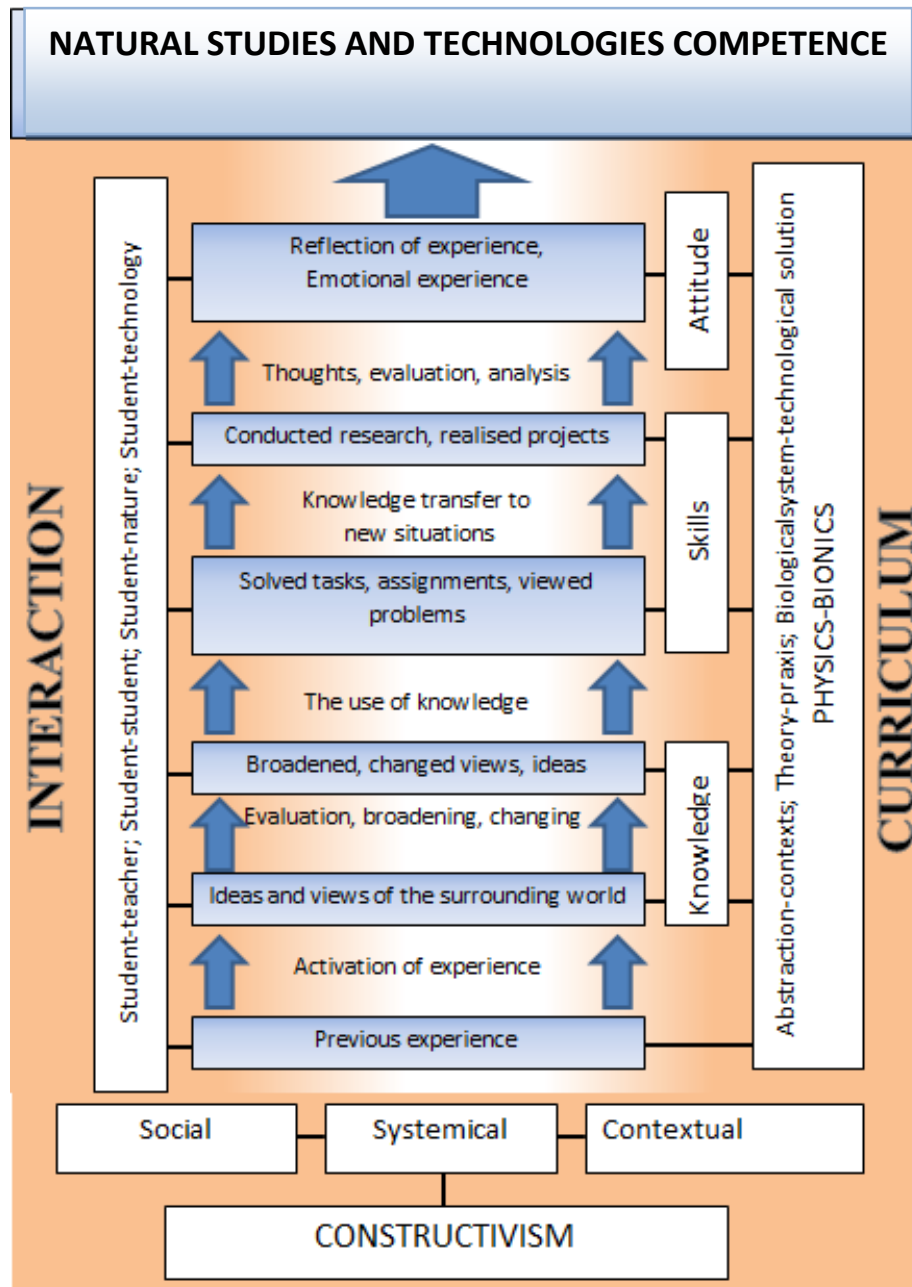


Figure 1. Didactical model for acquisition of physics that integrates student's knowledge about nature

In the subchapter 2.3. the authors have concluded that physics learning is guided towards learning integrated knowledge about nature and is to be realized in a context-oriented pedagogical process, where student has an important role in gaining knowledge. The learning process is guided towards the facilitation of the

development of natural studies and technologies competence. Natural studies and technologies competence can be perceived as a collection of knowledge, skills and attitudes, that are required to explain the surrounding world, perceive problems, analyze and solve them in a research work in order to understand processes of nature and changes in nature, evaluate them and act accordingly. That means that criteria for development of natural studies and technologies competence can be considered: knowledge, skills, attitudes.

In order to explain physical processes and phenomena, to solve tasks pupils need solid knowledge background. Precise and broad factual knowledge lets involve students more successfully in solving tasks and problems which are crucial in scientific cognition. In the learning process thinking shall be focused on deeper understanding of the new knowledge. Understanding is considered to be a significant characteristic of learning related to the acquisition of notions, laws and theories when the meaning and understanding of the learnt material form in pupils' consciousness. A significant aspect is also formation of understanding on the interaction of nature and technologies creating links between animate and inanimate nature, thus making learning situations meaningful and providing an opportunity to construct new knowledge from authentic experience. Understanding is related to structuring the existing experience with new information. Understanding of phenomena, processes and objects means revealing significant aspects and abstracting the insignificant aspects. Table 2 includes the indicators of the criterion of nature studies and technologies competence development – knowledge – and the characteristics of their expression on three levels.

Table 2 **Indicators of the criterion of nature studies and technologies competence development – knowledge – and the characteristics of their expression**

| Criterion | Knowledge | |
|------------------------------|---|---|
| Indicators | Understanding of notions, laws, theories | Understanding of interaction between nature and technology |
| Description of levels | Low level – REPRODUCTIVE KNOWLEDGE The skills characterizing the aspects of understanding are expressed episodically, sometimes a positive result is observed. Knowledge is reproduced, it is based on memory, a reproductive thinking level. Reading or listening and retelling are typical. | |

| | |
|--|---|
| | <p>Average level – INTERPRETING KNOWLEDGE</p> <p>The skills characterizing the aspects of understanding are sufficiently developed, they are demonstrated by partially positive results. One is able to analyse situations, explain the nature of phenomena and processes, the course of their development. There is observed insufficient understanding of some more detailed issues; however, there is tendency to move to deeper understanding.</p> |
| | <p>High level – PRODUCTIVE KNOWLEDGE</p> <p>Knowledge is acquired, skills are developed in compliance with the requirements of physics standards at secondary school. The skills characterizing the aspects of understanding are shown they are consistent. Knowledge is systemic, classified, applicable and dynamic letting to see the aspects of interaction between nature and technology.</p> |

The acquired knowledge shall be applicable. The relation of physical processes and phenomena learnt in physics to practical life, their applicability in nature and technology are indisputable, therefore, it is significant for pupils to be aware of these phenomena and be able to apply them in various areas. Knowledge, which people do not use, are not able to apply, has no value; therefore, in the learning process it is essential to make knowledge not only consistent and broad, but also applicable in practice.

Application of knowledge facilitates freer acquisition, induces learning motivation revealing the practical significance of the issues to be learnt, brings knowledge closer to life and understood really, not abstractly. Formation of skills to apply knowledge is gradual when a teacher directs pupils from knowledge application according to a sample to independent creative activity, thus teaching pupils to control the solution of the task by themselves, to analyse the causes of success and failure. Inducing thinking operations a teacher should make pupils form knowledge application skills in non-standard situations. Such level of knowledge application skills is typical for a productive activity where pupils are ready to solve scholastic problems, reveal objectively new relationships, formulate general conclusions and are able to transfer knowledge to solve new tasks. Interpreting activities are oriented towards the skill to apply knowledge by analogy or in known situations. Operating with known assumptions pupils define relationships, use factual material to explain and prove. The lowest level of knowledge application is typical for reproductive activity when knowledge is applied by a sample. Quite often knowledge is memorized mechanically, thus, making them hard to be applied in solving scholastic tasks in the learning process and in real life.

Pupils acquire knowledge from various sources, thus, it is essential to help them structure knowledge, master the skill to apply them. Table 3 includes the indicators of the criterion of nature studies and technologies competence development – skills – and characteristics of their expression on three levels.

Attitudes also influence the formation of nature studies and technologies competence basing on the acquired knowledge and developed skills. In its turn, attitude is based on the ability to learn, realised opportunities and a self-critical approach (Žogla, 2001). Attitude is related to pupils’ interests, motives, views and beliefs. In V.McGuire’s opinion attitudes include cognition, emotions and verbal and non-verbal action (McGuire, 1985; Ajzen, 2005). Basing on the cognition mentioned above emotional experience and reflection can be distinguished as significant factors of attitude. Learning include the presence of adequate emotional experience, evaluation of one’s own action and knowledge, contemplations about the surrounding world and the role of science in the society in the development of technologies.

