

EDUCATION OF CHILDREN UNDER CONDITIONS OF DISTANCE LEARNING WITH COGNITIVE DEVELOPMENT DISORDER: PSYCHOLOGICAL AND PEDAGOGICAL ASPECTS

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INTRODUCTION

The efficiency of distance education is based on the use of modern psychological, pedagogical and information and communication technologies, and the need and relevance of its development is enshrined in legislation. The characteristic features of distance learning, as an individualized process of obtaining knowledge, skills, abilities and methods of cognitive activity, is the indirect interaction of participants in the educational process and the formation of a specialized educational environment. Under standard conditions, distance learning in Ukraine is voluntary; however, in the context of epidemiological emergencies, distance learning is, perhaps, the only possible way to ensure the continuity of the educational process, taking into account the individual educational trajectory of learning.

The educational activity of children of primary school age with cognitive development disorder proceeds with a delay and it is distinguished by certain originality; it is successfully corrected in the process of specially organized training, psychological and pedagogical support and correction.

Consequently, the need arises to develop recommendations for the implementation into practice of psychological and pedagogical strategies for organizing distance learning for children of primary school age with cognitive development disorder in order to develop a stable methodological framework for training pupils during the pandemic and related periods.

LITERATURE REVIEW

Azatyanyan, Alaverdyan (2020) rightly remark that educational policies aimed at inclusive schools have led to an increase in the number of pupils

with special educational needs at secondary schools. As a consequence, the number of problems and challenges these children face during schooling is increasing, especially during quarantine restrictions.

According to the viewpoint of Rathnakumar (2020), behavioural psychology and educational technologies are designed to balance inequalities in training arising from physical, economic and social factors. Every child has particular abilities, and the potential of raising children with development diseases should be implemented and recognized. Jyoti, & Gangadhar (2018) note that most parents of children with intellectual disabilities have a positive attitude towards inclusion in primary school under conditions of distance learning. Observational studies with application of structured tasks, according to Cuskelly, & Gilmore (2014), as a general matter,

show no difference between children with intellectual disabilities and children corresponding to their mental age. On this basis, Iskrenovic-Momcilovic & Momcilovic (2021) point out to the growing influence of information and communication technologies (ICT) on the learning process and the need for individual work in the educational process. Teachers' attitude to ICT as a way of individualizing pupils in distance learning is positive. Individual learning encourages pupils to progress, but it can negatively affect their social behaviour.

Rhoda (2020), Juriana, et al. (2020) have revealed that quarantine conditions pose a threat to the community of pupils with cognitive development disorder. On the basis outlined, the need arises to include them in the learning space through distance learning.

Karaseva, et al. (2021), Wang, et al. (2021) describe the theoretical aspects of hygiene education for children with cognitive development disorder, that is, a hygiene education program that can be used in the context of distance education, as well as a methodology for assessing its effectiveness.

Elshani, et al. (2020) indicate that children with intellectual disabilities are deficient in all areas of adaptation function and some other aspects. Adaptive behaviour is an important area of concern for children with cognitive development disorder throughout their development. The skills and competencies of everyday life are also a strong point relative to other areas of adaptive functioning that can be cultivated in distance learning.

Scientists from Latvia, Tūbele, & Landrāte (2021), are convinced that the development of their vocabulary should play a leading role in distance learning of children of primary school age with cognitive development disorder. Szekeres, (2014), Markovic-Jovanovic, et al. (2019) confirm this as a component of the Apgar score.

Nikishina, et al. (2021) are convinced that distance learning materials containing both visual and textual elements are ineffective forasmuch as children with mild developmental disabilities ignore textual elements. The total duration of gaze fixation is much longer with the optimized format of training materials. Zashchirinskaya, et al. (2018) emphasize that the difficulty of working with children in distance learning lies in the fact that the internal ideas about the phenomenon of friendship of children with cognitive development disorder are sharpened, because the child is in contact only with his teacher and only in online mode.

The investigation conducted by Sretenović et al. (2018) has revealed that in everyday activities, children's balance develops through games and exercises, forasmuch as it is very important for their participation in learning and physical activities. The results of the present research can be used as a basis for further studies in the field of special education and rehabilitation, as well as for the organization of distance learning, considering that physical activity during online classes will be the key to successful learning.

