



PSYCHOLOGICAL AND PEDAGOGICAL CONDITIONS FOR THE PREDICTIVE COMPETENCE DEVELOPMENT OF ELEMENTARY SCHOOL PUPILS WITH INTELLECTUAL DISABILITIES BY MEANS OF FINE ARTS

CONDIÇÕES PSICOLÓGICAS E PEDAGÓGICAS PARA O DESENVOLVIMENTO DE COMPETÊNCIAS PREDITIVAS DE ALUNOS DO ENSINO PRIMÁRIO COM DEFICIÊNCIA INTELECTUAL POR MEIO DAS BELAS ARTES

CONDICIONES PSICOLÓGICAS Y PEDAGÓGICAS PARA EL DESARROLLO DE COMPETENCIAS PREDICTIVAS DE LOS ALUMNOS DE PRIMARIA CON DISCAPACIDAD INTELECTUAL MEDIANTE BELLAS ARTES

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ABSTRACT: The methodology for the predictive competence development in elementary school pupils with intellectual disabilities was created and implemented. The methodology aims to form predictive competence as an attitude and personal quality in the process of conducting classes in fine arts and to find out the conditions for attracting them to such activities. The main conditions for the presentation, forecasting, and planning skills development in elementary school pupils with intellectual disabilities are determined. Forecasting is considered in the work as an integral part of the following actions: creative imagination, regulatory planning, and control. The study proves the assumption that the effectiveness of forecasting depends on several conditions: on its nature, on theoretical foundations of the predicted issue, on the forecasting ability, organize activities etc. The study provides examples of the author's developments of classes, presents a qualitative and quantitative analysis of the effectiveness of the implementation of the methodology.

KEYWORDS: Pupils. Disabilities. Competence.

RESUMO: *A metodologia para o desenvolvimento da competência preditiva em alunos do ensino fundamental com deficiência intelectual foi criada e implementada. A metodologia visa formar a competência preditiva como atitude e qualidade pessoal no processo de realização de aulas de artes plásticas e descobrir as condições para atraí-los para tais atividades. São determinadas as principais condições para o desenvolvimento de habilidades*

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de apresentação, previsão e planejamento em alunos do ensino fundamental com deficiência intelectual. A previsão é considerada no trabalho como parte integrante das seguintes ações: imaginação criativa, planejamento regulatório e controle. O estudo comprova a suposição de que a eficácia da previsão depende de várias condições: da sua natureza, dos fundamentos teóricos da questão prevista, da capacidade de prever, organizar atividades e da análise quantitativa da eficácia da implementação da metodologia.

PALAVRAS-CHAVE: *Alunos. Deficiências. Competência.*

RESUMEN: *Se creó e implementó la metodología para el desarrollo predictivo de competencias en alumnos de primaria con discapacidad intelectual. La metodología pretende formar la competencia predictiva como actitud y cualidad personal en el proceso de impartición de clases de bellas artes y conocer las condiciones para atraerlos a tales actividades. Se determinan las principales condiciones para el desarrollo de habilidades de presentación, previsión y planificación en alumnos de primaria con discapacidad intelectual. La previsión es considerada en el trabajo como parte integrante de las siguientes acciones: imaginación creadora, planificación reglamentaria y control. El estudio demuestra la suposición de que la efectividad de la previsión depende de varias condiciones: de su naturaleza, de los fundamentos teóricos del problema previsto, de la capacidad de previsión, organización de actividades, etc. El estudio proporciona ejemplos de los desarrollos de clases del autor, presenta una cualitativa y análisis cuantitativo de la efectividad de la implementación de la metodología.*

PALABRAS CLAVE: *Alunos. Discapacidades. Competencia.*

Introduction

The successful result of learning persons with disabilities becomes a priority task of modern education. It is achieved by both creating special conditions for such pupils in mastering knowledge, skills and abilities, and developing the willingness to successful solve of educational, practical and creative tasks in pupils with disabilities (OPIE, 2018; VERDIER; FERNELL; EK, 2018). For the category of pupils with intellectual disabilities, the task of success in learning is obviously difficult and requires additional efforts, psychological and pedagogical support since is closely related to the problems of the development of cause-and-effect correlation and predictive activity in this category of pupils. The difficulties of foresight and forecasting lead to the fact that elementary school pupils with intellectual disabilities do not represent the results of their activities, cannot plan it, therefore, they do not have the motivation for its successful completion (BYSTROVA, 2021; VERZHYKHOVSKA, 2008; SINOVA *et al.*, 2001). It stipulates the prognostic competence development in elementary school pupils with intellectual disabilities.