Table 3 Indicators of the criterion of nature studies and technologies competence development – skills – and characteristics of their expression

| Criterion | Skills | |
|------------------------------|--|-----------------------------|
| Indicators | Knowledge application skills | Scientific cognition skills |
| Description of levels | Low level – REPRODUCTIVE ACTIVITY Pupils are able to complete scholastic tasks by a sample, but do not understand their meaning fully. Observation and reproduction are typical activities. | |
| | Average level – INTERPRETING ACTIVITY Pupils are able to apply knowledge by a sample in similar situations. They are able to solve typical and combined scholastic tasks. Activities with information by interpreting it, making schemes, models and applying it in standard situations are typical. | |
| | High level – PRODUCTIVE ACTIVITY Pupils are able to apply knowledge independently in creative unfamiliar situations. Logical thinking, independent judgments, original approaches are developed. Pupils are able to solve not only basic scholastic problems, but also transfer knowledge and skills to discover new relationships and solve technological problems. | |

Acquisition of physics depends on the level of pupils’ emotional development. Emotions influence human’s behaviour, capacity, increase or decrease of activity. Joy, friendly cooperation, and excitement increase capacity.

Such emotions increase the activity of the whole body, and general tonus of the nervous system. However, concern, fear, shame influence depressively, weaken bodily processes and reduce energy. These emotions make people to be inert, inclined to inaction (Čehlova, 2002).

Emotional experience is a condition and kind of emotions and feelings experience. Attitudes towards phenomena, actions and objects depend on the character and depth of emotional experience. In the learning process of physics pupils' interested attitude, expressions of emotional experience can be observed:

- acquiring new information containing a surprise element;
- demonstrating impressive experiments by a teacher;
- providing an opportunity for pupils to plan, prepare and implement experiments;
- showing opportunities how pupils could use their energy and capacity;
- revealing expressive solutions to problems by a teacher, highlighting the visual attraction of equipment and models;
- listening to persuasive judgments;
- working on independent researches resulting in the joy of discovery.

I. Žogla indicates that it is easier for pupils to learn and learning activities are more productive if positive emotions dominate. On the background of a positive emotional attitude episodic failures, embitterment cause a wish to learn, correct the mistake, prove to oneself and others one's abilities (Žogla, 1994). Optimal balance between positive and negative experiences, when positive ones dominate, but negative ones train pupils persistence and willpower, lets them use the reserves for promoting pupils' intellectual productivity.

Reflective activity shall also be facilitated in learning physics. It lets look at the completed tasks and serves as background for further development. Z. Rubene explains reflection as an ability to think critically and make independent critical judgments (Rubene, 2004). Reflection is related to analysis, critical evaluation of thoughts and judgments, active restructuring of knowledge and opinions (Rubene, 2009). It is human's self-actualization, perception and contemplation of one's own feelings and thoughts (Garleja, 2003). Developed reflection skills provide pupils understanding of the level of their nature studies and technologies competence and the necessity to improve it. Reflective includes contemplation, self-evaluation, analysis of personal thoughts and experiences; it is exchange of thoughts and emotions.

Emotional experience and reflection have typical expressions – from practical activity, contemplation on specific achievements and experiences to

transition to mental experience, personal significance and self-analysis. Table 4 includes the indicators of the criterion of nature studies and technologies competence development – attitude – and characteristics of their expression on three levels.

Table 4 Indicators of the criterion of nature studies and technologies competence development – attitude – and characteristics of their expression

| Criterion | Attitude | |
|------------------------------|---|------------|
| Indicators | Emotional experience | Reflection |
| Description of levels | Low level – SITUATIONAL ATTITUDE Pupils experience social effects in the learning environment – praise, joy for achievements, evaluation, overcome difficulties and fear. The gained experience is reflected in emotions and feelings. | |
| | Average level – HABITUAL ATTITUDE Pupils experience intellectual achievements. Negative emotions are the basis of work to eliminate the causes of failure. Pupils see the meaning of practical and intellectual activities in their growth and have positive experience. Contemplation about learning activities and awareness of one’s emotional reactions are typical. | |
| | High level – SELF-REGULATED ATTITUDE Pupils experience the results of self-control and self-analysis, broadening intellectual abilities, the results of independent cognitive activity, development of skills for practical application of knowledge. Self-actualization expressed in critical analysis of one’s activity and knowledge, contemplation on the meaning and extents of knowledge. | |

Therefore, learning physics can be considered as pupils’ active purposeful activity for the activation of their experience and further enrichment in systemically organized environment acquiring knowledge with understanding, applying them in various situations in the social and functional context and activating emotional experiences and motives, expressing reflection of experience based on topical contemporary needs.

Analysis of the Efficiency of the Didactical Model that Integrates Student’s Knowledge about Nature for Acquisition of Physics

Part 3 describes the empirical research.

In the chapter 3.1. the way of research is described, the methodology of quantitative and qualitative research. During the practical research the authors

clarified the level of awareness of the students and teachers about bionics and the transfer of natural processes to technology, tested how the use of the didactical model that integrates the student's knowledge about nature in the learning process affects physics learning in secondary school, evaluated the level of students' acquired physics knowledge and skills by the end of the pedagogical research, evaluate the change of attitude towards physics by the end of the pedagogical experiment.

By analysing the level of students' learning, extra attention was paid to these aspects: student's acquired knowledge, the understanding of theory, laws and ideas, as well as the understanding of the interaction between nature and technology, knowledge skills, skills of scientific research, analysis of knowledge and actions, attitude.

In the chapter 3.2. analysis of the acquired data and results has been done. The main results of the empirical research:

Students see the connection between the events happening in nature and the development of technology, despite the fact that the physics course does not mention that many technological solutions are based upon natural processes;

Students want the teachers to use visualization in the teaching process – presentations, demonstrations;

Students would love to have more examples of nature and the explanation of physics laws using the laws of nature;

Students enjoy researching, making conclusions, use the previously acquired knowledge, experience, but students do not associate it with the transfer of natural systems to technological constructions;

A positive change in students' attitude towards physics can be achieved via the use of the didactical model that integrates the students' knowledge about nature.

By fulfilling the previously set goals, the authors have come to a conclusion that the previously set hypothesis is confirmed. The use of the developed didactical model and the use of elements of bionics in physics learning process, raises the students' interest in physics and sciences, develops competency of science and technology more efficiently.

Conclusions

- In physics didactics, a context-oriented approach, that is focused towards an actively working student, which is constructing an understanding of physics content with the help of contexts, can be brought forward as a topicality.

Context-oriented learning is connected to the creation of a new learning culture, that is focused on promoting student's scientific thinking, by advancing the understanding of scientific work about topics that integrate everyday events, natural phenomena, processes of technology and production.

- Physics curriculum is to be improved by integration of bionics elements that provide the unity of learning, nature and technology and facilitates the students' thinking in connections, by connecting theory and praxis, biology and physics, biological systems and technological solutions.
- Physics learning can be realised basing upon a didactical model that integrates the student's knowledge about nature which is based upon the theory of constructivism and proposes learning in a social interaction, basing upon previous experience, actively working with a context-oriented, systematically created curriculum, developing the natural studies and technologies competence.
- The model actualizes the didactical laws and ensures the usability of students' knowledge skills, the development, systemicness and usefulness of attitudes, that allow to see the aspects of interaction between nature and technology, uncover new links to solve technological problems.
- Natural studies and technologies competence can be perceived as a complex of knowledge, skill and attitude, that are required to explain the surrounding world, to perceive problems, analyse and in active research work solve them, to perceive the changes in nature, evaluate them and react responsibly.
- The development of competency of nature research and technology in physics learning process show the formation of understanding of physics, the interaction between nature and technology, the improvement of the usage of physics knowledge and the skills of scientific research, the creation of positive experiences and the development of thinking skills
- The didactical model of teaching physics that integrates student's knowledge about nature has shown positive results by contributing to the creation of a deeper understanding of physics theory, the interaction between nature and technology, the development of the use of physics knowledge and the skills of scientific reflexion, the enrichment of positive emotional attitude and the development of scientific reflexion.
- The developed approbation of the didactical model of physics teaching that integrates student's knowledge about nature, points toward the fact that context-oriented learning process and the use of bionics elements in the

secondary school physics curriculum, improves the students' interest in physics and sciences, develops the competency of science and technology more efficiently.

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SUPPORT SYSTEM FOR PROMOTING THE PROCESS OF INCLUSION OF LEARNERS WITH SPECIAL NEEDS IN GENERAL EDUCATION INSTITUTIONS

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One of the greatest challenges for a sustainable development is providing all individuals of a community with equal opportunities, that such opportunities would be created for and offered to individuals of various generations as well as to those within the frame of one generation. The degree to which people with special needs can take part in different processes of social life is the indicator of democracy of every country.

