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# DYNAMICS OF DEVELOPMENT OF BODY COGNITION THROUGH ARTISTICAL EXPRESSION OF BLIND AND LOW VISION CHILDREN

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***Abstract.*** *The article actualizes the problem of overcoming learning difficulties in visually impaired conditions. Considering artistic activity as an integrative part of teaching – learning process, it seeks opportunities for the development of cognition of their body and active interaction with the environment. For the development of the cognitive activity of blind and low vision children by using the plastic expression is based on D. A. Kolb's learning from the own experience model.*
*For the research was conducted following steps: particular experience is acquired, this experience is cogitated and activated by verbal and kinaesthetic forms (it is described and expressed with the help of the move of the body), the experience is expressed with a new form: a clay work, the process of claying is reflected.*
*The research was carried out in Educational centre for Partially Sighted Children. Respondents were six 7-11 years old born blind or low vision children the attention was concentrated not on the age but on the level of expression to which the work of the child was classed. Visually impaired children by versatile experience reflected on their own body cognition and these various experience process merged into one-unit kinaesthetic expression and reflection.*
***Keywords:*** *blind and low vision children, body cognition of a low vision child, the artistical expression, clay works.*

## Introduction

Strategic educational provision "Lithuania 2030", emphasizes, that to pursuit quality of education there are two important factors, values and expectations. Creativity and openness are taken as the essential direction of education. Child-centered education is based on them, by creating a social, cultural and physical environment in which the child actively develops his or her current and future powers. Educational programs and the process must be holistic, diversity-oriented, developing social and educational inclusion, encouraging participation (Ministry of Education and Science of the Republic of Lithuania, 2015).

The European Commission and other documents emphasize inclusive values, such as the dignity of each person, respect for differences, diversity,


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tolerance, and equal opportunities for education (Directorate-General for Education and Culture, 2014). These values focus on creating an institution that is open for each child and is adapting each of themes differences and educational needs. One of the key factors for inclusive education is the ability to adapt teaching methods, materials, tasks etc. according to learners' needs and profile (Meyer et al., 2014).

The integrative approach is demonstrated in neuroscience theories, on the basis of which the concept was developed, that each individual sees, perceives and learns the world differently, therefore, the educational process should be diversity-oriented, in which the goal of education can be achieved in very different ways and measures (Meyer et al., 2014). As well as, it is concentrated on the role of lived body in educational practice (Francesconi & Tarozzi, 2019; Agostini & Francesconi, 2020).

In this context, the practice of pedagogical activity recognizes individual trajectories of children's development (cognition), which becomes especially significant for a teacher working with children with different educational needs. A change in cognitive development that indicates an individual progress of a child in a defined area (watching the extent to which the intellectual maturity of a particular child has advanced compared to his or her previous state) is considered to be the key to effective pedagogical impact indicator.

The article actualizes the problem of overcoming learning difficulties in visually impaired conditions. Considering artistic activity as an integrative field, to solve the basic problems of a child, it seeks opportunities for the development of cognition and the development of active interaction with the environment.

There are different strategies or interventions at different levels of visual conditions to reduce the impact of visual impairment on the child (Bakke et al., 2019). Some are among the most feasible and cost-effective ones to implement (Ferede et al., 2020).

The education of visually impaired children with the help of the fine arts is an ambiguous phenomenon. The importance of the development of blind and low vision child's cognitive activity with the help of the fine arts often calls into questions. As well as the fact that visually impaired children take the fine arts lessons and the images of sighted adults are applied ignoring the peculiarities of age and disorder.

The purpose of the article is to disclose possibilities of body cognition through plastic expression for child's that has vision impairment & blindness problems.

## Theoretical Approach

The theoretical basis of the research consists of the concept of the zone of proximal development (Vygotsky, 1983), which provides opportunities for the development of an individual development perspective. The concept defines two possible areas of learner progress: topical and upcoming. The real, already existing opportunities of the child at the current stage are identified as an area of current development, and the potential opportunities of the child are those that he or she can perceive and use the help of a teacher - as an area of proximal development.

