

# Distance Learning as a Means of Forming the life Competencies of Children with Special Educational needs

Gerasimenko Yu.A.<sup>1,2,\*</sup> Bratchikova Yu.V.<sup>1</sup> Lozgachev O.V.<sup>3</sup>

<sup>1</sup>*Institute of Psychology, Ural State Pedagogical University, Yekaterinburg, Russia*

<sup>2</sup>*Institute of Psychology, Ural State Pedagogical University, Yekaterinburg, Russia*

<sup>3</sup>*Institute of Psychology, Ural State Pedagogical University, Yekaterinburg, Russia*

\**Corresponding author. Email: gerasimenkou@yandex.ru*

## ABSTRACT

The article presents the results of experimental work using distance learning for children with intellectual and motor disabilities. Within the framework of the system-activity approach using electronic educational resources, it is shown that it is possible to effectively form the components of life competencies: communication and motor skills. In an educational organization, this process allows for targeted interaction with parents and students with special educational needs who are unable to attend school. The system of working with parents and students using modern on-line activities, graphic editors, game methods, kinesiology methods, interactive elements of interaction in the process of manual labor is described. The results are presented qualitatively and quantitatively based on the implementation of work in an experimental group of primary school children with a complex diagnosis.

**Keywords:** *distance learning, life skills, children with special educational needs, communication and motor skills*

## 1. INTRODUCTION

The modern education system allows children with special educational needs to realize their right to receive high - quality education, which is now reaching a fundamentally new level and in the most convenient way-by means of Internet technologies. Currently, distance education has proven its importance and relevance. Despite the promise of distance learning in working with special children, there is still a problem of forming life competencies, especially with children with mental disorders, who have reduced adaptive and integration opportunities. The Special Federal Educational Standard for children with special educational needs identifies complementary components: "academic" and "life competencies". The more complex the defect, the more significant role is played by the formation of students' life competencies. "Life competence" refers to the set of knowledge, skills and abilities that a child needs in everyday life [1, 11].

Currently, the priority is to create optimal conditions for successful social development, communication skills, and manual labor of students, regardless of their level of psychophysical development. Research shows that graduates of boarding schools and orphanages who are used to constant care, experiencing a lack of independence, faced with competitiveness in the labor market, lose their social orientation, and demonstrate unformed life skills [8].

Taking into account the strategy of modernization of education, where a direct installation on its Informatization is defined, our study solves a problem that was previously almost impossible – distance learning is a means of forming the life competencies of students with impaired motor sphere and intelligence. Due to the limited number of real contacts this solution is a complex system of interaction between an adult and a child involving numerous Internet resources [7].

### 1.1. Scientific justification

In the works of pedagogues and psychologists reflected various aspects of development of socially-adapted personality of a child with disabilities through job training. Yu. V. Bratchikova, Yu. A. Gerasimenko, S. A. Nozdrina, O. V. Logacheva and others in their research substantiated scientific and methodical approaches to the formation of a "special" child of individual autonomy, development of social activity and adaptation, and overcoming barriers to integration into society [3, 4, 12].

In the works of Yu. A. Gerasimenko and S. A. Nozdrina, the effectiveness of professional management of interaction between a student and an adult is shown, during which there is a gradual structural change in the personality that increases its ability to be included in social relations and activities [7]. Features of the development of the personality of a child with special educational opportunities are revealed in the research of N. N. Vasyagina, E. O.

Mazurchuk and others, where it is shown that in the conditions of a dysfunctional family or a children's boarding institution, a deprived person is most often formed [6].

Many children with developmental disabilities are unable to actively interact with teachers and peers due to individual health characteristics, and the necessary life (social) competencies in terms of conscious use of active speech and motor skills are a need for any type of activity, so the optimal alternative form of education for children, especially with a severe combination of defects (motor and intellectual), will be distance learning.

In recent years, much has been done in the development and implementation of new information technologies (V. A. Knyazeva, O. Mankova, P. I. Pidkasisty, O. B. Tyschenko, N. I. falina, V. D. Shadrikov) [4] and distance learning (M. Bondarev, A. Gustyr, V. Zernov, V. Ovsyannikov, E. S. Polat, Yu. Rudenko, N. Radinskaya, V. Soldatkin) [5].

Distance learning is one of the important means of formation of student life, which is associated with identifying the most significant for the individual life goals that are realized simultaneously with the practical development of children's social experience. Therefore, e-learning, we consider as a complex of information educational technologies, which focused indirect interaction of the student with special educational needs, parent and teacher is not dependent on their location and ensures the development of the basic volume of the studied material interactive by providing students opportunities for independent work.

