Поваляева, М. А. (2007). *Справочник логопеда*. Ростов-на-Дону : Феникс. (Povalyaeva, M. A. (2007). The speech therapist. Rostov-on-Don: Fenix).

SUMMARY

Kravchenko Anatolii, Kravchenko Iryna. Point massage as a component of a comprehensive approach to rhinolalia correction.

The aim of this article is to summarize and clarify the specifics of rhinolalia correction using point massage. The article examines the historical aspect of the speech disorder known as rhinolalia. Various forms of rhinolalia are discussed depending on the nature of the dysfunction of the velopharyngeal closure. The main directions of rhinolalia correction using acupressure in the preoperative and postoperative periods are determined.

According to the classification of the World Health Organization, rhinolalia is classified as a voice disorder. Despite the presence of severe articulation disorders, most commonly resulting from congenital clefts of the upper lip, hard and soft palate, it is necessary to start speech therapy sessions with the child in the preoperative period to prevent significant changes in the functioning of the speech organs. At this stage, the activity of the soft palate is increased, the position of the tongue base is normalized, lip muscle activity is enhanced, and directed oral exhalation is developed. Therefore, the application of acupressure together with speech therapy sessions has a beneficial effect on the corrective work with patients. Further research, in our opinion, should focus on studying the use of cupping therapy for various speech disorders.

Key words: *children, rhinolalia, history of studying speech disorder, forms of rhinolalia, acupressure.*

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EDUCATIONAL AND CORRECTIVE POTENTIAL OF MULTIMEDIA TECHNOLOGIES IN THE PROCESS OF TEACHING STUDENTS WITH SPECIAL EDUCATIONAL NEEDS

The article reveals the role of information and communication technologies in teaching students with special educational needs, highlights scientific and methodological approaches to the use of ICT tools and means in the educational process of a special school. Special attention is paid to highlighting the educational and corrective potential of multimedia technologies in the process of teaching geography to students with intellectual disabilities. The article reveals the specific properties of multimedia educational presentations during the study of the school course “Geography of Ukraine”. The authors experimentally have proved that the use of multimedia technologies is an effective means

of achieving the educational and corrective-developmental tasks of teaching geography to students with intellectual disabilities.

Key words: *information technologies, multimedia technologies, educational presentations, students with special educational needs, teaching geography.*

Introduction. One of the important and priority directions of modern Ukrainian state policy is formation of a single information-educational space, because in the context of globalization of the modern information world, the possibilities of using information and communication technologies (ICT) in almost all sectors of human life, including education, are significantly expanding. Modern school faces a new task – to ensure optimal conditions for schoolchildren to obtain education based on the use of the latest information learning technologies in order to further prepare for professional work in a highly developed information environment.

Despite the significant potential of information technologies, the trend of informatization of society and education increases the difficulties of social adaptation of children and adolescents with special educational needs, in particular with cognitive impairment. The inclusion of ICT in the system of pedagogical support of students with intellectual disabilities becomes a socially conditioned necessity and an important factor in the availability and quality of education, ensuring the unity of educational, upbringing and developmental functions of the educational process, increasing the effectiveness of its corrective influence on the child's personality, expanding the possibilities of unhindered conscious orientation in the modern information space. Consequently, there is no doubt that ICT should be used in the education of children with intellectual disabilities.

Analysis of relevant research. A thorough coverage of psychological-pedagogical, didactic and methodological aspects of the problem of using information and communication technologies in special and inclusive education is presented in the scientific investigations of many researchers (O. Boriak, O. Vasylenko, A. Vysotska, S. Havrys, Ye. Hryhorenko, T. Dehtiarenko, L. Ditkovska, I. Dmytriieva, T. Yezhova, H. Zahurska, V. Zasenko, A. Kolupaieva, O. Kachurovska, O. Korol, Yu. Kosenko, N. Kravets, O. Lehkyi, S. Myronova, B. Moroz, S. Netiosov, Yu. Nosenko, V. Ovsianyk, L. Odynchenko, N. Savinova, V. Syniov, M. Suprun, I. Fedorenko, I. Kholkovska, S. Chupakhina, A. Shevtsov, M. Sheremet and others). The scientists have proved the pedagogical expediency of introducing modern ICT into the practice of educational and corrective work with children of various nosologies.