In the world, the changes in the paradigm on issues of educating learners with special needs can be traced back to the 1950s, when the idea about inclusion of learners with special needs in general education institutions began to evolve, but this idea has been actively developed since the beginning of the 1970s. In 1994, at the Salamanca conference a new guideline on ensuring special education in the countries of the world was laid down – the transition to creating such education institutions where any child can become part of it. Inclusive education has become one of the most discussed and topical themes that has become popular internationally (Rouzs, 2006; Eiropas speciālās izglītības attīstības aģentūra, 2011; Malofejevs, 2008; Mitchell, 2010; Nīmante, 2008). Inclusive education is based on the consideration that education, which provides the basis for sustainable and coordinated development of society in the long term, holds the central role in the social policy field (UNESCO, 2008; Mitchell, 2010). Inclusive education is a comprehensive concept that can be applied to any country in the world, affecting a variety of policy and implementation approaches in compulsory, higher and teacher education.

Inclusive education characterizes an education institution, which changes, where each learner receives necessary and significant support in the learning process, no one is particularly highlighted. The main focus here is put on work and joint problem-solving of teachers, staff of an education institution and support specialists' team, adaptive and supportive class environment, and classmates' involvement.

Due to the territorial reform and the reduction in the number of learners, schools with a small number of learners start the process of including learners with special needs without having sufficient resources and understanding about the possibilities of ensuring support during the teaching/learning process and supportive activities: mostly learners are included spontaneously, though there are serious problems of national and local - municipal - range that hinder these processes. According to the author's experience, most often „mechanical inclusion” takes place – a learner with special needs is in a classroom of a general education institution and participates in some attempts to be involved in classroom activities by drawing or coloring something, but learning does not happen. The existence of the problem, arising from the fact that learners are „kept” in general education institutions without receiving adequate support and schools do not carry out proper activities in this respect, is indicated when learners with special needs who have learnt in general education institutions before attend the 4th –7th forms of special schools. These children are pedagogically „neglected”: they cannot read, write and sometimes also speak. Consequently, the issues of changing teachers' attitude and activities in lessons in the aspect of inclusive education and enhancing their understanding about successful inclusive education processes in general education institutions are still topical.

Novelty of the research

The scientific findings of the research, the approbated support system for inclusion of learners with special needs in general education institutions and the developed recommendations are considered to be an important theoretical basis, developed on theoretical and empirical research, that can be used in work of municipal boards of education and education institutions in formation of the support system, inclusive education institution and promoting development of inclusive society.

Scientific novelty of the research

- Requirements of operation and development of the support system have been theoretically underpinned, the essence and contributory aspects of the inclusion process of learners with special needs in general education institutions have been identified,.
- Scientifically substantiated innovative support system that can be implemented in general education institutions where learners with special needs are educated has been developed.
- Evaluation criteria of the support system quality have been developed, theoretically underpinned and tested practically.

Practical significance of the research

- The support system for promotion of successful inclusion of learners with special needs that can be used in municipal boards of education and general education institutions has been tested in practice.
- The support system for promotion of successful inclusion of learners with special needs has been implemented in board of education of Rezekne district and it functioned in general education institutions of Rezekne city and region till 2009 (it functions partly since 2009, because many schools with small number of children were closed due to territorial reform, economical crisis and other circumstances).
- The developed and approbated support system has been used in formation of the National Inclusive Education Support System (ESF and LR MES NCE project “Creating Support System for Learners with Functional Disorders”, 2010)
- The process of inclusive education implementation in general education schools in Latvia has been studied and recommendations have been prepared for inclusion of learners with special needs in general education institutions.

Research base: 1124 persons involved – 470 (persons involved in the research on the current situation of inclusive education implementation in Latvia), 205 (teachers of Rezekne district involved in the approbation of Support system), 118 (teachers of general education institutions - participants of teachers' professional development courses, evaluators of the developed support system), 16 (headmasters of general education institutions involved in the approbation of the support system), 19 (special education teachers involved in the approbation of the support system), 245 (learners of general education institutions, class-mates of the included learners with special needs), 51 (learners with special needs included in general education institutions).

Content of the monography

The selection of the research theme and its topicality in the fields of pedagogy and special pedagogy are substantiated in the introduction..

Chapter 1 „*Essence, Basic Conditions of Development and Possibilities of the Support System for Promoting Inclusion of Learners with Special Needs in General Education Institutions*” deals with the analysis of theoretical sources and

development of the pedagogical-psychological research base, grounded on the literature study.

Section 1.1 „*Education of Learners with Special Needs from the Historical Aspect*” focuses on the historical aspect of changes in attitude to educating learners with special needs that have taken place in the European countries and in the world, starting with the 1970s when the idea about integration evolved and ending with development of inclusive education whose starting point was in 1994 and the Salamanca conference; making conclusions that development of national special education in every country in all historical periods is related to the socio-economic system (Peters, 2007; Winzer, 1993), the value system, morality, religious and philosophic views of each particular country and society (Liepiņa, 2003; Malofejevs, 2008; Winzer, 1993; Малофеев, 2009), state’s policy concerning its attitude to children with disabilities, legislation on education issues in general (Kravalis, 1996; Peters, 2007; Winzer, 1993; Малофеев, 2009), the developmental level of special pedagogy as a field of integrative knowledge relating to medicine, psychology and pedagogy, and historical-pedagogical processes in the world (Liepiņa, 2003; Kravalis, 1996; Malofejevs, 2008; Peters, 2007; Малофеев, 2009 et al.). Inclusive education has become the global political issue and the object of empiric activity, and inclusion processes are in constant development in the historical aspect (Malofejevs, 2008; Rouze, 2006; Reid, 2006; Winzer, 2007; Малофеев, 2009) since there is a different understanding about implementation of these processes in different countries, and countries constantly seek for approaches and possibilities that are the most appropriate for them (Evans et al., 1999; Winzer, 1993, 2007). A review about the contemporary guidelines and problems tackled on the issue of inclusion in individual countries has been done.

Section 1.2 „*Historical Aspect of Education of Learners with Special Needs in Latvia and Characterization of the Current Situation*” provides the summary and analysis of the ideas relating to historical development of education of learners with special needs in general education institutions in Latvia.

Latvia was incorporated in the Soviet Union till 1991, learners with special needs were segregated in special schools. In 1997, when the conception of Special Education was confirmed (Speciālās izglītības attīstības koncepcija [Conception of the Development of Special Education], 1997), the development of the legislative base for implementing inclusive education in Latvia was started, and a number of regulations were designed: Regulations on the Implementation of the Conception of Special Education Development (*LR MK Regulations No. 490, 2001*); Regulations on the Provision of General Basic Education and General

Secondary Education Institutions According to Special Needs (*LR MK October 21, 2003, Regulations No. 579*), etc.

The changes in Latvia's legislation that have made the regulations and requirements for implementation of inclusive education more adequate for the present situation in Latvia are analyzed in this chapter.

The consultative council „Education for All” was founded in Latvia in 2005. It is a linking organization between the government and society and facilitates the cooperation with international partners in order to achieve in Latvia the global education development aims set by the World Education Forum and to contribute to introduction of recommendations made by UNO, UNESCO, the EU, European Council and other international organizations into the education field in Latvia. Since the date of its foundation in 2007, a significant contribution to putting inclusive education ideas into practice, as well as to developing methodological recommendations and materials for carrying out inclusive education work at schools has been made by the State Special Education (hereafter the Department of Special Education of NEC of MES) of the National Centre for Education (hereafter NEC) of the Ministry of Education and Science (hereafter MES). It is of great importance that addressing the needs of special education in an inclusive environment is one of the most important directions in education policy. The issue has been defined in the form of concrete tasks in „Guidelines for the Development of Education in 2007–2013”, the priorities of Latvia's National Development Plan (NDP) for 2014–2020, and Guidelines for the Development of Education in 2014–2020 (*Izglītības attīstības pamatnostādnes 2014.-2020.gadam, 2012*). During the period of 2011–2013, within the framework of the project „Creating Support System for Learners with Functional Disorders” implemented by the European Social Fund and NEC, which was aimed at developing the support system on the national level in order to provide learners with functional disorders with qualitative education in Latvia and promote their inclusion in society, the support system for learners with functional disorders has been created in Latvia, which is based on the support system developed by the author of the doctoral thesis in 2005, approbated within the period of 2005/2006 school year – 2008/2009 school year and described in Section 1.5. Information about the review research, carried out by the author, concerning teachers' attitude to implementation of inclusive education in general education institutions and evaluation of the inclusion process is provided at the end of the Section 1.2. The objective of the research was to determine the current situation of inclusion of learners with special needs in general education institutions in Latvia from the point of view of teachers' attitude, support provision and problem solution. 470 respondents took part in the survey,

from whom 94 (20%) were headmasters and persons taking decisions on the strategic level, 376 (80%) respondents were teachers, psychologists, special teachers and other specialists. 145 (30.9%) respondents consider that their schools are ready for implementing inclusive education, 271 (57.7%) think that their schools are partially ready for it, but 43 (9.1%) respondents maintain that their schools are absolutely unready for inclusive education. 150 (31.9%) respondents state that learners with special needs are a normal, ordinary thing in their schools, while answers of 277 (58.9%) respondents testify to the fact that learners with special needs are seen as exceptional cases in their schools. The majority of the respondents - 240 (51.1%) – have a positive attitude to inclusive processes and they are ready to participate actively in the implementation of inclusive education, 172 (36.6%) accept everything passively, while 49 (10.4%) are either openly or latently against it.