Thus, despite the considered provisions of world and national science on the topic outlined, the question of psychological and pedagogical principles of the organizing distance learning of children of primary school age with cognitive development disorder remains unexplored.

AIMS

The aim of the research: to reveal psychological and pedagogical principles of distance learning for children of primary school age with cognitive development disorder.

Research tasks:

- to conduct a sociological survey of teachers working according to the inclusive programs, as well as teachers' assistants in order to determine the system of psychological and pedagogical components of organizing distance learning of primary pupils with cognitive development disorder;
- to provide recommendations for the use of the analyzed components in practice.

RESEARCH METHODS AND METHODOLOGY

In the course of the research, the following methods have been used, namely: the analysis of general and special psychological and pedagogical literature; systematization and generalization of theoretical approaches to solving the problem of social development of children with cognitive development disorder; theoretical modeling in order to create a hypothetical model for determining the system of psychological and pedagogical fundamentals for organizing distance learning for children of primary school age with cognitive development disorder.

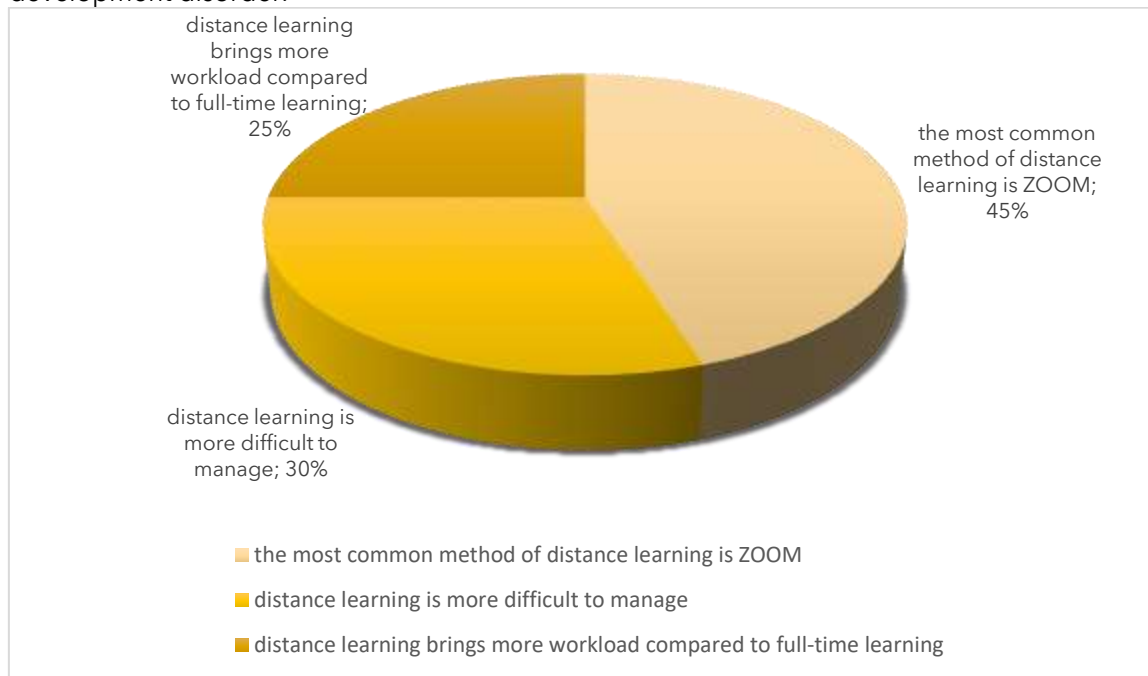
The practical results of the research were obtained on the basis of a sociological survey of teachers working according to the inclusive programs at a closed methodological seminar by conducting a questionnaire. The authors developed a questionnaire, according to the content of which the respondents shared their experiences and summed up the results of their activities. Based on the consolidated answers of 500 respondents (Ukraine), the authors developed a system of psychological and pedagogical components of organizing distance learning of children of primary school age with cognitive development disorder for its implementation in practice.