In the context of the problem field, the publications of scientists, which reflect various aspects of informatization and computerization of the

educational process of special schools for students with intellectual disabilities, deserve attention, in particular: the possibilities and theoretical-methodological approaches of using a computer in corrective education (O. Vasylenko, O. Lehkyi, S. Myronova); the role of multimedia learning technologies in special general education institutions (I. Dmytriieva, L. Odynchenko); the peculiarities of the use of information technologies in working with junior schoolchildren with intellectual disabilities and the educational and methodological provision of IT support for the education of this category of students (S. Chupakhina); the peculiarities of the use of computer didactic games in teaching history to children with intellectual disabilities in the conditions of an inclusive educational environment, the possibilities of digital technologies in the formation of abstract concepts in students with intellectual disabilities using the programs "ArcGIS-online" and "Google Earth" (O. Boriak, O. Korol, Yu. Kosenko, M. Suprun); the psychological-didactic and methodological conditions for the use of computer technologies in the process of teaching students with SEN and works of art at the literary reading lessons (N. Kravets); the expediency of introducing media educational technologies into the system of corrective education of students with intellectual disabilities (A. Vysotska); the practical experience of using ICT tools and means in the process of teaching mathematics to students with SEN of senior grades (M. Bondarenko, L. Odynchenko); formation of information and communication competencies in students with intellectual disabilities (T. Sakhno), didactic approaches to teaching this category of children the basics of computer science in the aspect of preparing them for life in modern society (A. Ivanenko, L. Odynchenko), etc.

The aim of the article is to determine the educational and corrective potential of information and communication technologies, in particular multimedia, in the process of learning geography of Ukraine by students with intellectual disabilities.

Research methods. To achieve the goal, research methods were used: theoretical – analysis and generalization of scientific literature to justify the initial provisions of the research; empirical – study of the geography curriculum for special general education institutions for children with intellectual disabilities, conducting pedagogical observations, surveys, questionnaires, interviews, pedagogical experiments (ascertaining and molding) to clarify the peculiarities of the use of multimedia technologies at geography lessons in special training; statistical – mathematical processing of experimental data to prove the reliability of research results.

Research results. Information and computer technologies, which are considered as important components of a holistic system of teaching children with intellectual disabilities, not only facilitate access to information, but also open up opportunities for the variability of educational activities, their flexibility, individualization and differentiation, allow to organize the interaction of all subjects of education, to build such an education system in which the student would be an active and equal participant in educational activities (Lehkyi, 2002; Myronova, 2003; Chupakhina, 2019). The integration of modern ICT and traditional teaching aids can optimize and modernize the process of teaching students with intellectual disabilities, create conditions for increasing their motivation and interest in studying the program material of various school disciplines, as well as stimulate the cognitive activity of schoolchildren, positively influence the pace of their educational activities and work capacity (Kosenko et al., 2020; Kosenko et al., 2021, Kravets, 2014). Information learning technologies are becoming an important tool for improving the modern lesson, which help the teacher to achieve educational and corrective goals, to design the educational environment, using both individual types of educational activities and any their combination (Vasylenko, 2009, p. 14). At the same time, the use of modern ICT tools and means in the educational process of a special institution should be carried out on the principles of implementing health technologies, focusing on areas of actual and immediate development, psychophysical and age-related capabilities of each specific child, taking into account the structure of the existing defect and the patterns of its manifestation (Odynchenko and Dmytriieva, 2017, p. 363).

The basis of our study was the scientific and methodological approaches to revealing the essence of the corrective orientation of education of children with intellectual disabilities (Syniov & Bondar, 2015; Myronova, 2015), the introduction of effective forms, methods and means of teaching geography into the educational process of a special school (Odynchenko and Dmytriieva, 2019; Odynchenko and Dubovskyi, 2021; Odynchenko and Skyba, 2018; Siniov, 2010).

Taking into account the above-mentioned, new opportunities to improve the quality of geographical education of students with intellectual disabilities were considered. Multimedia technologies, among which special attention is paid to educational presentations, have become a powerful multifunctional tool for the formation of geographical knowledge in children of the designated nosology. Limited opportunities

of children with intellectual disabilities in perception, memorization, comprehension and reproduction of the educational material intensify the search for ways to realize the possibilities of multimedia technologies to improve the modern geography lesson in a special institution of general education, expanding its didactic potential.

The experimental study was conducted in three stages. At the first stage of the study, in order to clarify the practical experience of using multimedia technology at geography lessons, we conducted a survey of 29 teachers of special institutions of general secondary education – special schools of Donetsk, Dnipropetrovsk, Zaporizhzhia and Kharkiv regions. The questionnaire included a number of questions aimed at identifying teachers' attitude to the introduction of multimedia technologies in the study of the school course "Geography of Ukraine" in the 9th grade and the features of the organization of multimedia support of lessons.