Section 1.3 „*Theoretical Justification of the Inclusion Process*” deals with the interpretation of the essence of inclusive education idea from different viewpoints and approaches: *medical approaches* whose philosophical cognition is the following: there is a norm and something that differs from the norm (Oliver, 1990; Mason & Reiser, 2000; Winzer, 1993, 2007); *economic usefulness approaches* that measures man’s normality in relation to his/her contribution to the production of social gross product (PVO, 2003; World Health organization, 2001; Malofejevs, 2008; Малофеев, 2009); *social approaches* that consider disability as a problem created by society, the emphasis is put on individual’s full integration into society, stating that disability is not a feature characteristic of an individual (Ainscow, 1995, 1999, 2007; Barnes, 2012; Mason & Reiser, 2000; Oliver, 1990; UNESCO, 2005a, 2005b), but rather a complex of conditions, many of which have been created by the social environment. Philosophical principles of inclusive education defined in the Salamanca declaration are emphasized (UNESCO, 1994).

The educational process of learners with special needs is analyzed in the aspect of pedagogical objectives, changes of pedagogical paradigms, didactic models (emphasizing the constructivist didactic model), teachers' attitudes, changes of education institutions' environment and operation (Rye, 2001: 65). Inclusive education is also analyzed from the aspect of schools operation: inclusive education changes three the most essential spheres of school life: culture, policy and practice – teaching and learning (Booth & Ainscow, 2002), where a joint action of the whole class as a social unit is underlined in the teaching/learning process; education is referable to all learners without singling out some separate group; inclusive education is characterized by three key

elements: presence, participation and achievements in the broadest context of education; it is the de-professionalization that manifests itself as interest of all teachers and their joint work with all learners to meet their educational needs (Thomas, Walker, & Webb, 1998); it is a democratic approach where all the parties participating in the process are involved in school life, in joint decision-making; it is communication that ensures effective mutual communication where all hear each other and every voice is lent an ear to (Thomas, Walker, & Webb, 1998).

Section 1.4 „*Creation of the Support System for Including Learners with Special Needs in General Education Institutions*” analyzes recommendations for creating the support system and experience of Western European and the world countries, the key issues to be addressed at the strategic level (development of the national support system, its maintenance and resource provision) and the tactical level (development of the support system of municipal and education institutions, its provision) are discussed.

The key approach is to address the support system-building issues at three levels: governments, teachers and learners (Education White paper 6, 2001; Mitchell, 2010; 11.ch. Ras, 2008; Wolfendale, 1987; Birkett, 2004: 14-15) which means - *support for an educational institution, support for teachers, support for pupils.*

The support system models that have been or are being implemented in the world are described and analyzed: the model of the Botswana's support system (1990), the model of the education institutions support by Wolfendale, the model Ghana's (*author's name*) inclusive education support system. UNESCO studies suggest that *there is no single perfect model of inclusive education system creating, but the basic principles of inclusive education of the established models are implemented in the local context (UNESCO, 2009, 144)*, there is no single model showing how an inclusive education institution looks like and operates, because *each country, municipality, education institution develop its own inclusive education support system* (Dyson, 2010; Nīmante, 2008). The concept *support* should be perceived more widely, in the sense of any kind of activity that enhances an education institution's possibilities to adjust its operation according to the diversity of learners (Būts & Einskovs, 2008).

The support structures that influence inclusive education are extremely diverse and often involve a range of specialists from various services who apply different approaches and methods. The developed support systems may function as both a support for inclusion and an obstacle for it (Eiropas speciālās izglītības attīstības aģentūra, 2009). The support systems that maintain inclusion consist of

services, organizations and resource centers of various specialists, and involve different specialists reflecting the needs of the local level. Resources necessary for organization of the support for learners with special needs and promotion of the inclusive practice are the following: human resources, material and financial resources, access to information and knowledge (Miles, 2000).

Sub-section 1.4.1 „Regulations for Successful Inclusion of Learners with Special Needs in General Education Institutions” emphasizes that changes should be implemented in all levels and the whole system of the field if development of inclusive education is desirable (Booth, 2000).

By initiating and creating the support system in the national, local government's, educational institutions' levels, it is important in advance to carry out informative and educational work to promote a change of public attitudes in relation to including learners and people with special needs in society. The questions concerning the general education system should be discussed, organizing a possibility to spend time and work together.

The formulations of inclusive education, given by many scholars - experts, characterizing a successful education institution implementing inclusive education, imply the following: support is provided and functions inside and outside a school; cooperation between the headmaster and school administration takes place, cooperation with parents and local community is encouraged, cooperation and experience exchange among different institutions are ensured; the ethos is positive and culture is forthcoming there, resources are used flexibly, adults are provided with long-term professional development, the range of highly assessed results is wide, opportunities to participate in various activities, research and development projects (frequently by attracting external partners) are given; confidence that becoming inclusive involves not only paying attention to special education needs, but also carrying out vast general improvements in schools; self-evaluation and the audit of policy and practice take place (Ainscow, Dyson, & Weiner, 2013; Florian, 1998; Guseva, 2012; Jenkinson, 1997; Rieser, 2013; Rouse & Porter, 2001).

Conclusions, made by West European and world countries, are studied. They concern the operation of a successful inclusive school in Europe and other countries of the world that use both internal resources of a school and assistance of out-of-school special schools and services; four basic support-providing forms are analyzed (preventive support; informative-consultative support; differentiation of the curriculum and teaching/learning process; improvement of the learning process and education environment for learners with special needs); the basic strategy for support organization – ensuring with general and specific

information, inclusion in activities, changes in the education system and education institutions – are considered (EADSNE, 1998; Malofejevs, 2008; Pathways to inclusion, 2005). It can be concluded that inclusion of a learner with special needs is possible if the following definite conditions are observed: forthcoming attitude (a learner should feel secure and belonging to the environment); qualitative teacher-learner relationship (to accept a learner, to seek for individual adaptation possibilities); a different value system (cooperation, team work, performance adequate for everybody); inclusion apart of learners' achievements; individual education programs; team work; mediation for all learners in a class, support (neither too much, nor too little, so that a learner would not develop dependence on the support); professional training for a teacher; regular meetings of the parties included, parents' participation and support, learner's choice concerning which school – special or inclusive – he/she would like to attend. Those, who shape the policy of education, can encourage and urge to choose inclusive education by attracting the necessary resources (Roth & Szamoskozi, 2005; UNESCO, 2001).

Sub-section 1.4.2. „*Development of the Educational Environment for Promoting the Inclusive Education Process*” focuses on the compliance of the school's education environment (Maļicka, 2004; Rumpeja & Koķe, 2001; Šūmane, 2012; Дьюи, 2001) and learners' special needs in the aspect of inclusion, underlining that the educational environment is a purposefully organized set of physical, social and informative conditions, where learners form and implement their experience: knowledge, skills and attitudes towards themselves and to the world around them (Šūmane, 2012), because, when speaking about including a learner with special needs, an adequate environment should be created in a general education institution – a purposefully organized set of physical, social and informative conditions that enhance development, motivate for activity, provide opportunities to develop one's abilities and to acquire individual experience, allow each learner to work according to his/her abilities and in appropriate pace and time, and transform knowledge into action by applying a diversity of technologies. The first prerequisite is creation of such social environment in an education institution (Špona, 2001) where a learner with special needs would be sure about his/her belonging to this environment and would feel secure to work in this environment (Jonsson, 2006). When learners with special needs get included in general education institutions, the necessity to alter the physical environment may appear, and this is the next prerequisite for successful inclusion. An education institution strengthens the feeling of belonging by adjusting furniture and other equipment to the needs of these learners (North & McKeown, 2005). In order a learner with special needs could successfully acquire the scope of

curriculum possible for him/her, the individual approach is compulsory; it is an important condition for qualitative education assurance, which provides educational opportunities for learners for whom the generally accepted methods of development promotion are proved to be inefficient. Individual approach involves, for instance, ensuring a learner with special needs with individual supplementary aids and information technologies (IT), if a learner is unable to participate in the educational process in the usual way (North & McKeown, 2005).

In the 1990's, the inclusion theory for pupils with special needs was developed and new approaches to reduce barriers to education were thought about when discussions on a new term – universal design (hereinafter referred to as UD) – began. It is described as creation of the environment and products that are available for anyone's usage without adjustments and special assistance. UD is recognized as a new way of thinking, a conceptual and practical model that makes to review an institution's and a teacher's work in a classroom: objectives, methods, materials, and evaluation in order to satisfy various learners' needs, reduce barriers that exist in the inclusive education system, and make the physical, informative, and service environment accessible and inclusive.