RESULTS

The first question of the questionnaire concerned the determination of the actual conditions of distance learning for pupils with intellectual disabilities. The respondents were asked to identify the following conditions in the method of ranking from higher to lower, namely: the most common method of distance learning is ZOOM; distance learning is more difficult to manage; distance learning brings more workload compared to full-time learning.

The answers of the respondents have been distributed as follows: "the most common method of distance learning is ZOOM" is in the first place with a result of 45%; distance learning is more difficult to manage (30%) is in second place; distance learning brings more workload compared to full-time learning (25%) is in last place. The results are represented in Figure 1.

Figure 1. Determining the actual conditions of distance learning for pupils with cognitive development disorder.



Source: answers to the questionnaire.

In the second question, the authors asked respondents to fill in the table "Psychological and pedagogical support" from the scattered data. The first block "Name and content of the component of educational activities" represents the positions as follows:

1. Motivational. The inability of the child to identify, understand and accept goals, actions.

2. Learning activities. Due to the features of children's mental development with special educational needs, in particular, with a lag in the development of thinking and language, they have significant difficulties in the formation of all educational activities. One of the most significant disadvantages of children's learning activities is that they often perform educational activities dictated not by the task itself, but by the desire to meet the teacher's requirements. The inability to plan the activities according to time and content is observed.
3. Monitoring and assessment. The inability of the child to control his actions and make the necessary adjustments.

The following options are represented in the block "Psychocorrection – based tasks", namely:

1. Formation of cognitive motives: creation of problematic educational situations; stimulating the child's activity in the classroom;
2. Teaching the child to plan activities in time, organization of orientation in the task, preliminary analysis with the child of the means of activity used.
3. Learning to monitor the performance outcomes. Learning to control by the way of activity. Learning to control in the course of implementation of activities.

The following options are represented in the block "Techniques used in distance learning", namely:

1. In the process of work, it is necessary to mark the pupil's success, to show his progress.
2. The joint study of the distance lesson plan.
3. Verification of the test, using the function "show correct answers», comparing one's answers with the correct ones, making adjustments: search for answers in the text of the lesson. Systematic control is very important. If the actions are performed correctly, the pupil is gradually transferred to the mental stage: the pupil performs by himself, and he controls the action.

The results are represented in Table 1.

Table. 1. "Psychological and pedagogical support of training"

Source: respondents' answers.

Triads			% of respondents
<i>Name and content of the component of educational activities</i>	<i>Psychocorrection - based tasks</i>	<i>Techniques applied in distance learning</i>	72%
Motivational. The child's inability to identify, understand and take action goals.	Formation of cognitive motives: - creation of problematic educational situations; - stimulating the child's activity in the classroom.	In the process of work, it is necessary to mark the success of the pupil, to show his progress.	56%
Learning activities. Due to the features of children's mental development with special educational needs, in particular, with a lag in the development of thinking and language, they have significant difficulties in the formation of all educational activities. One of the most significant disadvantages of children's learning activities is that they often perform educational activities dictated not by the task itself, but by the desire to meet the teacher's requirements. The inability to plan the activities according to time and content is observed	Teaching the child to plan activities in time, preliminary organization of orientation in the task, preliminary analysis with the child of the means of activity used.	1. Joint study of the distance lesson plan. Training in mastering the sequence of events using the following formulations: - What is the name of the section that we will study first? - What do you think this section is about?? - Which section we will study next? 2. Designation of each completed stage verbally, control of the digestion of the studied information with the help of questions on the content (Compiled by the teacher in advance). In the case of a free response task, it is necessary to discuss it with the pupil prior to the beginning and how the task will be performed.	
Monitoring and assessment. The inability of the child to control his actions and make the necessary adjustments	Learning to control by the way of activity. Learning to control in the course of implementation of activities.	3. Verification of the test, using the function "show correct answers», comparing one's answers with the correct ones, making adjustments: search for answers in the text of the lesson. Systematic control is very important. If the actions are performed correctly, the pupil is gradually transferred to the mental stage: the pupil performs by himself, and he controls the action.	42%

Source: Respondents' answers.

The third question was descriptive. Respondents were asked to describe the features of cognitive mental processes in the context of psychological and pedagogical principles of distance learning of children of primary school age with cognitive development disorder. The results are represented in Table 2.