The results of the study show that 100 % of teachers use at least elements of computer technology in geography lessons. It has been found that 65.5 % of teachers introduce the latest technology in the classroom occasionally, due to the lack of free time for the preparation of electronic material, as well as the lack of computer literacy.

Despite the different levels of computer skills, teachers give priority to multimedia presentations in teaching students with intellectual disabilities. It has been revealed that 72.4 % of teachers use presentations at the stage of presentation of educational material, 44.8 % – during the consolidation of the lesson topic.

The analysis of the data revealed 79.3 % of teachers who prefer information and illustrative presentations. 34.5 % of teachers use elements of the presentation-test, in which the testing is aimed at choosing the correct answer to the proposed question from several options. Occasionally the respondents use the game-presentation (27.6 %). Combined presentations that meet all the rules of design of this type of presentation, as well as pedagogical conditions of their use in teaching geography to students with intellectual disabilities, have only 20.7 % of teachers in their methodological arsenal.

The purpose of the second stage of the study was to determine the state of formation in students with intellectual disabilities of geographical knowledge about the natural areas of Ukraine in conditions of traditional learning. The study covered 122 students from the 9th grade of special schools of Donetsk, Dnipropetrovsk, Zaporizhzhia and Kharkiv regions. The

test was conducted on the topic: “Natural areas of Ukraine” in the form of a frontal written and individual oral survey, taking into account the basic requirements for educational achievements of students provided by the current geography curriculum (Odynchenko, Skyba, 2015). Clarification of the level of geographical knowledge formation on the chosen topic was carried out by indicators: awareness of conceptual apparatus, laws, systematization of knowledge, practical application of knowledge while working with geographical maps.

Aggregated results of the current state of formation of students’ geographical knowledge showed that most of them are characterized by low (54.9 %) and average (32.7 %) level of awareness of the conceptual apparatus on the topic, understanding of natural laws and relationships, the ability to systematize and practically apply knowledge. Only 12.3 % of students have a high level of geographical knowledge on the chosen topic.

At the third stage of the study, a molding experiment was carried out, the purpose of which was to improve the methods of using multimedia resources in the process of pedagogical support of pupils with intellectual disabilities at geography lessons and to test its effectiveness.

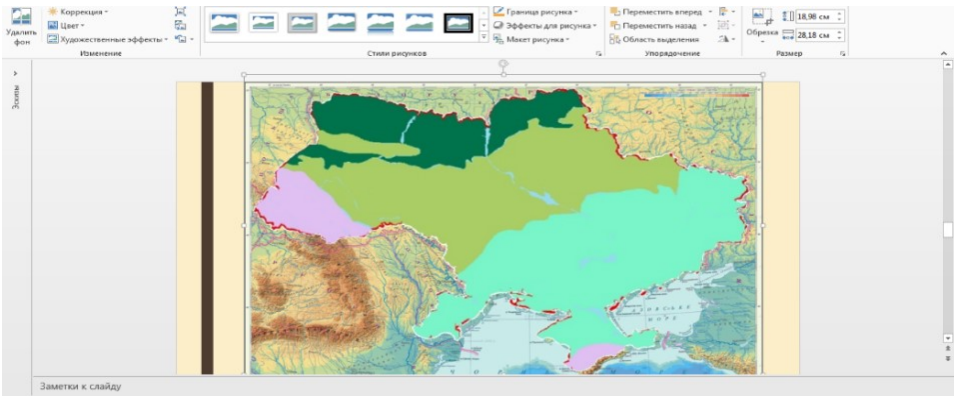
During the design and operation of the experimental method, we focused on improving the technology of explanation and consolidation of geographical material by means of multimedia presentations. The possibilitions of using the developed training presentations in combination with other tools, methods and techniques of corrective training (introductory and reproductive conversations, working with a textbook, the use of illustrative clarity, working with a contour map, filling in tables, drawing up diagrams, etc.).

A priority role in the development of training presentations was given to computer animation, which expanded the possibilities of computer graphics. So, animation “Panorama” was proposed to the topic “Zone of mixed forests”, to the topic “Forest-Steppe zone” – “Random bands”, etc. Illustrations that characterize the natural conditions, flora and fauna of each natural area were selected to explain the new material in each topic. The subject illustrations were accompanied by appropriate labels. The “Magnifying Glass” function was used to focus students’ attention on some details of the illustrations showed on the slides of the presentation (Fig. 1).