The effectiveness of distance learning for children with intellectual disabilities is achieved through high motivation and individualization of learning: each child is engaged in a convenient schedule and at a convenient pace; with the necessary dosage for the development of the discipline. Distance learning, realizing educational goals, simultaneously solves special tasks of a correctional nature that ensure the formation of life competencies of children with special educational needs who can not regularly attend school, but have the opportunity to do so at their place of residence [9].

## **1.2. Related Work**

Thus, we proceed from the position that the acquisition of basic motor skills, communication skills, are a necessary condition and means of social adaptation and social protection of children with motor and intellectual disabilities. At the same time, the formation of life competencies should be carried out purposefully in the joint activities of teachers and parents of children with special educational needs.

## **1.3. Our Contribution**

Our study involved 28 students of the state budget educational institution of the Sverdlovsk region for children in need of psychological, pedagogical and medical-social

assistance, the center for psychological, medical and social support "Resource" and 11 students of a boarding school that implements adapted programs for children with intellectual disabilities in Berezovsky, Sverdlovsk region. All respondents aged 8-9 years have intellectual disabilities (mild mental retardation), as well as a diagnosis of cerebral palsy (cerebral palsy).

To assess speech, communication and motor skills, we used the methods of Makeeva T. G. Kurenkova S. A. "the level of speech development of children with intellectual disabilities", "Communicative development of children with developmental disabilities", Assessment of the level of motor development of primary school age, - author N. Garieva and assessment of fine motor skills of younger students-author O.N. Goncharenko. [10, 14].

The diagnostic results indicate that younger students with motor and intellectual disabilities have a lag in speech development and communication skills, while all components of speech suffer: vocabulary, grammatical structure, and sound reproduction. 89 % of students (from the total number of children who participated in the study) have a violation of sound pronunciation; 91 % - have limited vocabulary, a low level of speech expressiveness; 71 % - the predominance of passive vocabulary over active; 69 % - incorrect understanding and use of words.

Writing a story also causes significant difficulties for the majority of students (75 % of the total number of children who participated in the study), the inability to identify essential features, a violation of the sequence of reproduction (75% of children demonstrate), the use of simple syntactic structures with a predominance of nouns and verbs, the presence of agrammatism, inconsistency of parts of speech (noted in 69% of students).

The results obtained are due to the specific development of children with intellectual disabilities, which make it difficult to communicate with others and the process of mastering the grammar of the Russian language

The results of diagnostics of fine motor skills in the process of manual labor according to the method of N. Gariev and O. N. Goncharenko indicate a violation of 71 % of students ' basic movements: coordination, inconsistency of hand work, inaccuracy of movements in space and orientation on the sheet; slow completion of tasks; gross errors in differentiating muscle efforts; violation of dexterity and smoothness of movements; stiffness and tension of the limbs.

Based on the data obtained, a program was developed for the formation of components of life competencies (speech and motor skills) of children with impaired motor sphere and intelligence by means of remote technologies, taking into account the requirements of the Federal state educational system "Implementation of educational programs using e-learning and remote educational technologies" (Article 16) and "Organization of education for students with disabilities (Article 79). A prerequisite for children's education is an adapted basic General education program, taking into account special conditions for education and individualization [11]. The work is based on a system-activity approach (P. Ya. Galperin, N. F. Talyzina), i.e., training based on the process of

internalization (the transition of external actions into internal mental processes) [13].

The goal of the program is to form the components of life competencies (speech and motor skills) of children with impaired motor sphere and intelligence by means of remote technologies.

Program objectives:

1. Develop speech and communication skills.
2. To adjust the propulsion motor skills in the process of manual labor.
3. Cultivate independence, accuracy, and interest in manual labor.

Requirements for educational software:

1) communication (audio-visual communication of the program Skype, ooVoo, i-chat, Googlevoice&video-chat); access to the student's screen (Remote Desktope, TeamViewer);

educational environment (a shell with developed courses in academic disciplines).

Organizational and content aspects of distance learning:

1. Individual remote training is conducted according to a pre-arranged schedule. The teacher prepares a list of materials or content of materials necessary for the lesson: links to web sites on the subject, sites of electronic libraries, their own web-quests, texts of "paper" manuals, necessary laboratory materials, etc. (selection of hyperlinks to internal and external sources of information on the Internet for each module); prepares a visualized algorithm (plan) for performing each action by the child. Defines the system for evaluating children's work (verbal assessment, smiles/icons), determines the content of physical minutes (dynamic pauses) in accordance with the characteristics of the student. [6].