Table. 2. Features of cognitive mental processes

Cognitive process	Features	Percentage of approximate matches in the answers
Attention	It is characterized by a number of pathological features. Most children have increased mental exhaustion and fatigue, reduced efficiency. The formation of selectivity, stability, concentration, switching, and distribution of attention is disturbed. Especially significant difficulties arise in the formation of arbitrary attention.	81%
Verbal-logical memory	It provides a sufficient level of development of speech and thinking; whereas these functions in children with disabilities, as a rule, are formed with a delay, then this type of memory is delayed in its formation. Therefore, children have a specific development of memory and originality in the formation of mnemonic processes.	79%
Speech	The limitation of passive and active vocabulary is observed, which indicates the narrowness of general ideas formed in the process of mastering various activities. The stock of words denoting the characteristics, qualities, properties of objects, as well as various types of actions with objects is especially limited. The peculiarity in the understanding of the language is noted: insufficient understanding of the polysemy of words, sometimes ignorance of objects and phenomena of the surrounding reality. Difficulties in understanding the texts of works of art, arithmetic problems, program material are often observed. Most pupils with disabilities are characterized by weak differentiation of lexical meanings, ignorance of language rules of paraphrasing, inaccuracies in the use of antonyms and synonyms. All this often leads to incorrect sentence construction.	47%
Mentality (thinking)	Pupils find it difficult to establish similarities and differences, causal relationships between objects and phenomena of the world.	93%

Source: Respondents' answers.

Therefore, the obtained results have outlined the grounds for scientific discussion and recommendations for the development of a system of psychological and pedagogical principles of distance learning for children of primary school age with cognitive development disorder.

DISCUSSION

In the course of the research, the authors have revealed the partial content's elements that can be used to develop recommendations for organizing distance learning for children of primary school age with cognitive development disorder.

Kim, Shin (2021) have established that ZOOM was the most common way to organize distance learning. It is recommended to develop a variety of distance learning materials for pupils with intellectual disabilities and to create a distance learning platform for special education (Learning Management System - LMS) on which it is easy to accumulate and access the content of special education.

Nowadays, children of primary school age are increasingly diagnosed with autism spectrum disorders (ASD), accompanied by impaired development and formation of norms, rules of social interaction and communication. The use of social rules in the formation of the communicative basis of training is a priority area of educational and correctional - developmental programs, which reduces the negative consequences for pupils with severe language disorders at the initial stage of learning. The development of language function helps the pupil not only acquire academic, social - household skills, but also form the rules of interaction and behaviour in the society. The prevalence of autism spectrum disorders in children, burdened with intellectual, speech disorders, is an urgent problem for speech therapists in terms of developing effective social speech therapy assistance programs (ANDREEVA, 2021), which can also be applied in distance learning. Speech problems in children with autism spectrum disorders are variable and polymorphic, giving rise to the need for variability of corrective approaches (ANDREEVA, 2017).

Taylor, et al. (2013) point at the presence of subtypes of intellectual functioning in children with mild intellectual disabilities (ID) in terms of academic, adaptive and psychosocial functioning. In order to qualitatively implement distance learning for pupils, we support the opinion of the authors about the presence of 4 subtypes of cognitive mental processes for learning, namely: subtype of language strength; subtype of nonverbal force; subtype of character processing; subtype of global deficit.

Brewer (2018); Whitney, et al. (2018) argue that people with intellectual disabilities (ID) have an increased risk of developing depression and anxiety disorders; however, there is a lack of research on the associative factors of these mental health disorders. For a detailed understanding of the need to create an adequate distance learning environment, we adhere to the position of the authors to use variable indicators of problems covering social demography, the difficulty of identification, comorbidities (autism spectrum disorders, epilepsy, cerebral palsy, Down syndrome and attention deficit / hyperactivity disorder), physical factors (that is, physical activity, sleep duration and pain) and social factors (for instance, participation in activities and hooliganism).

The major challenges faced by teachers in the process of teaching children with cognitive development disorder in distance mode, as agreed by Stephanie, et al. (2021) are as follows: less home security; great disorganization; relationship between attachment disorganization and level of adaptive functioning.