Fig. 1. The example of using the “Magnifying Glass” function on the slide while viewing the illustration “Groundhogs in the Streletsky Steppe”

Explanatory tables facilitate understanding of educational material, its conscious assimilation and memorization. For example, when students are introduced to the animal world of the zone of mixed forests or the steppe zone of Ukraine, a slide showing a table consisting of three columns is presented on the screen. In the first column – the names of typical representatives of the animal world of the natural zone, in the second – images of animals (with the help of animation effects, the image increases in size for a more detailed view, and then decreases, “fits” into the size of the table cell). In the third column – the text containing in a condensed form information about the adaptation of animals to the climate conditions of the natural zone.

Special attention at the lessons was paid to working with a map. The presentations used techniques of comparing and overlaying maps or their fragments, which made it easier to compare objects, establish cause-and-effect relationships and patterns. For example, the physical map of Ukraine was overlaid by the map of natural areas of Ukraine and using the “Set transparent colour” function illuminated the boundaries of a certain natural area, which made it possible for students to determine the features of the relief within the natural area (Fig. 2).



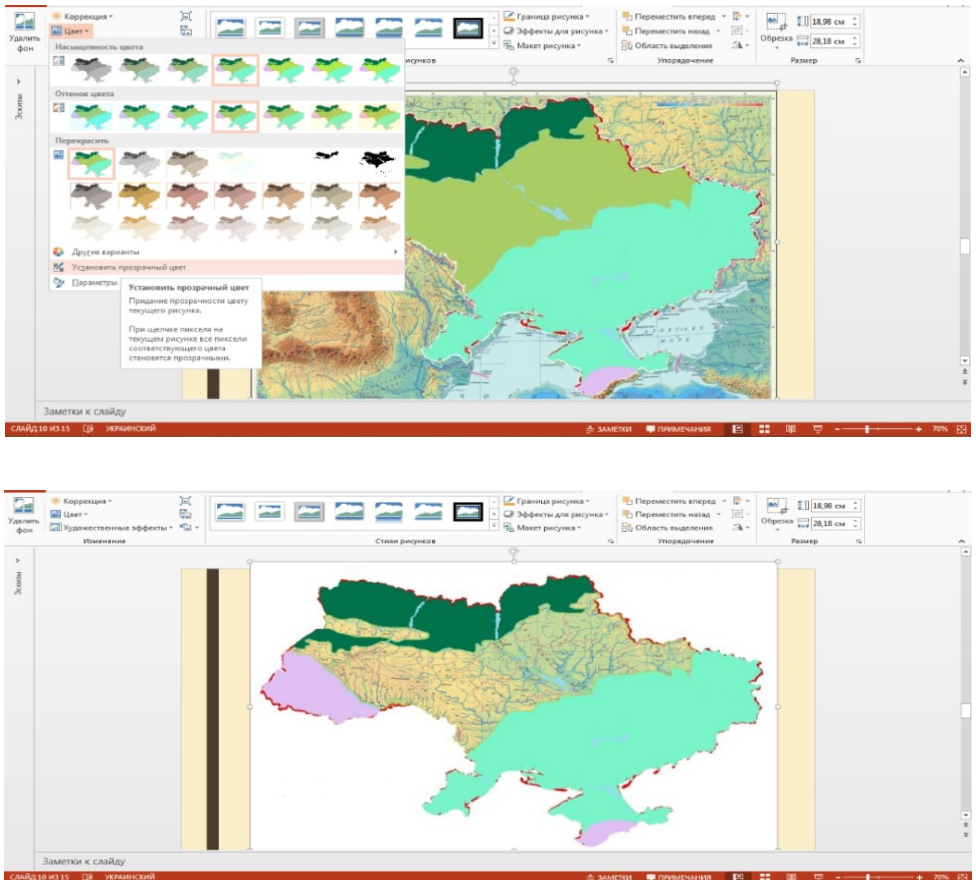


Fig. 2. The example of using the technique of mapping and overlay maps

At the consolidation stage, the map was projected onto the whiteboard, students were asked to sign the natural zones independently, after that the electronic signature was highlighted. It was appropriate to overlay the map of the country's administrative division on the map of Ukraine's natural zones in order for students to determine which regions are located in the corresponding natural zone. Also, the maps were supplemented with illustrative (images of animals, landscape illustrations) or text material corresponding to the inscriptions. If necessary, the names of geographical objects were allocated as reference signals on the map by means of animation.