Sub-section 1.4.3. „*Teachers' Competence, Psychological and Methodological Readiness for Inclusive Work*” places emphasis on the view that inclusive education can be understood as the *presence* of all learners (access to education and attendance of education institutions), *participation* (quality of the learning experience from the learners' perspective) and *achievements* (learning process and results of the curriculum acquisition) in general education institutions (Eiropas speciālās izglītības attīstības aģentūra, 2011/c). Teacher's attitude, position, and internal readiness are of great importance in the aspect of inclusive education and its implementation (Silverman, 2007).

Inclusive education researchers believe that teachers can be the main factor for successful inclusion if a teacher would see a learner as an opportunity to become a more professional teacher by solving learner's problems (Peters, 1999; Rouse, 2008). A teacher must be with „open minded”, flexible and with high tolerance towards differences and changes in the usual work. Teachers should remember that self-realization of each learner in a class is his/her responsibility, that there is no need to wait when someone will say how to work and what to do with each learner, but it should be sought by oneself. A teacher should acquire a variety of teaching strategies and be able to use them effectively, adapt the material, change working methods, develop programs to help each learner (Stangvik, 1997), work in a team with staff of an education institution and parents to ensure the most relevant environment for a learner. A teacher has to treat all

members of the learning process as equal partners, listen to other professionals, learners with special needs, their peers and respect their views, striking compromises and trying out new situations.

European Agency for Special Education Development published the profile of an inclusive teacher in 2012. There were identified four basic teaching and learning values that form the basis for operation of all teachers in inclusive education. These core values are related to the fields of teachers' competences that consist of three elements: attitude, knowledge, and skills. The profile of an inclusive teacher is based on the following structure of key values and competencies: assessment of learners' diversity – diversity in education is seen as a resource and value; support to all learners – teacher's expectations are equally high for all learners' achievements; work together with others – cooperation and teamwork is the essential approach to work for all teachers; personal professional development in teaching is a learning activity, and teachers are responsible for their own lifelong learning.

Sub-section 1.4.4. „*Parents' Involvement in Implementation of the Education Process Objectives*” describes parents' role in the inclusion processes and possibilities of being supported by teachers (Danielsa & Steforda, 1999; Ervwin & Soodak, 2003; Kolmens, 2004).

Learners' achievements in the education process are significantly determined by parents' support and encouragement (Mitchell, 2010; Peters, 1999). Parental involvement in operation of an education institution and a class is obligatory, because parents can be the driving force behind the success of their children; it is very important that a pupil receives appropriate adult support throughout the day. Another important rule to help parents (especially those who deny inclusion) and learners is education of parents, usually mother, in order to realize that inclusion provides social, interpersonal and personal benefits, higher academic results, and enriches the educational environment for all learners. The essence of work in an inclusive education institution is coordination of the needs of an education institution, children with special needs and their parents by carrying out group and individual counseling to learners and families; work with a learner's life at home, at school, in society; problems affecting learner's inclusion in an education institution; mobilization of education institution and public resources in order to give a learner the maximum opportunity to gain benefit by learning at the particular education institution.

Section 1.4.5 „*Creation of the Support System in the National and Municipal Level*” deals with creation of the possible support system in the national and municipal level; the support providing structures possibly included in the system,

their functions and interactions in the support system, according to the situation and processes in Latvia, are determined. In the suggestions drawn up by UNICEF, taking into consideration the right of learners with special needs in the inclusive education process, it is established that the *government-wide measures* have to be implemented (political will and good governance; measures that promote responsibility, transparency, accessibility, and the rule of law; recognition of the current situation and commitment to organize comprehensive and long-term measures to tackle issues related to social exclusion and discrimination against learners with special needs and disabilities in the educational process. During the development of the doctoral thesis research, the unified national inclusive education support system does not exist in Latvia.

Municipalities and education institutions that have started the inclusive activities either carry out or do not implement the supporting activities in the level of their own understanding, forming their attitude and work system. Latvian government-wide measures of promoting inclusive education and inclusive society are reflected in the Latvian National Development plan 2007- 2013 in the country's growth model „People First” that suggests also to provide individuals with special needs with access to education in all its forms and stages. The country is supported by ESF project funding branch for development of the single nationwide inclusive education support system.

Municipality's support has an important role in creating an inclusive education institutions, and it should be understandable to everyone: local policy makers, headmasters of education institutions and teachers involved in acquisition of common objectives (Meijer, Pljl, & Hegerty S. 1997; Stubbs, 2008). One should be aware that the result of the inclusive process depends not only on a specific education institution where this process has been started, but also on how successfully specialists working in institutions of the specific municipality or the nearest municipalities, MES, services responsible for special education, lecturers and structural units of higher education institutions involved in training teachers and specialists for work in the field of inclusive education, children institutions and organizations, social services and non-governmental organizations will be involved in this process by contributing to developing respective structures in the municipality's department of education and joining in the common support system (Wolfendale, 1987).

The municipality's possible action in creating the support system for inclusive education institutions by forming the School Support Centres (SSC) and support teams (ST) in education administrations is analyzed in the following

section, tasks for the common support system of these centers and teams are considered.

It is emphasized in **Sub-section 1.4.6** „*Development of the Support System in General Education Institutions*” that inclusive education is a teamwork - responsibility and duty shared by the whole education institution (Jonsson, 2006; Mitchell, 2010; Turnbull et al., 2004). The following parties are involved in creating the support system of an inclusive education institution: in the tactical level - subject teachers, psychologists, special teachers, speech therapists and other specialists, parents, learners; on the strategic level - headmasters of education institutions, staff of municipality responsible for a particular field, deputy directors, methodologists and other people who have the decision-making right.

Authorities of education institutions that initiate work on development of inclusive education institution *have to establish their own ST of an education institution*, which, in cooperation with SSC ST employees of the municipal education department (Education White Paper 6, 2001; Ras, 2008), implements the necessary support for all parties involved in the inclusion process. The element of the inclusive education support system - ST should be formed within the particular institution, so that everyone involved could help each other (Reid, 2006). Operation of the education institution's ST is a specific form of cooperation between professionals, involving specialists who solve learners' problems (Samuseviča, 2012).

Composition of specialists forming the education institution's ST - speech therapist, psychologist, social teacher, special educator/special education teacher, a doctor et al. - may vary depending on the needs of learners in the particular education institution and their causing conditions (Hunt et al., 2003). The ST composition, responsibilities and characterization of the support actions has been identified in legislation of Latvia. M. Giangreco, S. Broer and S. Edelman points to the fact that the lack of professionals' support can create a crisis in an education educational institution, because employees of an education institution do not understand what to do (Giangreco, Broer, & Edelman, 2003). The inclusion process in an education institution must be also supported by learners, parents, other education institutions and universities.

Tasks of the work process and work organization issues of the education institution's ST specialists are described further in the sub-section.

In **Sub-section 1.5** „*Support System for Promoting Inclusive Education in Rezekne District*”, the support system developed by the author for including learners with special needs in the educational process in general education

institution in Rezekne district has been presented. The system was approbated in 20 general education institutions in Rezekne district from the 2005/2006 school year to the 2008/2009 school year (including), during the project of ESF, MES and The Education Department of Rezekne district with the participation of staff the Norwegian Ministry of Education STATPED (special education support department). Effectivity of the support system (see Figure 1) performance will be demonstrated during the research.