The scientific work of Mosol, Fil (2020) considers the psychological and pedagogical principles of distance learning technologies. The rapid introduction and widespread dissemination of distance learning has revealed the following problematic aspects of its use, namely: lack of proper software and hardware for teachers and pupils, motivation of participants in the educational process, insufficient level of interpersonal communication (and, accordingly, the formation of communicative competence). An important condition for the effective organizing the educational process in the realities of distance learning is compliance with the set of principles that make up the system of requirements for the process of professional training. The defined principles are grouped into three subsystems as follows: the principles determining the pupils' motivation (professional orientation and conscious choice); principles determining the nature of the learning process (flexibility, initiative and activity); principles characterizing the features of teacher - pupil interaction (interactivity, mutual learning, self-control, self-regulation and self-correction, the principle of involving the professional "I" of the pupil).

According to the viewpoint of Kovalenko (2020), understanding the ontogenetic features of socialization of children with cognitive development disorder is of great social importance. Socialization of the individual with mental disabilities is manifested in disorders of self-perception, decreased emotional sensitivity, empathy, misunderstanding and adequate assessment of life situations, disorders of social skills. Consequently, the feeling of loneliness, reduced social competence arises due to the existing primary pupils' behavioural disorders. The content sphere is manifested in delayed development of semantic orientations, a low level of satisfaction with life, and the lack of higher emotions formation, the dominance of primitive interests, a violation of self-control, and the dominance of a low level of adaptation to the social environment. Therefore, the transition to distance learning can exacerbate these problems. Borisova (2019), studying the system of individual components of social competence, states that children studying in conditions of inclusion, in comparison with their peers, pupils of correctional schools, are characterized by less pronounced manifestations of social maladjustment.

We agree with the viewpoint that teachers should take into account the following important aspects in cooperation with parents of children with special needs during distance learning, namely: keeping a journal; development of personal skills; creating time for school work and basic needs. Teachers have reported on using diaries in daily communication with parents concerning the progress of students with cognitive development disorder. They have also pointed out the importance of developing personal skills in order to enhance proper personal hygiene and care for pupils. Teachers have reported the need for greater cooperation and parents' commitment to effectively help their children learn at home (MATSENJWA, et al., 2020).

Therefore, we understand that world experience, unfortunately, does not have a well-established concept of educational policy in relation to distance learning for children of primary school age with cognitive development disorder, which generates scientific discussions in the future.

CONCLUSIONS

Based on the research conducted, recommendations are given on the implementation of the system of psychological and pedagogical principles for organizing distance learning for children of primary school age with cognitive development disorder.

Category “Memory”

Wide application of visual aids is recommended in order to attract involuntary attention. If the teacher has the opportunity to read the lesson material in advance, additional selection of visual aids is recommended. In order to develop voluntary attention, it is recommended to use means of a certain level of abstraction - schemes, diagrams, tables, in case the teacher has the opportunity to study the material of the network lesson in advance; if the teacher does not have such an opportunity, it is recommended to draw up diagrams and tables with the pupil directly in class.

Category “Attention”

Highlighting the key supporting idea (suggestion) in each paragraph. Retelling using reference key sentences. Enrichment of active vocabulary, selection of illustrations, selection of synonyms, maintaining a dictionary of terms, demonstration of examples. Attention to the repetition of the material should be paid. It is important to devote some time to reviewing the information already learned at the beginning of each subsequent lesson. The emotional factor (the connection is set out with past experience) should be taken into account, due to which the productivity of intellectual work increases significantly.

Category “Speech”

To develop grammatically correct construction of phrases; use of numerals and pronouns, business words and prepositions in the language, primarily related to spatial and temporal categories; selection of synonyms, learning to use synonyms and antonyms in oral and written language; maintaining a dictionary of concepts and terms for each subject studied; focusing the student's attention on the “Dictionary” heading in the lesson material; verbal formulation of tasks for tests to pupils; instructing on homework, completing part of the homework in the lesson as an example (the pupil should have examples and algorithms for completing each type of task).