In order to form correct and differentiated ideas about unfamiliar territories and objects of nature, video fragments were included in the presentation. In particular, while studying the topic "Forest-steppe zone" with the help of a video file "Slobozhanshchyna – a forest-steppe of Ukraine" students "went on a journey", through which concretized the idea of the characteristic features of the lowlands and hills of the forest-steppe zone, the diversity of flora and fauna.

Test tasks and multi-level exercises with hyperlinks to the conventional images were used to consolidate students' geographical knowledge and skills (Fig. 3). The range of the organization of the frontal work with the class greatly expanded under the condition of sharing educational presentations with whiteboard.

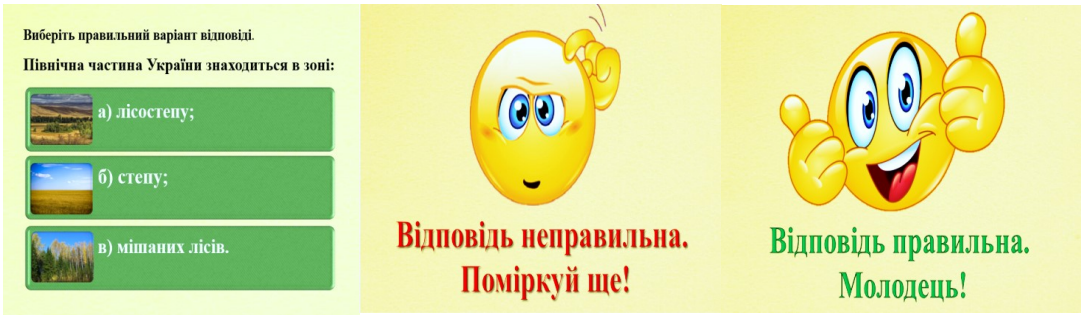


Fig. 3. The example of using the hyperlink function on a slide to test students' knowledge

Methods of mathematical statistics were used to justify the results of the study. The indicators obtained in the course of the experimental study belong to two independent sample sets – the control (60 people) and experimental (62 people) groups. Both samples contain a score (on a 10-point scale), which determines the success of students performing the proposed tasks at the ascertaining and molding stages of the study (Table 1).

Table 1

Data on performance by students of CG and EG tasks at the ascertaining and molding stages of the study (in scores)

Scores/ Frequency (students' number)	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**Σ**
Control group (ascertaining experiment)	9	6	9	7	7	6	7	6	2	1	**60**
Experimental group (ascertaining experiment)	10	7	8	6	8	7	6	4	4	2	**62**
Control group (molding experiment)	8	7	10	7	6	7	6	3	4	2	**60**
Experimental group (molding experiment)	5	4	6	3	8	10	8	8	6	4	**62**

The obtained data were also considered in the form of discrete variational series, the corresponding calculations were carried out, where the variant x_i is the score obtained by each student; n_i ,n_i* are the frequency variants for the control group; m_i ,m_i* are the frequency variants x_i for the experimental group (at the stages of ascertaining and molding experiments respectively).

We have established the numerical characteristics of the sample: Mo is the variant that corresponds to the maximum frequency, sample average $\bar{x} = \frac{\sum_{i=1}^{n} x_i n_i}{n}$ (average score), variance $D = \frac{\sum_{i=1}^{n} x_i^2 n_i}{n} - (\bar{x})^2$, average square deviation (or standard deviation) $\sigma = \sqrt{D}$ (characterizes the measure of the scattering of individual scores of students around the average score) and the coefficient of variation $V_\sigma = \frac{\sigma}{x} 100\%$ (the degree of homogeneity of the sample sets).

As it can be seen from the Table 2, there is the most frequent score (score with the highest frequency) 1 or 3 in the control group of students at the stage of the ascertaining experiment, 3 points at the stage of the molding experiment. For the experimental group, the mode changed from 1 point at the stage of ascertaining experiment to 6 points at the stage of molding experiment. Thus, the average score of students in the CG group has not changed, and the average score has increased significantly in the EG at the stage of the molding experiment. The value of the standard deviation and a significant coefficient of variation in both groups indicate a high heterogeneity of student groups according to the results of control and molding experiments.

Table 2

Comparison of numerical characteristics of the sample of CG and EG (in %)

	Control group		Experimental group	
	ascertaining experiment	molding experiment	ascertaining experiment	molding experiment
Mo	1 та 3	3	1	6
$\bar{x}$	4.5	4.6	4.6	5.8
D	6.2	6.6	7.0	6.7
σ	2.5	2.6	2.6	2.6
V_σ	56%	57%	57%	49%

On the basis of the obtained numerical characteristics of the sample sets, the confidence interval was found, which with the given confidence probability of 95 % (reliability) “covers” (i.e. the average score does not

exceed the confidence interval) the average score of students in the general sum with a probability of 95 %.