2. The teacher performs online interaction with the student with the mandatory presence of a parent; selects a type of distance learning that allows you to effectively combine the study of a new topic, repetition, deepening, control, self-checking, as well as search, research, creative activities, conferences in the forum, individual project work, training exercises, tests, and others. The choice of the optimal model of distance learning depends on the characteristics of the student.

3. in the process of online interaction, the teacher gradually demonstrates each action that the student performs on the model, the parent performs the role of a tutor, providing assistance to the child in the zone of immediate development. In children with cerebral palsy, the need for parental assistance can be expressed in relieving tension of muscle tightness during paresis by massage movements; minimizing tremor of the extremities, changing the direction of movement of the hand by fixing and correcting the child's movement with the hands of an adult, and so on [14].

4. The parent performs technical opening and closing of additional Windows in the program under the guidance of the teacher (including illustrations, videos, audio, animations), helps to focus the student's attention on the Central elements of the lesson, provides feedback to the teacher about the child's condition, his performance, as well as in the presence of a complex speech diagnosis

(dysarthria). At the end of the lesson, the parent is offered methodological recommendations for further consolidation and repetition of the material.

5. If there is no communication with the parent and the student in the remote shell of the i-class, the teacher finds out the reasons for his absence (an individual forum of the child, a phone call to the parent) and informs the head teacher about the failed lesson.

In addition to the I-school shell, you can use the website "Internet lesson. Did you call the teacher?" <http://interneturok.ru/>, as well as the site of electronic educational resources <http://fcior.edu.ru/>. If possible, children with special educational needs should participate together with other children in educational, cultural, recreational, sports and other leisure activities [15, 21].

6. The formation of life competences of children with special educational needs contributes to the system of additional education, in which parents and children participate (remotely and in person) in the regional competition of family creativity "Semitsvetik", national competition "Our heritage", regional competition "Young scholars of the Urals", the meetings of the Family club. Project extracurricular activities are represented by various types of creativity: decorative and applied, visual, literary and poetic, musical, technical, computer graphics.

Distance education resources allow students living in various municipalities of the Sverdlovsk region to conduct collective on-line events, competitions, concerts, and master classes.

In classes with students with motor and intellectual disabilities, services were used that include exercises for the development and correction of large and small motor skills, as well as speech: exercises for the development of small motor skills with the development of articulation (games with fingers, finger games with sticks and colored matches, finger games with tongue twisters, dialogue, finger games with poems, finger alphabet); the development of graphic skills (drawing on stencils, drawing on curly rulers, hatching); kinesiology.

For example, the resource "Brashechka" was used to create creative works <http://brushechka.ru/>, is a simple graphic editor available for students with special educational needs. The editor has a visual and game basis, the student chooses the theme and means of work (stamps, brushes, graphic elements). Draw graphic editor.to allows you to create sketches, sketches, and diagrams.

It is convenient to create collages in the following programs: Picasa <http://picasa.google.com/>; BeFunky [www.befunky.com](http://www.befunky.com/). To create joint presentations, we used the following tools: Google presentations ([https://docs.google.com/presentation/d/1v6e6rqIXXx6pvHGPHDJk8RPc\\_EjyyruffrVoWdVrxxg/edit?usp=sharing](https://docs.google.com/presentation/d/1v6e6rqIXXx6pvHGPHDJk8RPc_EjyyruffrVoWdVrxxg/edit?usp=sharing)); Prezi <http://prezi.com/zg1na7qsqkrr/presentation/> [16 - 20].

## 2. CONCLUSION

The effectiveness of implementing distance learning for primary school children with motor and intellectual disabilities in the framework of the subject "Technology" is confirmed by mathematical statistics of significant differences between the experimental and control groups of respondents

In the experimental group indicators of speech development and communication skills has changed qualitatively in comparison with the control group, 35% of students (of the total number of children in the experimental group), there is no error sounds, while as the control group this figure rises to only 5 %; at 59% of children in the experimental group noted the enlargement of vocabulary, increase of level of expressiveness of speech (in the control group – 23 %); 48 % of respondents in the experimental group showed high indicators of proactive active speech, as well as correct understanding of adult instructions. in the control group, this indicator reaches 17% of children.

75% of students in the experimental group successfully coped with the composition of the story (there is a logical sequence of reproduction, the selection of essential features of objects and phenomena, the number of agrammatism and inconsistency of parts of speech decreased), in the control group, 34% of children achieved such results.