Category “Thinking”

Learning to analyze and compare phenomena, objects (make tables of similarities and differences). Learning to establish cause-and-effect relationships with the help of questions on the content of the material, questions with the wording “Why?”, “For what reason?” (The teacher should prepare the questions in advance). Formation of spatial representations on the basis of program material on drawing, geometry, geography. Development of temporal representations on the basis of the material of history, literature. Vocabulary development: practice of special terminology in the process of studying various subjects; mastering the concepts denoting spatial and temporal representations. Mastering terms denoting abstract categories.

An important direction of further research will be an attempt to propose a methodology for psychological and pedagogical strategies for organizing distance learning for senior school children with cognitive development disorder.

The practical significance of the research was the development of a recommendation base for the introduction of psychological and pedagogical principles of distance learning for children of primary school age with cognitive development disorder.

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Education of children under conditions of distance learning with cognitive development disorder: psychological and pedagogical aspects

Educação de crianças em condições de ensino a distância com transtorno de desenvolvimento cognitivo: aspectos psicológicos e pedagógicos

Educación de niños en condiciones de aprendizaje a distancia con trastorno del desarrollo cognitivo: aspectos psicológicos y pedagógicos

Resumo

O objetivo da pesquisa é identificar os princípios psicológicos e pedagógicos da aprendizagem a distância para crianças com transtorno de desenvolvimento cognitivo da escola primária. No decorrer da Pesquisa exploratória e empírica foi observado que as condições reais de ensino a distância para alunos com transtorno de desenvolvimento cognitivo abrangem as categorias da seguinte forma: O ZOOM é o método mais comum de ensino a distância; o ensino a distância é mais difícil de gerenciar; o ensino a distância é mais estressante em comparação com o treinamento presencial. As tríades de fundamentos psicológicos e pedagógicos para a organização do ensino a distância foram formalizadas, a saber: o nome e o conteúdo do componente da atividade educacional, objetivos psicológicos - correccionais e técnicas utilizadas no ensino a distância. Revelaram-se as características do curso dos processos cognitivos no contexto dos princípios psicológicos e pedagógicos de organização da aprendizagem a distância para crianças em idade escolar primária com transtorno do desenvolvimento cognitivo.

Palavras-chave: Aprendizagem à distância. Transtorno do desenvolvimento cognitivo. Idade escolar primária. Princípios pedagógicos e psicológicos.

Abstract

The aim of the research is to identify the psychological and pedagogical principles of distance learning for children with cognitive development disorder in primary school. During the exploratory and empirical research, it was observed that the actual conditions of distance learning for pupils with cognitive development disorder cover the categories as follows: ZOOM is the most common method of distance learning; distance learning is more difficult to manage; distance learning is more stressful compared to face-to-face training. The triads of psychological and pedagogical fundamentals for organizing distance learning have been formalized, namely: the name and content of the component of educational activity, psychological - correctional objectives, and techniques used in distance learning. The features of the course of cognitive processes in the context of the psychological and pedagogical principles of organizing distance learning for children of primary school age with cognitive development disorder have been revealed.

Keywords: Distance learning. Inclusion. Cognitive development disorder. Primary school age. Psychological and pedagogical principles.

Resumen

El objetivo de la investigación es identificar los principios psicológicos y pedagógicos del aprendizaje a distancia para niños con trastorno del desarrollo cognitivo en la escuela primaria. Durante la investigación exploratoria y empírica, se observó que las condiciones reales del aprendizaje a distancia para los alumnos con trastorno del desarrollo cognitivo abarcan las siguientes categorías: ZOOM es el método más común de aprendizaje a distancia; el aprendizaje a distancia es más difícil de gestionar; el aprendizaje a distancia es más estresante en comparación con la formación presencial. Se han formalizado las tríadas de fundamentos psicológicos y pedagógicos para la organización de la educación a distancia, a saber: el nombre y contenido del componente de la actividad educativa, los objetivos psicológico - correccionales y las técnicas utilizadas en la educación a distancia. Se han revelado las características del curso de los procesos cognitivos en el contexto de los principios psicológicos y pedagógicos de la organización del aprendizaje a distancia para niños en edad escolar primaria con trastorno del desarrollo cognitivo.

Palabras-clave: La educación a distancia. Inclusión. Trastorno del desarrollo cognitivo. Edad de la escuela primaria. Principios psicológicos y pedagógicos.