The leading activity of elementary school pupils with intellectual disabilities is play. Therefore, the predictive competence development is possible only if classes include the elements of play, creativity and skills consolidation during practical training (DMITRIEVA, 2006; KOVALENKO, 2014). Therefore, it is advisable to use visual arts classes for the predictive competence development in elementary school pupils with intellectual disabilities.

The predictive competence means knowledge about forecasting and planning, the ability to independently predict our activities and conduct it according to a pre-planned plan, skills in predicting results and control over its achievement, as well as the experience of predictive activity acquired in the process of consolidating skills (UTOSOV *et al.*, 2020).

Literature review

The psychological and pedagogical literature considered the problem of the competence of persons with disabilities in the following directions:

1. The essence, content and characteristics of social adaptation, integration and inclusion of persons with psychophysical disabilities (ANANIEV; BYSTROVA, 2021; BYSTROVA, 2019; BYSTROVA, 2012): the authors reveal the issue of practical training as the most important component of the competency development in pupils with disabilities.

2. The communicative activity development (DROZD; BYSTROVA, 2020) and information competence in pupils with disabilities (VERVER *et al.*, 2020): the authors consider communication, including the information environment, as the main social competence of elementary school pupils, necessary for their successful socialization and interpersonal relations' development.

3. Psychological and pedagogical support and inclusion of pupils with disabilities in institutions of additional education for the success of their social integration (KAZYMOVA, 2018).

4. The social competence development as a skill of social and moral norms assimilation and socially approved behavior (VERZHYKHOVSKA, 2008; UTOSOV *et al.*, 2020).

5. Pedagogical aspects of adaptation and social integration of elementary school pupils with intellectual disabilities, the role of the educational environment in this process (KOVALENKO, 2014).





6. The planning and forecasting skills development of short-term and long-term goals in elementary school children as a condition for their socialization (KONOPLYOVA, 2016).

7. The elementary mathematical concepts development a component of planning and control (UTOSOV *et al.*, 2020).

Based on the experience of domestic and foreign scientists in the process of personality competencies development, it can be stated that it is difficult to form any competence in elementary school pupils with intellectual disabilities if one does not apply a sequence of actions, practical examples and repeated use of this skill in various conditions in correctional work (BYSTROVA, 2021; KOVALENKO, 2014). The problem is of particular importance considering the contradictions between the need to develop competence in elementary school pupils with intellectual disabilities and the lack of pedagogical tools, correctional techniques, the correlation and continuity of this process in fine arts classes and in extracurricular activities (fine arts clubs etc.). A certain problem and the importance of its solution determined the choice of the article topic.

Materials and methods

For the prognostic competence development in elementary school pupils with intellectual disabilities, we have developed a special technique. The main goal of the methodology is to develop predictive competence in elementary school pupils with intellectual disabilities as an attitude and personal quality in the process of conducting classes in the visual arts and to determine the conditions for attracting them to such activities.

The methods used at the formative stage were following: the method of pedagogical experiment, the method of paradoxical questions, the case method (inclusion in the conditions of a real practical situation), methods for detailing actions and variable forecasting for the predictive competence development of elementary school pupils.

Results

The fine arts and the associated creative work of elementary school pupils with intellectual disabilities allow to develop a holistic view of the world and, through a vivid visual form, develop the ability to present the results of their activities, plan the steps to achieve such a result. Fine art has the greatest potential for the cognitive connections'



development in children and the development of their self-awareness, additionally to the influence on artistic and aesthetic education and spiritual and moral development, which has traditionally paid attention in educational practice. It can help not only teach a child to draw and connect with beauty, but also teach him to think. Teach a child to plan, to makes a forecast. If the STEM disciplines develop logical and rational thinking in a child, then the fine arts are designed to develop figurative thinking, activating other parts and functions of the brain. Here, the subject becomes a means of developing such thinking in children, which is capable of embracing integral objects, expands the vision of the world and becomes an important basis for the experience of managing their life plans (BUROVKINA, 2016; DMITRIEVA, 2006; DUBROVIN, 2017).