The results of re-diagnosis of fine motor skills in the process of manual work by the method of N. Gariev and Goncharenko O. N. indicate a qualitative change in 47 % of students in the experimental group main motion: precise coordination of movements, consistency of hands, formation of skills of orientation in space and on the sheet, respondents in the control group these indicators were unchanged, significant changes are marked, in addition, there is slow execution of tasks; a blunder while differentiation of muscular efforts; violation of dexterity and smoothness of movements; stiffness and tension of the limbs.

For students with motor and intellectual disabilities who are unable to attend an educational organization due to their diagnosis, distance learning can effectively serve as an alternative means of forming life competencies

## REFERENCES

- [1] Abasova, M. Yu., lavrinets, K. Y. the Education of children with disabilities in conditions of children's homes. Bulletin of the University of the Russian Academy of education. Moscow, 2011. № 1, pp. 144-148.
- [2] Arkhipov, B. A., Vorobyova, E. A., Semyonovich, A.V., Nazarova, L. S., Shegai, V. M. Complex method of psychomotor correction. Moscow, 2007.
- [3] Bratchikova Yu. V., Vasilchenko E. O. Formation of skills of emotional self-regulation in primary school children. Collection of materials of the all-Russian scientific and practical conference. 2017, pp. 35-40.
- [4] Bratchikova Yu. V., Gordienko N. V. Formation of communicative universal educational actions in primary school children in extracurricular activities. Collection of materials of the all-Russian scientific and practical conference. 2017, pp. 47-50.
- [5] Bodrova, I. V. Inclusive distance education. Collection of the conference of the research Institute, Sociosphere. 2012, pp. 99-105.
- [6] Vasyagina N. N., Mazurchuk E. O. Formation of the concept of "family" in domestic and foreign science. Psychological problems of the modern family. collection of materials of the VIII international scientific and practical conference. Ural state pedagogical University. Yekaterinburg, 2018, pp. 46-48.
- [7] Gerasimenko, Y. A., Shikharev K. Individual educational route as a condition for accompanying children with disabilities in an educational organization Actual problems of personality psychology. Collection of proceedings. Under the scientific editorship of N. N. Visaginas, E. A. Kesaevoy. Yekaterinburg, 2019, pp. 96-99.
- [8] Gerasimenko Yu. A., Nozdrina S. A. Psychological and pedagogical support of a family raising a child with disabilities. Psychological problems of the modern family. collection of materials of the VIII international scientific and practical conference. Ural state pedagogical University. Yekaterinburg, 2018, pp. 640-645.
- [9] Golovchak, E. V., Strokova, T. A. Distance learning for children with special needs. National education. Moscow, 2011. - №7.
- [10] Zhuravleva, T. M. the Role of distance education in the socialization of a disabled child. Pedagogical education and science, Scientific and methodological journal. Moscow, 2013. - № 4.
- [11] Zenkina, S. V., Mizhaeva, E. M., Saveleva, O. A. Developing information and educational environment as a factor of socialization of disabled children. Computer science and education. Moscow, 2013. No. 10, pp. 73-76.
- [12] Lozgacheva O. V., Adushkina K. V., Sysolyatina E. A. Psychological and pedagogical competence of parents raising a child with a genetic disease. Pedagogical education in Russia . 2019. No. 5, pp. 117-123.

- [13] About creation of conditions for distance education of children with disabilities who need home education in the subjects of the Russian Federation: reference to the meeting of the Board of the Ministry of education and science of the Russian Federation on December 18, 2012. Bulletin of education: collection of orders and instructions of the Ministry of education and science of Russia. 2013. №2, pp. 47-55.
- [14] Petrachenkova, T. Distance learning for children with disabilities . Correctional and developmental education. 2013. №4 (26), pp. 25-29.
- [15] Suvorova, I. V. Models of distance education of disabled children in Russia // Education and science, 2014, no. 1, pp. 90-102.
- [16] School distance education. <http://www.internet-school.ru>
- [17] Training may be available. <http://www.web-learn.ru/E-Soft-development> Training may be available
- [18] Resource Center.RF <http://www.центр-ресурс.рф> Website of SBOU SO "center of PMSS "Resource"
- [19] Learning Technologies. <http://iclass.home-edu.ru/> center for education "learning Technologies"
- [20] Ural Federal district Information and methodological platform of the Sverdlovsk region. <http://iclass.home-edu.ru/course/view.php?id=1619> Ural Federal district Information and methodological platform of the Sverdlovsk region
- [21] School video tutorials. <http://interneturok.ru/> online lesson. Did you call the teacher?