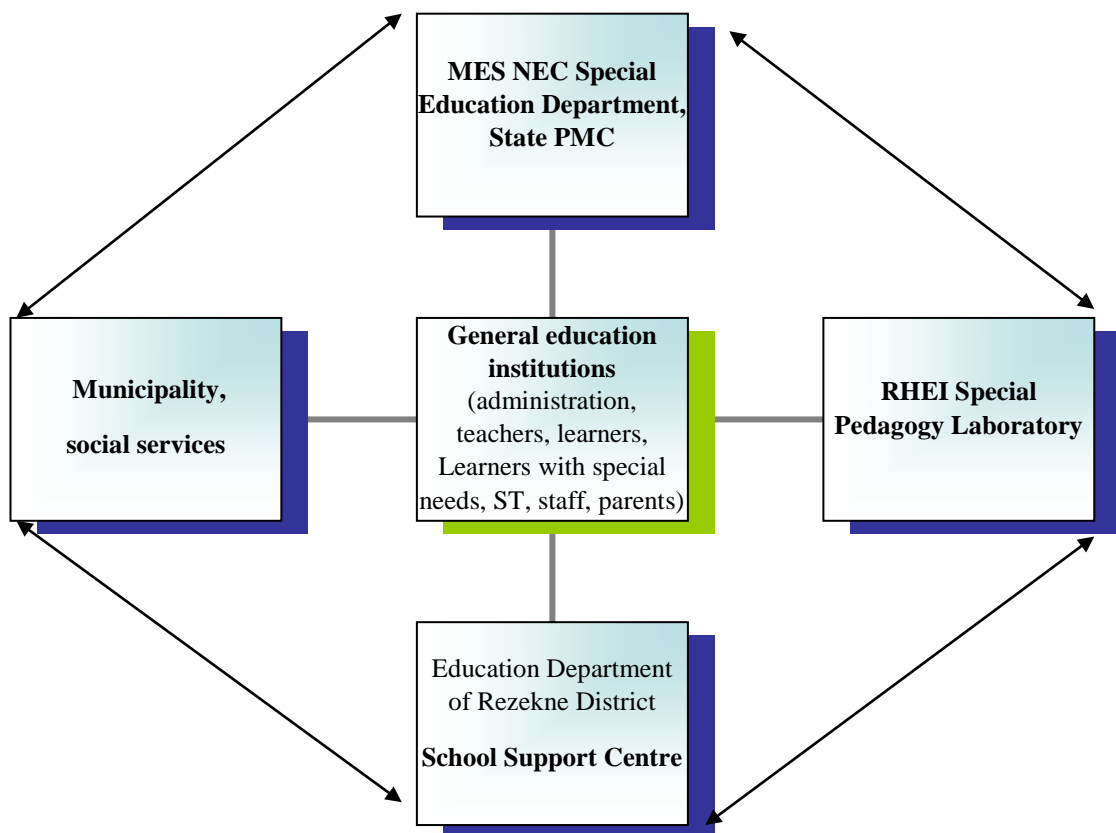


Figure 1. Support system for learners with special needs included in general education system

The developed support system unites in common operation of everyone who are able to support education institutions of Rezekne district and city in the following three aspects: support for teachers, learners (their parents) and a school in general. *The support system* joins together all people (various levels of education implementation activities and responsibility in Rezekne city, district and republic) who are ready to engage in the process for including learners with special needs in the education process in general education institution. Their

cooperation in the inclusion process is evaluated and described. The basic functions of the parties involved in the support system are described in detail in the sub-section.

Since staff of special education institutions do not show a readiness to cooperate, special education institutions are not included in this support system.

The evaluation of the support system according to the criteria of inclusive theory has been made, the evaluation of the support system from different aspects is provided: whether support providers at different levels are included in the system, whether the support is provided individually and systematically, whether applicability and sustainability of the support system is envisaged, etc.

In **Chapter 2** „*Research on the Support System for Including Learners with Special Needs in the Education Process of General Education Institutions*”, the course of the action research has been described, the results obtained from the support system approbation have been analyzed and verified, suggestions and conclusions have been developed and introduced.

In **Chapter 2**, the action research, carried out by the author from 2005 till 2008, has been described; it focuses on development and progress of the aspect of the education process (inclusion of learners with special needs in the educational process in general education institutions) in particular conditions. The action research describes the particular problem in the particular conditions; it is connected with the particular situation in which a problem is diagnosed and solved in the same context, cooperation between researchers and practitioners take place as well as introduction of their activities in practice and continuous evaluation of the situation. The participatory action research method has been used in research.

The author's research program is described, the chronological research plan is given, the stages of the research data acquisition and the target groups selected for the research are justified in the section. The methods applied in the research, their choice and application conditions are characterized.

In order to carry out research and compare the obtained repeated results, in 2005 the author developed a questionnaire for headmasters, special education teachers and teachers of general education institutions that include learners with special needs. The survey was repeated in all phases of the research. The questionnaire included both open and closed questions that allowed to obtain both quantitative and qualitative data. All questions included in the questionnaires provide information about respondents' overall and working experience with learners with special needs, respondent's and his/her colleagues' attitude towards the fact of inclusion, problems faced by a respondent in an education institution in this respect, assessment of the education institution's environment towards the

included learners, education institution's ST and specialists work and changes that have occurred since the ST started its operation in an education institution, help receiving opportunities at SSC or elsewhere, respondents thoughts about the necessary changes in operation of teachers, support providers and education institution as a whole.

The quantitative data obtained from the questionnaires are recorded and processed in SPSS program. The input data coding system is formed; it is necessary in order to move from the text of specified multiple choices or attitudes expressed in the questionnaire or ratings, to the numeric values, which are then processed by SPSS with assistance of commands and operation mode.

Based on theoretical studies, the support system should provide support for an education institution, teachers and learners (Birkett, 2004), the educational environment should be inclusive and supportive (Herbert, 1974) and practical studies abroad in order to establish the quality of the support system and demonstrate the changes of situation in Rezekne district education institutions by implementing inclusive education and the support system's operation in the educational process in different education institutions. The author prefers the respondents of her survey to be *headmasters of general education institutions* (strategic level - the head of an education institution determines the processes taking place there and supports changes in operation of an education institutions, engagement in the project and the support system), *teachers* (tactical level - the main person in implementation of the inclusive education process) and the ST specialists - *special education teachers* (the ST managers of an education institution), but at the end of research - *learners with special needs* (according to the inclusive education principles, a learner is not just a passive subject for education institution's staff influence, but he/she is actively involved, participate in the learning process and gain achievements) of general education institutions and their *classmates* (classmates' attitude, behavior and action form microclimate of a class on a daily basis, which in turn, determines feelings, behavior and operation of a learner with special needs in the educational environment).

Chapter 2 provides assessment that has been carried out by analyzing the survey answers of teachers of education institutions, involved in the support system approbation, received at the beginning and at the end of the research. The responses describe teachers's personal attitude for inclusive education implementation in relation to learners with special needs, provide comparative evaluation of operation of the education institutions' ST and the education department's SSC that characterizes support received at the same time by a teacher and a learner with special needs. It is also analyzes teachers' evaluation of the

education institutions' environment in relation to inclusion of learners with special needs, because the environment is important for individual achievements of learners with special needs included in the educational process. Respondents' answers to questions showing their attitude towards inclusion of learners with special needs, compliance of the education institution environment with learners' special needs and the ST operation in the support system are significant in the research aspect. The analysis of the results of both Wilcoxon Ranking test and test to determine frequency distribution shows that *there have been significant change*. Comparing the data obtained at the beginning and at the end of the research, the results show that teachers see a problem in the fact that learners with special needs are included in an education institution at both stages at the beginning and at the end, but teachers of general education institutions are more confident about their ability to deal with these problems and work with included learners.

The results of teachers' surveys, verified with Kolmogorov-Smirnov criterion, show that there is a significant difference between the data obtained from the first teachers' survey and those of the final survey, which testifies to the fact that during the functioning of the support system, essential changes have taken place in work of schools in relation to implementation of inclusive education in the context of learners with special needs.

Since the ST-s started work at education institutions, positive changes have taken place in everyday work of schools and teachers. Teachers' attitude towards the fact that the ST has started its operation in an education institution is initially more neutral, but generally positive and hopeful, because there is no real clarity of the role of the ST in everyday life of education institutions. The analysis of Kruskal - Wallis test results show that there are maximally significant differences ($p = 0,000$), depending on the subject taught by a respondent: the major changes are noticed by primary school, language and literature and informatics teachers. Thoughts of primary school teachers, language and literature teachers about the ST operation are more positive at the end of the research. It can be explained by the fact that primary school teachers teach a large proportion of subjects for learners of Forms 1-6, spelling, develop reading and writing skills, computing skills, including learners with special needs, and most often teachers face problems caused by learners' development disorders that they try to solve with the help of the ST. The data obtained at the end of the research indicate that the attitude has changed to the positive side, because now attitude towards the work of the ST in an education institution is responsive, encouraging and positive for around 80% of the surveyed teachers.

The importance of the SSC, concerning the inclusion issues of the education institutions' support operation, has considerably grown. Initially, teachers use the services provided by the SSC specialists relatively little: 44% use them seldom or rather seldom, 22% are not informed about this possibility, while at the end of the research already 67% of teachers use specialists' assistance whenever they need it, 22% - use it often or rather often. At the initial stage of the research, only 1/3 of special education teachers and headmasters turn to the SSC for assistance. At the final stage of the research, already 2/3 of teachers and 1/2 of headmasters use the assistance of the SSC to tackle problems related to learners with special needs. The data analyzed confirm the assumption that the SSC fulfils its functions and can provide support to employees involved in the inclusive education process.

As far as the favorable environment for learners with special needs is concerned, 99 or 69% of teachers think that the environment in their school is favorable for such learners at the beginning of the research, and 138 or 96% of teachers are of this opinion by the end of the research. At evaluating the education institution's environment, the idea that a small number of learners in a classroom, especially typical for small country schools, may be advantageous for learners with special needs in the inclusive education processes is heard many times. It can be concluded that the inclusion process takes place in general education institutions involved in the research, the education institutions' environment is positive for a learner with special needs. The work of the support system has resulted in positive changes in all aspects of school life, however, a lot of work is yet to be done in respect of developing inclusive school's culture.