The required confidence interval was determined by the formula: $(\overline{x} - t_\gamma \frac{S}{\sqrt{n}}; \overline{x} + t_\gamma \frac{S}{\sqrt{n}})$, where value t_γ is a given reliability $\gamma = 95\%$ and the number of degrees of freedom $k = n - 1$ on the table of critical points of Student' distribution; S is corrected average of square deviation $S = \sqrt{\frac{n}{n-1} D}$. Since $t_\gamma = 2$ at 95 % confidence probability and sample volumes of 60 and 62 people, we obtain the following confidence intervals for the average score of formation of geographical knowledge about the natural zones of Ukraine of students of the control and experimental groups at two stages of the study (Table 3).

Table 3

Indicators of variance on the formation students' geographic knowledge about natural zones of Ukraine in CG and EG

	Control group		Experimental group	
	ascertaining experiment	molding experiment	ascertaining experiment	molding experiment
Confidence interval	(3.9 - 5.2)	(3.9 - 5.2)	(3.9 - 5.2)	(5.1 - 6.4)

It was found that the average score of students of the experimental group at the stage of the molding experiment was greater than the average score of the same group at the stage of the ascertaining experiment (4.6 and 5.8, respectively). In the control group, the average score remained almost unchanged (4.5 and 4.6, respectively). Confidence intervals for the average scores of both samples at all stages of the experiment indicate their representativeness and reliability of the study.

Analysis of the standard deviation and the variation index of the sample sets of the control and experimental groups suggests that both groups are quite heterogeneous in terms of the formation of geographical knowledge about the natural areas of Ukraine. The real scores obtained by 9th-graders significantly deviate from the arithmetic mean. At the same time, the experimental group after the end of the experiment shows a higher uniformity (49 % instead of 57 %) in the definition of geographical notions on the topic, understanding of cause-and-effect relationships, the formation of skills to systematize knowledge and practically apply while working with a geographical map. This is evidenced by the increase in high and average levels in the experimental group in comparison with the

peers of the control group. The control group remained heterogeneous after the experiment (coefficient of variation 56 % and 57 %).

The results of the research have allowed verifying the appropriateness of the introduction of experimental method for the use of multimedia technologies in the process of corrective teaching of students with intellectual disabilities. The development of multimedia support of the educational process in a special school, the inclusion of learning presentations in the system of lessons require compliance with certain pedagogical conditions. The presentation should correspond to the content of the curriculum, have a clear didactic purpose, correctional orientation; to be accessible, compositionally complete, clear in structure and aesthetically designed. The material is presented briefly, with the maximum information content of the text. The important information (definitions, conclusions) is supplied in large and highlighted type and is located in the middle of the slide. Slides should not contain unnecessary details. Illustrations, photos or drawings with pronounced characteristic features are selected for demonstration. Fragments of video films are adapted in accordance with the mental characteristics of children with intellectual disabilities. Sound design (if necessary) should not be very loud. Narration should be scientific, concise, expressive and understandable for students. Do not overload the presentation with animation effects.

Conclusions and prospects for further research. The study of scientific sources on the research problem proved that in the conditions of the rapid introduction of the latest information and communication technologies into the practice of special institutions, new opportunities were created to improve the quality of education of students with intellectual disabilities. Multimedia presentations that integrate significant educational resources, have a high modification and didactic potential, allow the teacher to effectively implement the educational and corrective-developmental purpose of the lesson, become an important means of effective geography teaching. It has been experimentally established that the entire toolkit of the presentation significantly expands the ways of using the channels of information perception and allows to keep the arbitrary attention of students at the lesson for a long time. Geographical information presented at the lesson in the form of a presentation is well remembered by schoolchildren, thanks to visualization, bright slides and effective sound transitions. It has been found out that it is appropriate to use the following types of multimedia visualization at geography lessons: pictorial (photo

reproductions of paintings, photos of the surrounding world, drawings, fragments of video films, etc.); symbolic and graphic (geographical maps, maps-schemes, tables, schematic drawings); animation.

The prospect of further research is the design of multimedia electronic resources for each lesson for solving educational and corrective-developmental tasks of teaching geography to students with intellectual disabilities.