The research is constructed on the integrity of the creative process, according to which wholeness in the creative process manifests itself in the merging of all the components that determine creativity into a single structure. The factors that merge in creation are the following four types of experiences: emotional, intellectual (cognitive), sensory (sensory) and aesthetic (Lowenfeld & Brittain, 1987). This important creative trait responds to a child's natural development and holistic approach to education. Locher et al. (2019) raises the significance of the creative process and notes that integrity first manifests itself during the stages of the creative cycle: perception, production, reflection. This full cycle of the process of creative expression is crowned by learning. Experiential learning cycle is highlighting learning process integration as well, by making interconnection between two different learning activities: experiential – action and reflection – conceptual (Kolb, 1984; McLeod, 2017). In this research educational process is inspired by this model.

Lowenfeld & Brittain (1987) notes, that child's work is the result of previous experience. That is why the task of the fine arts educator is not to correct the creational expression but to develop sensitive and individually important relation to the surroundings (Edwards et al., 2012). The more sensitive and significant relation to the surroundings is, the more expressive is the work. Then we can talk about more effective educational influence. In what ways could we stimulate versatile child's that has visual impairment relation to the surroundings developing unique child's self-expression by using the ways that leastwise partially compensate imperfect sigh or blindness.

Scientists claims, that body cognition of a low vision child is scant (Purpura et al., 2021). Such children cannot perceive the real picture of their body. Some preschool age children that have sight imperfection can name and show the parts of their bodies but are unable to localize their position in the space. Low vision children's expression is also limited.

The diagrammatical and superficial perception of the own body is reflected in the low vision children's clay works that picture a human. The formed scheme

of the youngest preschool children features a head, arms and legs. Here we can find knowledge about separate details of the body. Such a scheme has a huge psychological importance because it shows child's ability to picture a human by himself/herself. However, the scheme of human, remains invariant for a long time and is harmful, also it reflects the lack of cognitive stimulus. In order a blind and low vision person could express the things he\she is unable to and that he/she could up rise to higher cognition level, it is essential for him\her to feel emotional and physical experiences.

D. Francesconi & M. Tarozzi (2019) points that a proximate impact, that include not only what we hear, see or think, is essential for experience. Proximate experience functions in a different way. It provides experience that awakes body's reactions and feelings that cannot be experienced by watching the objective material externally.

Many authors see clay work as an art therapy approach (Beans, 2019; Joshua, & Rainbow, 2017). But in this article clay work is seen and discovered as a tool that helps visual impaired people to recognize their own body by using verbal and non-verbal elements in study process, as well as integrates multisensory modalities. Thus, it is highlighted opportunities in developing our understanding and getting familiar with clay as an integral part of the educational environment and reshape traditional clay work in a new context.

**Research design.** For achieving the results of the research, an action research was conducted, where participated 6 blind and partially sighted children. During the research, 42 kinaesthetic experiential situations that influenced the change of the molding scheme were recorded and analyzed. Each observed situation was conducted according to 4 following steps:

1. Particular experience is acquired.
2. This experience is cogitated and activated by verbal and kinesthetic forms (it is described and expressed with the help of the move of the body).
3. The experience is expressed with a new form: a clay work.
4. The process of claying is reflected.

In this model man's scheme in child's clay works becomes a datum-point and reflects the present development level of a child. The variation of the scheme tells us about varied relations to the surroundings and the effectiveness of educational influence.

The research was carried out in Educational centre for Partially Sighted Children. Based on the principle of the confidentiality we are not allowed to share the exact dates of research activities in order not to be decrypted the research participants. As well as, names of practitioners were changed. Participants were six 7-11 years old born blind or low vision children (Table 1). The attention was

concentrated not on the age but on the level of expression to which the work of the child was classed.

*Table 1* ***Characteristics of Research Participants***

| Code of participants | Age of participants | Vision |
|---|---|---|
| A. Irma | 9 | Both eyes were removed after retinoblastoma |
| B. Laura | 7 | Retinopathy of preterm infants |
| C. Vaida | 9 | Retinopathy of preterm infants |
| D. Silvija | 7 | Optic nerve atrophy (V–OD=0,01V–OS=0,01) |
| E. Rūta | 7 | Congenital myopia and retinal detachment. (V - OD=0,03 V - OS=0,04). |
| F. Indrė | 10 | Optic nerve atrophy. (V - OD=0,02 V - OS=0,01) |

The research was pursued for two years. It consisted of five stages:

1. The accumulation and selection of the material:
   - Children's works that pictured a man were collected and photos were takes;
   - The clay works that presented the scheme of a man formation tendencies were selected (an individual and repeated symbols, that directly expressed a man, appeared in the clay works of a child and it was used to picture varies types of people);
   - Six groups of clay work scheme were registered.
2. New experience was acquired.
3. The tasks, that matched experienced situations and allowed to personificate kinaesthetic and emotional theme's experience, were presented. Themes were like stimulus that helps to show the opportunities of the use of children's artistical expression and emotional and kinesthetic experience in a versatile way.
   - "Self-Portrait Chewing Raisins" (the physical activity of the particular part of a body).
   - "I Have an Eye Ache" (it was based on the previous experience).
   - "We are Crawling on the Bulk and I am Climbing up the Rope" (it was based on the previous kinesthetic experience).
   - "Dance" (it was based on physical and emotional experience).
4. The picturing of the experience (the process of claying).
5. The naming of the experience acquired by claying.

The analysis of the peculiarities of artistical expression was based on the verbal interpretation of blind and low vision children's works. The naming of the experience by claying was a very important part of creational process. At that time

the thinking and attention of a child was paid to the pictorial sphere. Such naming and describing allowed an educator to perceive individual symbols that expressed what a child wanted to picture. During the research it was aimed for creating free and creative atmosphere. The respondents were asked not to be worried about the result. The most important thing was to express the attitude to the pictured object. The duration of every scheme's expression took 45 minutes.

Action research was observed by two researchers and was used two research method: Qualitative observation and student-teacher reflection on learning situation. Credibility was guaranteed through systematic operational discussions and for this reason e-diary was created for learners and teachers to reflect.

Research participants were limited and in the research process participated all existed 6 visually impaired and blind participants from the educational centre and research was conducted only on these participant's experience. This teaching learning model is applied only for visually impaired children in concrete experience situation and this model is not tested on ASD children.

## Results

**The aim of the theme** "Self-Portrait Chewing Raisins" (Figure 1) was to stimulate to picture a mouth more expressively. In order to create direct kinaesthetic experience and to activate passive knowledge, raisins were being chewed during molding. Compared to the scheme the expression of lips varied in all the works. An expressively opened mouth with upper and lower lips appeared in four clay works instead of the mouth, which was pictured as a line. The first respondent pictured chewing teeth. Some respondents pictured raisins falling out of the mouth. "My cheeks are turgid. The raisins will starts falling from my mouth" – one of them told.

Based on the research data a big change was registered in the clay works. Mostly clay works were very expressive, but there was case when absolutely insignificant round head was changed into a small smiling head where the most important parts of the face appear. Predominantly they registered instantaneous mood and expressed satisfaction.

During molding the kinesthetic activity of the particular part of the body was reflected in more detailed expression. Children reflected those details of the face, which activated sensibility and attention (Locher et al., 2019).

The expression graduated from separate parts of the face to the change of the body's position in the space. This stage of the expression was based on individually acquired experience and its reflection. Separate experience was

reflected in the interpretations “I am Climbing up a Rope” and “I am Crawling on a Bulk” (Figure 2).