Conclusions

The topicality of the monograph „Support System for Promoting the Process of Inclusion of Learners with Special Needs in General Education Institutions” is substantiated by the situation in Latvia's general education institutions, where, due to various objective and subjective circumstances, the issue of inclusion of learners with special needs has been brought into focus only now, though it has been already implemented in some schools in Latvia for more than 18 years. There is a discrepancy in Latvia between the MES politically determined direction and the real praxis at schools.

In the result of the theoretical research, the following was concluded:

- 1) research on the organization and process of the inclusive processes for learners with special needs in different countries of Europe and the world, and the analysis of literature sources have proved that, in order

to respond to the developmental and educational needs of learners with special needs, to provide them with support corresponding to the special needs of each learner, definite prerequisites should be taken into consideration:

- *on a national level there should be a unified, nationally financed support system for implementing inclusive education that would embrace support providers at different levels and for different needs;*
- *municipalities, education departments should organize (premises, equipment, maintenance expenses) and maintain by financing provided by the state (specialists' salaries) centers of inclusive education at their education departments (part of national support system) that, by involving specialists of higher education institutions, practitioners of special schools, medical specialists et al., would provide various kind of support for those involved in the inclusion process – for school, teachers, learners;*
- *general education institutions should organize and maintain the support system of their own institution (part of a joint national and municipal support system) that would involve formation of an efficiently working specialists – support team (ST): a special pedagogue, a speech therapist, a psychologist et al., providing this team with premises, necessary materials etc., giving opportunities for teachers' professional development, and accessibility to professional consultants for all those involved. The support system should unite all those who are involved in the process of including learners with special needs in general education institutions at different levels of education implementation and responsibility, thus facilitating receiving education according to learners' needs and ensuring them with support during the educational process which is given by well-educated and motivated ST specialists and teachers, for whom opportunities of receiving consultations, professional development and getting support are accessible in various institutions and organizations;*
- *a prepared, supportive physical environment of an education institution should be accessible for learners with various developmental disorders;*
- *a social environment of an education institution should be prepared and supportive (teachers are morally ready and competent to work with learners with special needs; attitude of general education institution learners and their collaboration with learners with special needs are supportive and inclusive; the support system functions at education*

institutions, attitude of society (parents, employees of an education institution) is positive during the inclusion process and learners with special needs are able to actively participate in all activities of school life);

- *a prepared and supportive informative environment is necessary* (learners and teachers are supplied with teaching aids, supplementary aids and technical aids necessary in the teaching/learning process, which all are tailored to the needs of learners).

The support system developed in the result of literature and document research, the action research done during its approbation and the analysis of approbation results allow concluding the following:

- 1) in the result of implementing the support system developed and approbated by the author, with active participation of all those involved in the system on both the strategic (MES, municipality education department, school administration et al.) and tactical level (specialists of the SSC and the ST, teachers, consultants – experts in special pedagogy), by accumulating theoretical knowledge and practical experience, developing one's competence, learning from the best experience in other countries and in Latvia, teachers' attitude to inclusion of learners with special needs and their practical activity positively change, and their conviction that they can meet the educational needs of included learners strengthens;
- 2) during the process of the support system approbation, the environment of general education institutions has become more favorable for learners with special needs, other learners willingly accept them and help them during the educational process, each according to their own understanding, and there is only an insignificant number of those who try to dissociate themselves from this;
- 3) the ST-s have become more competent to render assistance to teachers, parents, individual help to learners; in case of need, asking for help in Rezekne regional SSC and using opportunities of getting consultations, methodological assistance, services of diagnostics from other specialists (academic staff of Rezekne Higher Education Institution, teachers of special schools, specialists of NEC Special Education Department);

- 4) the scientific strength is ensured in the action research (*Kroplijs & Raščevska, 2004*):
 - *reliability* (the author's lasting stay in the researched environment, application of the triangulation method – the subject has been treated from different viewpoints and a set of diverse data has been collected (staff of an education institution on the strategic and tactical level (administration, subject teachers), specialists (special education teachers), learners (learners with special needs, their class-mates); the discussion of the research with more experienced colleagues (scientific supervisor of the doctoral thesis, academic staff of higher education establishments, experts of Norwegian STATPED), negative cases within the research process are analyzed;
 - *applicability* (a detailed description of the research context);
 - *consistency* (logic and quality of research action program structure and results);
 - *neutrality* (reliable data collecting tools);
- 5) tools for ensuring scientific strength are used in the research (*Kroplijs & Raščevska, 2004*):
 - *impartiality* (all respondents express their views, the research results are contextualized, the author's lasting stay in the researched environment, application of the triangulation technique);
 - *ontological authenticity* (research participants gain a deeper understanding about the theme during the research; participants evaluate their own positions in the relation to the theme);
 - *educational authenticity* (participants gain a deeper understanding about the theme and one another's position);
 - *catalytic authenticity* (the research results are useful and adequate for the research participants);
 - *tactical authenticity* (the research processes and practice generate energy for changes);
- 6) there are significant differences between the results obtained at the beginning of the research and those obtained at the end of the research. Respondents' assessments show a positive dynamics in changes of assessment criteria that may be indicative of the quality of the developed support system – ability to provide support for education

- institutions, teachers, learners and parents in the process of implementing the inclusion of learners with special needs;
- 7) the practical research part provides positive and reliable results that testify to the quality and sustainability of the support system. The author considers that the support system can be used in a broader context, because the support system has been verified in general education institutions of Rezekne district and has produced positive results, and consequently, it can be used in local municipalities and general education institutions for solving similar problems.

As a result of the theoretical and empirical researches, the author has developed recommendations for intensification of the inclusion processes and successful implementation of the processes of including learners with special needs.

Recommendations

for intensification of the inclusion processes and successful implementation of the processes of including learners with special needs:

1. Developers of the normative base of special education (MES, NEC Special education department) would have:
 - 1.1. to maintain the inclusive education support system on the national level, ensuring the further development of inclusive education and opportunities for real activities in normative documents of education, both financially and in practice;
 - 1.2. to promote the process of including learners with special needs in pre-school education institutions by supporting development of pre-school education institutions;
 - 1.3. on the basis of inclusive education support centers organized in Latvia in 2011 or of special pre-school education institutions, to create opportunities for early diagnostics, pedagogical-psychological support and support for families with children with special needs as close to places of their residence as possible;
 - 1.4. to make changes to legislation, introducing the requirement to train special education teachers in study programs (not in 36-72 hour further education courses) and teacher professional development courses only in those higher education institutions that implement teacher training study programs: carrying out pre-course test in order to find out the level of teachers' competence, attitude and experience, and, depending on the results of the test, provide them with respective training;

- 1.5. ESF money should go to implementation of the projects on inclusive education and promotion of society development in general education institutions as a priority, including projects on purchasing IT technologies for implementation of inclusive education process;
 - 1.6. to provide education institutions with unified, nationally financed methodological materials and teaching aids developed by specialists – university lecturers and practitioners and aimed at work in inclusive education ;
 - 1.7. to attract highly professional and experienced teachers for work in MES and NEC with regard to issues of planning, organizing and implementing special education, thereby not allowing ambitious, non-professional people to occupy responsible positions for implementing the policy of special education;
 - 1.7. to promote the cooperation between education institutions and non-governmental organizations;
 - 1.8. to develop a common understanding about inclusive education among employees of education institutions and society.
2. On the level of municipality, education department:
- 2.1. to develop the support system as part of the national support system on the territory of municipality in order to provide support for employees of general education institutions working with learners with special needs, for teachers of these education institutions, specialists, learners and their families by giving them opportunities to carry out comprehensive correction and teaching work and using (possibly) the support system developed and approbated by the author as a model;
 - 2.2. to organize School Support Centres that would coordinate activities of the support system in municipal education institutions, fulfill the functions of making early diagnostics and providing pedagogical-psychological support in municipalities, thus ensuring learners with special needs and their families with specialists' support and intervention to lessen developmental disorders and giving additional opportunities for them to have consultations with consultants, specialists (doctors, university lecturers, teachers of special schools et al.);
 - 2.3. to involve in the support system activities competent university lecturers, working in the field of special and social pedagogy, who would ensure obtaining information on the latest scientific research and findings, methodological aids in Latvia and in the world and would provide teachers, parents, specialists with additional consultative support;