REFERENCES

Василенко, О. М. (2009). Використання комп'ютерних технологій у навчанні дітей з особливими потребами загальноосвітніх шкіл. *Збірник наукових праць Хмельницького інституту соціальних технологій Університету "Україна", 1,* 13-15 (Vasylenko, O. M. (2009). The use of computer technologies in teaching children with special needs in secondary schools. *Collection of scientific works of the Khmelnytskyi Institute of Social Technologies of the University "Ukraine", 1,* 13-15).

Кравець, Н. (2014). Використання комп'ютерних технологій у процесі роботи розумово відсталих школярів із творами художньої літератури. *Особлива дитина: навчання і виховання, 1 (69)*, 28-37 (Kravets, N. (2014). The use of computer technologies in the process of work of mentally retarded schoolchildren with works of fiction. *Special child: education and upbringing, 1(69),* 28-37).

Косенко, Ю.М., Боряк, О.В., Король, О.М. (2020). Застосування комп'ютерних дидактичних ігор у навчанні історії школярів з порушеннями інтелектуального розвитку в умовах інклюзивного класу. *Інформаційні технології і засоби навчання*, *3 (77),* 76-89 (Kosenko, Yu. M., Boriak, O. V., Korol, O. M. (2020). The use of computer didactic games in teaching history to schoolchildren with intellectual disabilities in the conditions of an inclusive class. *Information technologies and teaching aids, 3 (77),* 76-89).

Косенко, Ю. М., Супрун, М. О., Боряк, О. В., Король, О. М. (2021). Цифрові технології як інструмент формування абстрактних понять в учнів з порушеннями інтелектуального розвитку. *Інформаційні технології і засоби навчання, № 5 (85),* 42-61 (Kosenko, Yu. M., Suprun, M. O., Boriak, O. V., Korol, O.M. (2021). Digital technologies as a tool for forming abstract concepts in students with intellectual disabilities. *Information technologies and teaching aids, 5 (85),* 42-61).

Одинченко, Л. К, Дмитрієва, І. Д. (2017). До проблеми використання ІКТ у навчанні дітей із порушенням розумового розвитку. *Conference Proceedings of the II International Scientific Internet-Conference Modern Problems of Improve Living Standards in a Globalized World,* 362-366 (Odynchenko, L. K., Dmytriieva, I. D. (2017). On the problem of the use of ICT in teaching children with intellectual disabilities. *Conference Proceedings of the II International Scientific Internet-Conference Modern Problems of Improving Living Standards in a Globalized World,* 362-366).

Легкий, О. (2002). Корекційні можливості застосування комп'ютера у спеціальній школі. *Дефектологія, 1*, 36-39 (Lehkyi, O. (2002). Corrective possibilities of using a computer in a special school. *Defectology, 1,* 36-39).

Миронова, С. П. (2003). Використання комп'ютера у корекційному навчанні дітей з вадами інтелекту. *Дефектологія, 3,* 41-45 (Myronova, S. P. (2003).

Computer use in corrective education of children with intellectual disabilities. *Defectology, 3,* 41-45).

Миронова, С.П. (2015). *Корекційна психопедагогіка. Олігофренопедагогіка.* Кам'янець-Подільський: Кам'янець-Подільський національний університет імені Івана Огієнка (Myronova, S. P. (2015). *Correctional psychopedagogy. Oligophrenic Pedagogy.* Kamianets-Podilskyi: Kamianets-Podilskyi National University named after Ivan Ohienko).

Mudryk, O., Ivakhnenko, A., Odynchenko, L., Dmytriieva, I., Ivanenko, A. and Shelever, O. (2022). Mental and Pedagogical Techniques in Teaching Children with Special Educational Needs: Neuropedagogical Aspect. *BRAIN. Broad Research in Artificial Intelligence and Neuroscience*. *13, 4 (Dec. 2022),* 292-305.

Одинченко, Л., Дмитрієва, І. (2019). Теоретико-практичні аспекти використання технології гри в навчанні географії учнів із особливими освітніми потребами. *Педагогічні науки: теорія, історія, інноваційні технології, 10 (94)*, 365-375 (Odynchenko, L., Dmitriieva, I. (2019). Theoretical and practical aspects of using game technology in teaching geography to students with special educational needs. *Pedagogical sciences: theory, history, innovative technologies, 10 (94),* 365-375).