Nowadays, the problem of the figurative thinking development in children is studied by many scientists. Important information on these issues contained in the works of O. Gavrilov (GAVRILOV; LYASHENKO; KOROLKO, 2006), Dubrovin (DUBROVIN, 2017), Yu. Bystrova (BYSTROVA, 2021, BYSTROVA, 2019; BYSTROVA, 2012), V. Kovalenko (KOVALENKO, 2014), V. Sinov (SINOV, 2001) etc. An analysis of scientific literature shows that the ability to think figuratively opens up inexhaustible opportunities for a person to perceive the diverse internal and external connections of world phenomena. And the underdevelopment of this type of thinking deprives the person of full integration into society because the weak ability of imaginative vision does not allow children with intellectual disabilities to fully comprehend themselves and predict their life path. Therefore, in the methodology for the prognostic competence development in elementary school pupils with intellectual disabilities, special attention was paid to the figurative thinking and imagination development in children as components of forecasting in their leading activities. To implement the methodology, we identified the following components of predictive competence, which we consider as separate competencies:

- Idea of the world around and social-temporal ideas;
- Forecasting the leading (game, educational) activity;
- Control of your own performance;
- Planning activities and time.

Before the start of the methodology implementation, we identified the output level of the prognostic competence development in elementary school pupils with intellectual disabilities. The experiment involved 84 elementary school pupils with intellectual disabilities



– pupils of 1-4 grades (36 girls and 48 boys) of special secondary schools in Chernivtsi and Kherson regions. To conduct the formative part of the experiment, two groups were formed – a control group of 40 pupils (CG) and an experimental group of 44 pupils (EG).

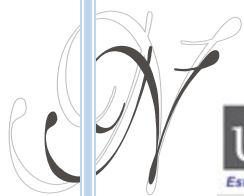
The results of the psychological and pedagogical research showed that all pupils in the CG and EG at the beginning of the formative experiment have predictive competence at such a level that they cannot use this knowledge, abilities, acquired experience and skills independently. Superficial ideas about the world around them and their own future, a low level of planning skills, imaginative thinking was revealed in the majority of the pupils (63.63% in the EG and 60% in the CG). These data made it possible to identify the main directions of correctional and developmental classes within the framework of the methodology for the prognostic competence development of elementary school pupils with intellectual disabilities at fine arts classes:

- Development of ideas about the world around them and their future;
- Development skills in forecasting their activities;
- Development skills to plan their activities and their time.

The implementation of the methodology was conducted in three stages. At the first creative stage children were given the opportunity to “free creativity” in conditions of “chaotic” drawing. It is the experience of connecting the "incompatible." We developed imaginative thinking in children, relying on their individual abilities and a positive interest in visual activity. These are the ability of the right hemisphere to create, according to V. Dubrovin, a polysemantic context due to the “grasping” in a huge number of connections and interactions between objects and phenomena, when it is possible not with the help of logic, but with the help of other connections to see, for example, “the emotional relationship of one person to another” (DUBROVIN, 2017). A method that was widely used in the first stage was the method of paradoxical questions. In particular, children got used to thinking broadly and unexpectedly, looking for answers to such, for example, “strange” questions: “What color is the music?”; “What is the taste of a cloud in the sky?”; "How does winter feel?". They translated their answers into the language of painting. Similar questions were asked to schoolchildren in the context of joint reflection on illustrations for fairy tales and cartoons.

At the first stage, attention was paid to the development of motivation to acquire new knowledge, skills and abilities that will help solve educational problems, in communicating with teenagers and adults, in making independent decisions and predicting their results. At



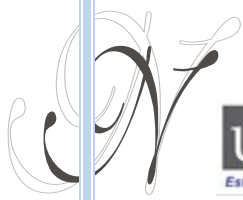


this stage, the development of motivation was conducted through the presentation and demonstration of the importance of forecasting and foresight for the success of any human activity. The personal examples of a teacher, a psychologist and other members of the support team of an educational institution, examples of literary heroes, heroes of movies and cartoons, were used for this purpose.

The first stage of the methodology provided for weekly classes. Classes were twice a week within two years. The form of classes is a lesson and correctional and developmental classes lasting 35 min. During classes, along with the predictive activity development, pupils mastered new flexible technologies, in particular, the interpersonal relationships in a group, the ability to work in a team (development of joint activities), the ability to seek help from peers or adults, the ability to draw up an action plan, a forecast, and the result of these actions, the ability to control their activities and effectiveness.