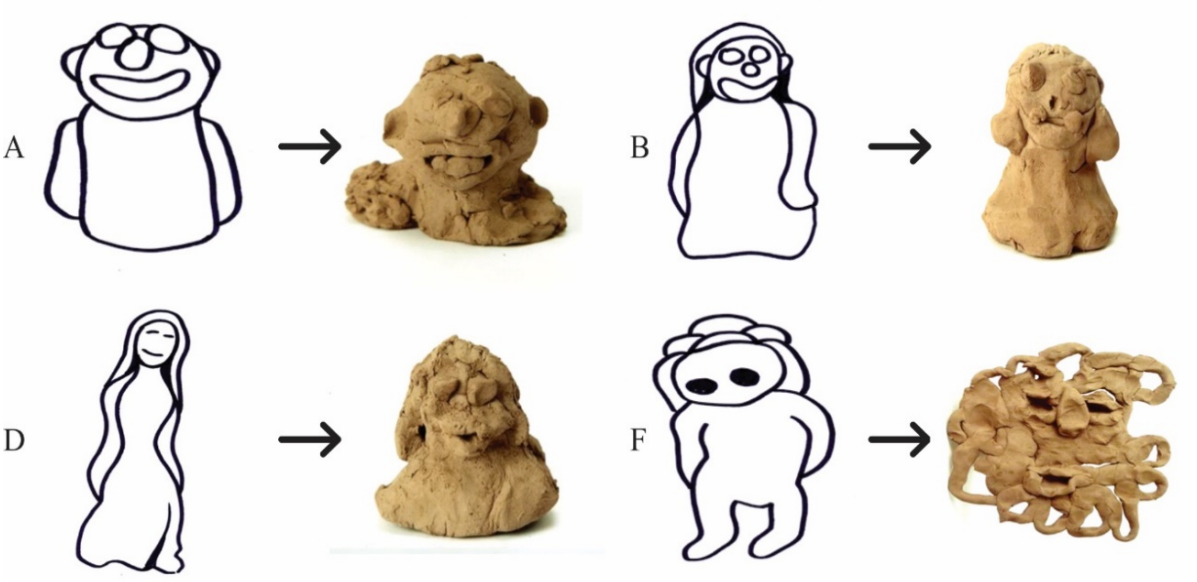


*Figure 1* ***Self-Portrait Chewing Raisins***

“At first I jump and climb… I am climbing up the rope. The sun is shining and the eyes are narrowed. That is why I have pictured them in such a strange way. Fist are clenched. I haven’t picture the rope” (E).

“I climbed up on the fence. My friend helped me…one boy pushed me and I fell down… I didn’t cry… I laughed… I fell on my hands: on the snow…” (F).

The respondents pictured the experience of climbing up the rope in their works and experienced it again during the process of creation. Compared to the scheme the expression of arms and their position in the space changed mostly. Based on the research results on clay work were noticed clenched fists and enlarged hands with splayed out fingers. “I climbed and then loosened my hands” – the girl commented her work. Another participant pictured herself with the arms propped against the ground because “I fell on my hands: on the snow”.

All the attention was paid to the change of body’s position in the space. A man was pictured in a move. That is why the facture was not used and the features of the face were clear only in two works. Eyes were pictured very attentively in one of them because “the sun was shining” while climbing up the rope.

The research participants that didn’t have climbing up the rope experience used the specially by teachers created experience. The purpose was to express the climbing up the rope experience acquired during the trip. “I was scared to crawl on the balk. But Saulius helped me. I clawed to hold off him tight and twined around the balk with my legs. Though I have crawled the balk…”. Two embraced and crawling on the balk people were pictured. The person who led had longer

arms. That was the way in which their importance was expressed. The girls experience was impressive that is why she pictured herself not only crawling on the balk but also tired after crawling. “When we got to the other side of the river I was very tired. I sat on the ground…” Comparing to the scheme the changed position of arms and other parts of the body showed that emotional and physical experience of the scheme helped to perceive the own position in the space. The naming and describing of the experience was a very important part of the creational process. A child pictured only those objects that were emotionally important and familiar (Edwards et al., 2012). The most active and important parts of the body were pictured the most expressively.