Одинченко Л., Дубовський С. (2021). Змістовно-методичні особливості систематизації знань учнів із інтелектуальними порушеннями про природні зони. *Педагогічні науки: теорія, історія, інноваційні технології, 4 (108)*, 23-35 (Odynchenko, L, Dubovskyi, S. Content and methodological features of systematization of knowledge on natural areas of students with intellectual disabilities. *Pedagogical sciences: theory, history, innovative technologies, 4 (108)*, 23-35).

Одинченко, Л. К., Скиба, Т. Ю. (2015). *Географія. Навчальні програми для 6-9 класів спеціальних загальноосвітніх навчальних закладів для розумово відсталих дітей*. Режим доступу: http://mon.gov.ua/ (Odynchenko, L. K., Skyba, T. Yu. (2015). *Geography. Curriculum for 6-9 grades of special comprehensive education institutions for mentally retarded children*. Retrieved from: http://mon.gov.ua/).

Одинченко Л., Скиба Т. (2018). До питання активації пізнавальної діяльності розумово відсталих учнів на уроках із курсу «Географія України». *Педагогічні науки: теорія, історія, інноваційні технології, 4 (78)*, 417-426 (Odynchenko, L, Skyba, T. (2018). To the problem of activation of the cognitive activity of mentally retarded students at the lessons of the course «Geography of Ukraine». *Pedagogical sciences: theory, history, innovative technologies, 4 (78)*, 417-426).

Синьов, В. М., Бондар, В. І. (2015). *Освітня інтеграція учнів з інтелектуальними порушеннями.* К.: Вид-во НПУ імені Н.П.Драгоманова (Syniov, V. M., Bondar, V. I. (2015). *Educational integration of students with intellectual disabilities*. К.: Publishing house of N. P. Dranomanov NPU).

Синьов, В. М. (2010). *Психолого-педагогічні проблеми дефектології та пенітенціарії: вибрані наукові праці*. К.: «МП Леся» (Syniov, V. M. (2010). *Psychological and pedagogical problems of defectology and penitentiary: selected scientific works*. К.: "MP Lesia").

Чупахіна С. (2019). Особливості використання інформаційних технологій в роботі з дітьми з інтелектуальними порушеннями. *ΛΌГОΣ. Мистецтво наукової* думки, 5, 79-84 (Chupakhina S. (2019). Peculiarities of using information technologies in working with children with intellectual disabilities. *ΛΌГОΣ. Art of scientific thought, 5,* 79-84).

АНОТАЦІЯ

Одинченко Лариса, Дмитрієва Ірина, Іваненко Аліна. Освітньо-корекційний потенціал мультимедійних технологій у процесі навчання учнів з особливими освітніми потребами.

У статті розкрито актуальність проблеми впровадження інформаційних технологій у систему педагогічного супроводу дітей із особливими освітніми потребами. В контексті проблемного поля розглянуто напрямки наукових здобутків, присвячених висвітленню питань використання інструментів і засобів ІКТ в навчанні учнів із інтелектуальними порушеннями. Наголошено, що інформатизація та комп'ютеризація освітнього процесу в спеціальній школі здатна його оптимізувати та модернізувати, створити умови для підвищення в учнів пізнавальної активності, мотивації й інтересу до вивчення програмного матеріалу шкільних дисциплін, диференціювати процес навчання з урахуванням індивідуальних особливостей кожного учня. Метою статті є розкриття освітньо-корекційного потенціалу інформаційних технологій, зокрема мультимедійних, у процесі вивчення географії України учнями з інтелектуальними порушеннями. Для досягнення визначеної мети використано методи дослідження: теоретичні (аналіз, систематизація, узагальнення наукових джерел), емпіричні (аналіз навчальної програми з географії, спостереження, анкетування, опитування, педагогічний експеримент), статистичні (математична обробка експериментальних даних). З'ясовано ставлення вчителів географії до впровадження мультимедіа-технології в освітній процес спеціальних шкіл і практичний досвід використання мультимедійних ресурсів на уроках географії. Відображено актуальний стан сформованості в учнів із інтелектуальними порушеннями старших класів географічних знань в умовах використання традиційних засобів навчання. Виокремлено специфічні властивості мультимедійних навчальних презентацій під час вивчення шкільного курсу «Географія України», експериментально апробовано технологію застосування навчальних презентацій у сполученні з іншими засобами, методами та прийомами корекційного навчання. Доведено ефективність використання мультимедійних технологій у досягнення освітніх і корекційно-розвивальних завдань навчання географії учнів із особливими освітніми потребами.

Ключові слова: *інформаційні технології, мультимедійні технологій, навчальні презентації, учні з особливими освітніми потребами, навчання географії.*