Another method that was used in the art lesson is the case method. The teacher created imaginative situations with the participation of real heroes, and the students had to continue to draw and predict the events or actions of the real hero. The main task during the second stage of the methodology implementation was the preparation of real cases, which, through the transformation of educational subject material, created a situation of interest. The transformation was conducted by providing real-life examples, accessible for understanding by elementary school pupils, interesting for them, related to everyday life. The examples were problems for pupils that require real immediate solutions to meet their own needs and interests. The peculiarity of this method was that the created event was not known to the elementary school pupils and they could not see any already created illustrations. It was necessary to create a communicative field based on the memory, imagination and life stories of pupils. At the second stage – the stage of anticipation – pupils made drawings for certain episodes of the case, accompanied by a teacher. It was important for us to give the opportunity for pupils to show different ways of expressing their thoughts, assumptions, feelings, emotions, fantasies. In the process of drawing, children comprehended the language of signs, which allows young artists to communicate their ideas about certain phenomena. The method of simple analogies was actively used for correction, based on the experience of children's perception of their life situations and relationships. In particular, they were asked to describe themselves, their family and the peculiarities of relationships within the family in the language of drawing. Then, the found images were compared with the context of the life of the fictional characters in the real case. The second stage included additional didactic work in





the classroom and in extracurricular activities: 30 group correctional and developmental lessons in fine arts lasting 35 min with a cycle once a week on the following topics: "My classmates," "My family," "When I become an adult," "My favorite heroes," "I am a patriot", "I study in a team", "My parents in my life", "School in my life", "I am the hero of a fairy tale", "Compose yourself".

The third stage – productive – was devoted to the direct work of drawings as an expression of the forecast of the actions of the hero of the cases. At the third stage, children developed the verbalization skill, introducing various details to the images that were born to them. Illustrating previously unfamiliar and still unfinished literary texts was the activity that made it possible to effectively develop imaginative thinking in children. The transformation of textual or auditory information into a picture gave children the opportunity to build a connection between a concept and an image. In particular, while working on the image of the main character of the fairy tale, the children learned to “draw” abstract concepts. Among them are such emotions as joy, sadness, tenderness, a sense of friendship. We also used the technique of metaphorical imagery, when students were asked to express the character and themselves in the form of an animal. Understanding the role of familiarizing pupils with artistic culture and the importance of expanding the scope of the class, we conducted the exit of pupils with their creative works into a wide space of social relations. First, due to the involvement of parents in the discussion of illustrations, with the organization of exhibitions of pupils’ drawings. At the productive stage, the main goal of the methodology was the skill development in forecasting and planning their activities. Classes were conducted individually under the guidance of a teacher at the initial stage, then the joint activities of the teacher and pupils were conducted, then in groups, the joint activities of pupils under the teacher’s control. At the final stage, the independent activity of elementary school pupils was conducted using the developed competencies.

Pupils like such forms of education and gladly participated in it. In questions difficult to understand for elementary school pupils with intellectual disabilities, the teacher helped them. Dosed assistance based on the teaching experiment method by A. Ivanova on the basis of L. Vygotsky's theory devoted to the zone of proximal development of the child (IVANOVA, s.d.).

Types of assistance were the following:

1. Stimulation to action (to think, to try).





2. Clarification of the essence of the task (action)
3. Introduce of teaching aid (showing solutions).
4. Demonstration of the sample (performance of the task followed by its representation to the pupils).

Also, the individual work was used during the task of finding ways to achieve the goals. The ability to independently determine the ways of interacting with others, the sequence of actions and appeals for help was developed during such classes. At this stage, the methods for detailing actions and variable forecasting were used.

In the control group, opposite to the experimental group, there was no separate methodology for the prognostic competence development. The tasks provided by the school curriculum and reproductive-productive teaching methods were used at the art classes and during extracurricular activities. The goal during classes and extracurricular activities was determined exclusively by the teacher and provided to the pupils for implementation. No real cases with practical situations were used for them. Skills development performed exclusively by the teacher. The pupils of the control group received exclusively ready-made goals and ways to achieve them. The correction of actions was also conducted under the supervision of the teacher.