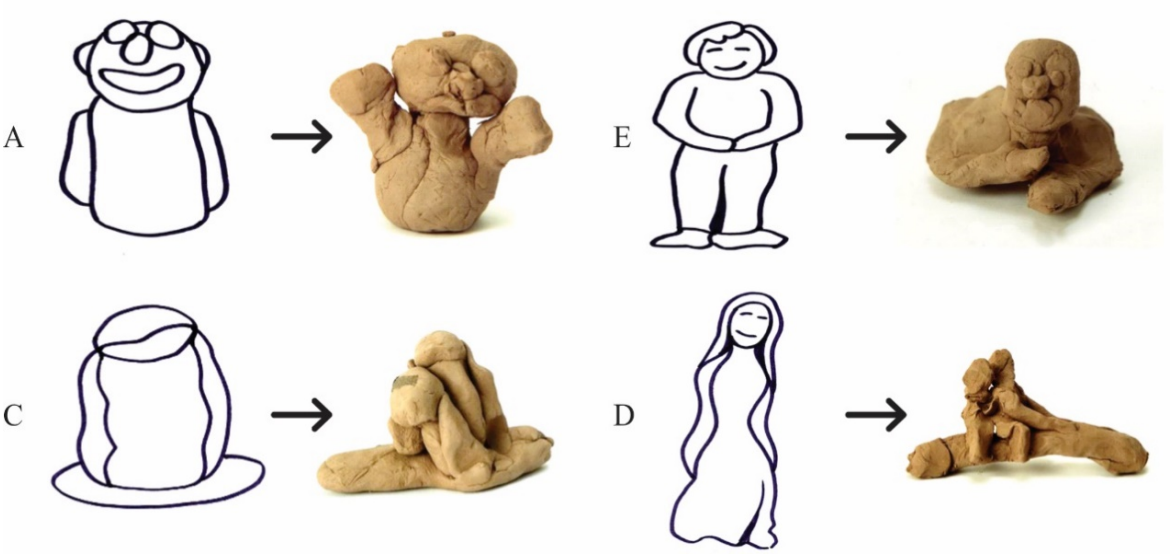


*Figure 2* ***“I am climbing up a Rope”, “I am Crawling on a Bulk”***

Both the kinesthetic experience and emotional importance of the dance were reflected in the theme “Dance”. “Dance” was a great holiday for participant A, that is why she spruced in her prettiest pleated dress expressing it with the help of course and patterned stripes. A joyful mood was expressed with the help of an arched line for the lips. Part of participants changed the static symbol of a human to the dynamic and expressive creature waving with four hands. “I loved dancing. I waved with my both hands”. The emoting in this work reached the highest level. The girl did not care about the real number of arms. A dynamically moving body was much more important.

There was respondent who did not create the real picture of a man either. A particular importance in this work was endued to the arms position in the space. One arm rested on the underlying flat, the other elbow was squared by the side. “When I dance I don’t know where my arms are, maybe everywhere?”

In some work the dance was related to a particular holiday, nice clothing and blowing long hair. The detailed but static scheme of a person was replaced with a dynamic figure of a girl. The most attention was paid to the arms. Not only the position in the space was changed but also the palms of the hands and fingers were pictured.

*Figure 3* ***Dance***

Research participant D (Figure 3) developed the theme "Dance" in many works. She characterized a peculiar sensitivity for molding. It is reflected in the plastic scheme of a human. The alternation of the dancing scheme was more flexible and easier. During one period research participant D created 3-4 clay works not verbalizing their expression. She disassociated from the surrounding and submerged herself in the process of creation. When she had time she returned to the theme of dancing during every period.

The change of arm position in the space and its specification dominated in the other children's works while in respondent D's works the dance was expressed with the movement of the whole body. Much attention was also paid to the arms. While molding respondent D was usually in the state of uncertainty what the result

is would be. She relied on the creating and forming power of the hand. New ideas were born spontaneously in the process of creation. The plastic features of clay allowed the creator to reform a clay work for many times and to express not only the spectacular moment of dancing but also the whole process.

While molding and reflecting children improve cognition of their body. Also, they get a new understanding of the parts of their body in the space while moving. Kinaesthetic experiential tools constructed on the basis of life situations faced by the child in his or her immediate environment can enrich and activate the teaching / learning process, making it accessible to visually impaired children. Research on the creative expression of blind and partially sighted children helps to reveal specific ways of using kinaesthetic experience.

## Conclusions

The child's creation is first the result of previous experience. Kolb's (1984) learning form experience model is one of the most effective ways to influence the creational expression of visually impaired children where important element such as versatile experience, its reflections and expression, perceiving himself/herself and acquiring new experience, merges into one unit.

The interaction between speaking and plastic expression is very important in the creational process when a child has visual imperfections. Reflection in the verbal form allows the child to perceive and soak up what his/her own experience gives. Speaking and plastic expression become equal expedients for low vision children's self-expression.

Important changes are related to emotional and kinaesthetic experience. There is a proximate relation between the kinaesthetic activity of the particular part of the body and the change of the child's work. Different variations of the scheme are registered. That is the move of the whole body, the change of the position of separate parts of the body in the space, the enlargement of emotionally important and active parts, the skip of unimportant parts and the expression of emotionally important parts with the help of new symbols.

Physical and emotional experience has influence on the change of the scheme of blind and low vision children. The sight at this age is not the most important factor while kinaesthetic activity dominates. The image of the world perceived by touching is typical for the early creational expression of the both sighted and low vision children.

This research offers new ways of body cognition to visually impaired children. However, it raises awareness for teachers about importance of embodied cognition in educational area and offers concrete ways of fruitful teaching learning process.

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