- 2.4. to ensure schools with support for developing inclusive education institution, allocating additional financing to educational institutions that adopt inclusive education practice in order to achieve real, comprehensive involvement of specialists, assistant teachers to meet educational needs;
 - 2.5. to consider the possibility of preserving schools with a small number of learners, which for learners with special needs are one of the best conditions of inclusion, as suggested by the experience of Latvia and abroad;
 - 2.6. to support transformation of pre-school education institutions into inclusive education institutions, so that already at an early period of life a constant specialists' assistance could be rendered to learners with special needs and their parents, which would be later continued by education institutions.
3. On the level of education institution:
- 3.1. to develop the support system in the education institution as part of a municipality or national support system, thus ensuring implementation of the inclusive education process;
 - 3.2. when beginning inclusion of learners with special needs in general education institutions, administration of an education institution should firstly do some preparative work which includes the following:
for headmaster of an education institution:
 - building a competent and industrious support team (speech therapist, special pedagogue), ensuring its activity during the educational process in school, involvement of the support team in the common inclusive education support system of municipality;
 - preparing staff of an education institution for arrival of learners with special needs at school;
 - gathering information about learners with special needs, clarifying the difficulties accompanying the developmental disorders, including the physical ones;
 - adaptation of education institution's physical environment to the needs of learners with special needs (purchasing special desks, chairs, supports, alterations in furniture and lighting arrangement, adaptation of school entrance, corridors and staircases to the needs of learners, purchasing computers and specialized computers, purchase of specialized software etc.);
 - furnishing the resource centre (working room [or rooms] for the support specialist team) in compliance with the specificity of work;

for deputy director in the education process:

- studying of methodological literature on issues of including learners with special needs and designing and implementing special education programs;
 - designing of adequate special education programs in cooperation with specialists or teachers working group, licensing them in MES and doing further preparation for the program implementation and accreditation;
 - gathering information about the offered professional development programs in special pedagogy, organization of teachers' professional development courses (intensive, 72 hours minimum) in an education institution;
 - involvement of specialists in forming the education institution ST, resolving organizational problems (desirably before the official beginning of the educational process);
 - working with parents of learners, providing opportunity to meet different specialists during meetings who could educate them on issues concerning communication problems, social and psychological difficulties caused by special needs, development mechanisms of disabilities, significance of tolerant attitudes and support and necessity in the educational process;
 - organization of the educational and general activities in an education institutions and out of school before and during the inclusion process, where learners can get information about problems of human development, participate in common events and do practical tasks with learners with special needs;
- 3.3. to promote the change of teachers' attitude - development of positive attitude towards implementation of inclusive education:
- to promote cooperation between teachers, specialists, parents, learners in the learning process in order a learner with special needs who is included in general education institution receives necessary support and help in the educational process;
 - to collect information about education institutions that implement inclusive education and create opportunities for school teachers to acquire and exchange experience with these schools, both in the context of Latvia and European countries, participating also in getting financing for projects financed by the EU, Nordic and other countries;

- to follow information concerning the latest methodological aids and literature and purchase opportunities, ensuring its purchase and use in work with learners with special needs during the educational process;
 - to pay special attention to inclusion of learners with special needs and promotion of their active participation in school activities, cultural life;
 - to facilitate the involvement of the ST specialists and teachers in designing methodological and supplementary aids within the framework of an education institution;
 - to create opportunities within the inclusion process to have consultations with professionals and advisers from various institutions and structural units that function in the common, joint support system;
 - to create understanding that inclusion is a work to be done by joint efforts of the whole education institution, and every person has his/her own experience in solving specific problems which makes sharing experience among staff members significant;
- 3.4. specialists of the support teams may promote implementation of the inclusive education process in relation to each learner with special needs by:
- careful planning the ST specialists' working time – to find an opportunity and time for joint and regular meetings of teachers and specialists, where they could analyze situations of each specific learner with special needs, results of specialists' and teachers' work and develop further tactic;
 - active participating in different activities, acquiring the experience of their colleagues, approbation of scientific and methodological materials, projects connected with the inclusive activity, and providing feedback to an education institution;
- 3.5. when solving specific problems, related to educating learners with special needs in a general education classroom, all possible options for receiving assistance, including the ones outside the education institution shall be used;
- 3.6. *teachers as the major implementers of inclusive education in practice*, and for ensuring it in everyday classroom work with learners with special needs the whole support system on the national, local government and education institution level has been created (because the support system renders support to school, teachers, learners), can promote implementation of the inclusive education process in relation to every learner with special needs by:

- 3.6.1. re-assessing and changing the attitude about implementation of inclusive education, according to the new paradigm of teaching learners with special needs;
- 3.6.2. being ready to learn, experiment, share experience, actively participate in activities pertaining to implementation of the inclusive education in school and outside it by adapting their work in a classroom to the new situation;
- 3.6.3. being open to a dialogue, cooperation with colleagues, parents, support specialists for implementation of a common goal – work of an inclusive education institution, shifting from personal responsibility for the results of one’s work to responsibility for the result of the common work of the whole institution.

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CONFERENCE “SOCIETY. INTEGRATION. EDUCATION”

Actual Information

On May 24-25, 2019, Rezekne Academy of Technologies will host the 13th International Scientific Conference “Society. Integration Education”. The conference is organized in cooperation with Riga Stradins University, Latvia, Klaipeda University, Lithuania, and Bialystok University of Technology, Poland.

Our mission is to promote the development and application of scientific research in education, psychology and public administration, providing free access to online research information without financial, legal or technical barriers.

Authors are invited to submit previously unpublished articles on the latest research in education, psychology, economics and public administration, and improvement of public health, focusing on the issues such as education policy and administration, curriculum, quality of education, teachers and the public education, distance learning and e-learning, education technologies, special education, personal growth and development, well-being, values and identity in contemporary society, creativity, psychosocial rehabilitation, education in multicultural society etc.

Languages of the papers: Latvian, English, Russian.

Detailed information about the conference (important dates, topics, submission requirements, etc.) is available on the website <http://conferences.rta.lv/>.

Conference Statistics

The 12th International Conference “Society. Integration. Education” was attended by representatives from 26 countries: the USA, the Czech Republic, England, Australia, Bulgaria, China, Croatia, Cyprus, Estonia, Finland, Georgia, Germany, India, Italy, Kazakhstan, Latvia, Lithuania, Poland, Romania, Russia, Slovakia, Sweden, Thailand, Turkey, Ukraine, Uzbekistan.

The conference proceedings came out in seven volumes that contain 330 papers (see <http://journals.rta.lv/index.php/SIE>). 656 authors were represented in

the publications. 137 reviewers from nine countries – Latvia, Lithuania, Poland, Russia, Estonia, England, Romania, Italy and Israel – participated in the reviewing process.

Since the beginning of the conference, the number of both submitted papers and participants has increased (Fig. 1), which undoubtedly is one of the conference’s quality indicators.

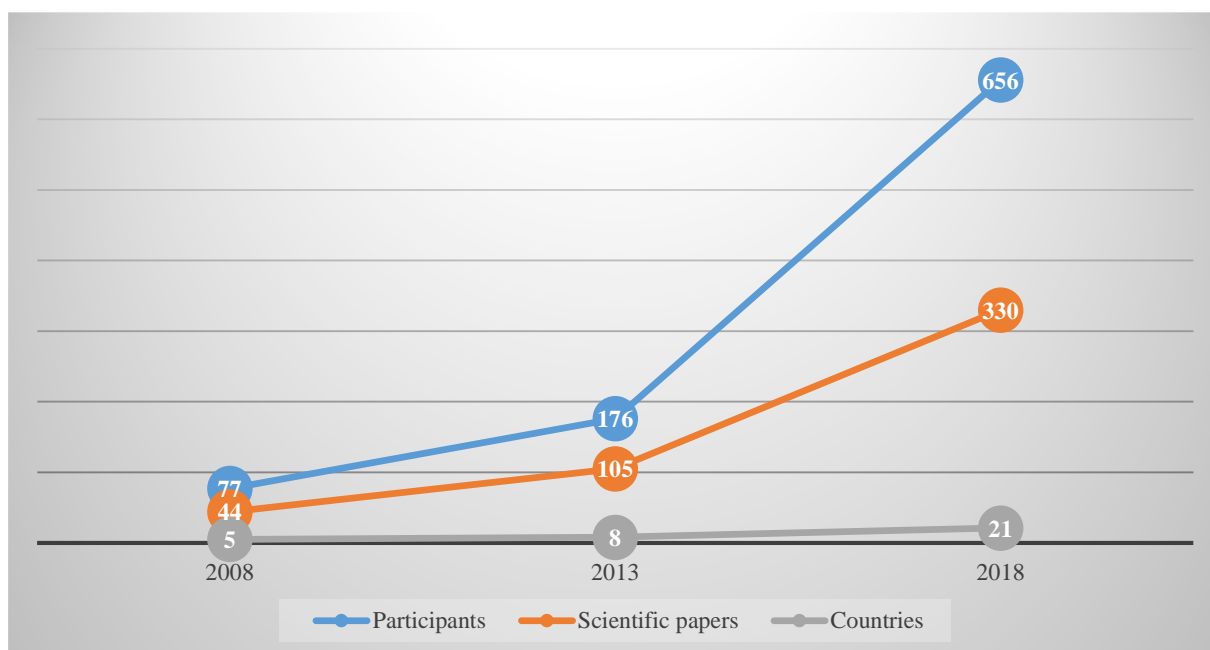


Figure 1. Statistics of the conference “Society. Integration. Education”

The conference proceedings is indexed in ISI Web of Science by Thomson and Reuters, CrossRef, SciLit, Google Scholar, OpenAire, WordCat.