Results

Table 1 – The effectiveness of the predictive competence development in elementary school pupils with intellectual disorders before and after the methodology implementation

Groups	Before the implementation of the methodology	After the implementation of the methodology	φ/p
Experimental group			
basic ideas about the environment and future	36.6 %	63.63 %	4.7/0.01
basic skill of predicting one's own performance	18.18 %	54.54 %	5.01/0.001
ability to plan your activities and your time	27.27 %	63.63 %	3.95/0.01
Control group			
basic ideas about the environment and future	40 %	40 %	0.99/0.05
basic skill of predicting one's own performance	20 %	30 %	1.8/0.05
ability to plan your activities and your time	20 %	30 %	1.1/0.05

Source: Prepared by the authors





So, after the methodology implementation, the level of the declared competencies in elementary school pupils with disabilities in the experimental group increased significantly. The number of pupils who have a basic forecasting skill ($t = 5.01$; $p = 0.001$) and basic ideas about the environment ($t = 4.7$; $p = 0.01$) has increased significantly. The number of pupils who can correctly evaluate their abilities and capabilities (54.54%) has increased significantly. The level of control above one's own actions, the ability to evaluate one's own activities has significantly increased. In the control group, the indicators of prognostic competence in all parameters did not change significantly.

Discussion

Similar studies are presented in the works of domestic and foreign scientists and colleagues from the CIS. I. Ananiev considered the possibility of labor competency development (planning, design, operational sequence of actions) in elementary school pupils with disabilities in the conditions of included employment, i.e., psychological and pedagogical support of a mentor during work and training at the enterprise (ANANIEV; BYSTROVA, 2021). I. Dmitrieva presented a methodology for the aesthetic competence development in elementary school pupils with intellectual disabilities by introducing them to the fine arts and music. The author demonstrates the correlation and importance of aesthetic education of elementary school pupils for their figurative thinking and imagination development, which is an integral basis of predictive activity (DMITRIEVA, 2006). The works of foreign scholars such as Suzanne H. Verver, Mathijs P.J. Vervloed and Bert Steenbergen presented a methodology for the social and prognostic competence development of children with visual disabilities using special toys. The authors proposed to develop imagery and plot in playing with children to teach them to predict their interpersonal relations with peers, playing such situations with toys in advance (VERVER, 2020). The methodology of case studies in fine art classes has not yet been the object of research in psychological and pedagogical science in the aspect of the prognostic competence development in elementary school pupils with intellectual disabilities. The author's methodology differs from the traditional methods presented in the above-mentioned studies. The fine arts classes were chosen for the predictive activity development, where the imagination of pupils is more easily expressed. In solving cases, pupils have the opportunity to consolidate theoretical material in practice in extracurricular activities, received at the fine arts classes, and the teacher will have





the opportunity to control the level of competence development in the pupil. Additionally, for the first time in the practice of inclusive education as a developing environment for the competency development, authors declared not only class activities and correctional classes, but also extracurricular activities (circle work).

Conclusion

The effectiveness of the predictive competence development in elementary school pupils with intellectual disabilities is provided by the following pedagogical conditions: the creation of an educational space: "fine art class - circle work - correctional classes - social environment"; the integration of the functions of pedagogical work into the social conditions of the case as a condition for involving elementary school pupils with intellectual disabilities in extracurricular activities. The study confirmed the effectiveness of the technique. The topic of the next study will be differentiated diagnostics of the prognostic competence development in elementary school pupils with different degrees of intellectual disabilities, as well as the gender aspect of the problem.

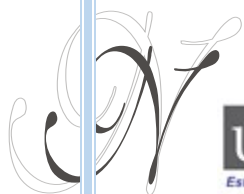
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How to reference this article

BYSTROVA, Y.; VIKTORIIA, K.; OLHA, Z. Psychological and pedagogical conditions for the predictive competence development of elementary school pupils with intellectual disabilities by means of fine arts. **Nuances Est. Sobre Educ.**, Presidente Prudente, v. 33, e022012, Jan./Dec. 2022. e-ISSN: 2236-0441. DOI: <https://doi.org/10.32930/nuances.v33i00.9497>

Submitted in: 13/08/2021

Revision required in: 12/12/2021

Approved in: 08/02/2022

Published in: 31/03/2022