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TECHNOLOGIES FOR TEACHING ENGLISH TO VISUALLY IMPAIRED STUDENTS AT THE MIDDLE STAGE

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Abstract

This article aims to draw the attention of foreign language teachers to the features of working with children with special educational needs. In accordance with the Concept of the federal state educational standard of the Russian Federation for students with disabilities, the development of general educational programs by such children should be carried out using special conditions of education and training. In this regard, in the pedagogical community there is an urgent need to search for new approaches, the creation of rational teaching methods, correction and rehabilitation of children with disabilities. In modern society, there is an acute problem of training visually impaired students, who make up a special group of students with disabilities, and who often study inclusively in secondary schools along with ordinary children. Teaching English to visually impaired students are a poorly studied area of teaching foreign languages. This article describes special technologies and techniques to help organize an adaptive environment in working with students with visual impairment while learning vocabulary and English grammar. The article also proposes a methodology for organizing ascertaining, formative, control experiments in the 6th grade of a specialized school for students with low vision. The experimental work was carried out in order to verify the effectiveness of the application of the developed methodological recommendations for the development of foreign-language communicative competence of visually impaired students in English classes at the middle level.

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1. Introduction

In modern society, the number of children with special educational needs is growing. For them, the development of general education programs is quite difficult if the training takes place without special conditions of education and training. The category of children with disabilities in accordance with the defectological classification includes children with various developmental disorders, such as: sensory impairment (hearing and vision); speech disorders, mental retardation; multiple (complex) developmental disorders, etc. Special educational needs require the creation of conditions for effective self-realization in various types of professional and social activities, as well as successful socialization and full participation in society, which is important. In this regard, ensuring the realization of the right of children with disabilities to education is considered as one of the most important tasks of state policy (Malofeev, Nikolskaya, Kukushkina, & Goncharova, 2019) In the Russian Federation, much attention is paid to the education of children with special educational needs and disabilities. (1. Federal Law of the Russian Federation of July 24, 1998 N 124-FL "On Basic Guarantees of the Rights of the Child in the Russian Federation"; 2 Federal Law of November 24, 1995 N 181-FL "On Social Protection of Persons with Disabilities in the Russian Federation" ; 3 Federal Law of the Russian Federation of May 3, 2012 N 46-FL "On Ratification of the Convention on the Rights of Persons with Disabilities.").

2. Problem Statement

The peculiarity of teaching such a subject as the English language differs markedly from other academic disciplines, since it is a language that is not native to the student. Difficulties can arise already from studying the alphabet, and then when moving on to other aspects of the language: grammar, writing, reading and listening to foreign speech. The relevance of this study is due to insufficient study of the field, which specializes in teaching a foreign language to blind and visually impaired students in high school. It is a problem for the teacher and stimulates his creative potential, due to insufficient theoretical and practical material. Thus, the tasks of finding new tools and methods in teaching blind and visually impaired students to the English language are especially relevant in the modern education system.

Limited access to information shows the specifics of teaching visually impaired students. Their training requires a special system of measures and specific didactic materials. In this regard, there is an urgent need to create an adaptive environment for students with visual impairment and the use of special teaching, correction and rehabilitation methods for children with low vision. Only by satisfying the special educational needs of such a child can one open to him the path to general education.

3. Research Questions

The visually impaired student, like any other student, develops, accumulates life experience, prepares and adapts to life in accordance with his abilities. Numerous experiments have refuted the assertion of the presence of functional differences between a human brain with a defect in the organs of vision and a normally seeing brain (Yurtay, Yurtay, & Adak, 2015). But the development of the visually impaired is somewhat different from the development of people with normal vision. The periods of their development do not coincide with the periods of development of the sighted, they are longer in time.

Knowing these features and their causes, a foreign language teacher needs to create favorable conditions for the correct development of communication skills of visually impaired students in order to prevent possible secondary deviations (Webster, 1997).

For their training, a special system of measures and specific didactic materials are required, which implies special technical equipment of educational institutions and the development of special training programs for teachers and other students to interact with them in a general educational institution (Andrienko et al., 2017). However, teachers working with such children may note that there are practically no suitable materials for teaching visually impaired English to the school or they are completely inaccessible.

In our study, we analyzed several modern teaching materials in English, which are used in the middle section of specialized classes for visually impaired students in the city of Murmansk. We studied the material offered in textbooks and workbooks from the point of view of the possibility of using pupils with low vision in teaching. For analysis, a list of criteria was compiled: 1. size of illustrations; 2. detailing of illustrations; 3. brightness of color; 4. The font size of the text material.

The following results were obtained. Speaking about the visual presentation of information in textbooks, small, in size, illustrations depict many objects, small details that can cause difficulties for visually impaired children. Texts and assignments, for the most part, are printed in font sizes that are unacceptable for students with low vision. In the color scheme of illustrations there are no pronounced elements that students need to pay attention to; used colors are muffled, part of the image, due to difficulties in perceiving visual material, merges. In addition, the number of depicted objects and people along with objects does not give children the opportunity to focus on any one subject, the attention is scattered, they begin to peer. This leads to overstrain of the organs of vision and discomfort during further work in the lesson. The text component of the illustration is represented in too small a font, which does not comply with GOST RF, the font size for the visually impaired, according to which they should work. It should be minimal – 16 (Malofeev et al., 2019). The same situation can be seen in the tasks. In the reference material on grammar, poorly seeing students may also encounter perception difficulties: a large accumulation of text in one place, the absence of highlighted elements, which prevents attention from being focused on the elements of the rule.

Thus, following the criteria that were derived for analysis, we can conclude that most of the teaching materials in English are designed for a secondary educational institution without considering the psychophysical characteristics of visually impaired students. This can seriously affect the quality of work of children and the speed of understanding and remembering information. For this, we have developed guidelines that make it possible to present both lexical and grammar material in English in a more suitable and convenient form for visually impaired students (Kvasiuk, 2016).

1. For comfort when teaching children with low vision, it is necessary to use the method of visualization, i.e. use visual material that is adapted to the needs of visually impaired students. Without visual support in the lessons cannot do. All visual aids must meet certain didactic requirements. One of the main requirements for visual aids is the minimum of details that must be present in them. At the same time, they should clearly distinguish the essential features of objects and phenomena studied in the lesson. It is advisable to place images on a contrasting background, which will help to highlight the studied

elements. In the manufacture of visual aids, it is necessary to observe the color scheme that facilitates the perception (green, yellow, brown, orange tones and shades). In the manufacture of visual aids, the recommendations of the ophthalmologist regarding visual acuity and the color sensation of specific students should be considered.

Features of psychophysical disorders should be considered primarily when selecting and using visual material in teaching children with the main clinical forms of pathologies. If, for example, the pupil has a narrowing of the field of view, then appropriate visual material is selected for him and the methods of working with him include methods of sequential (phased) examination of the studied objects or their images (Başaran, 2012).

2. To work with visually impaired students, it is important to use tactile visibility, which includes the choice of a certain shape and size of objects. It is necessary to remember the accuracy of transmitting the shape of the object, since it is the form that gives information about the attributes of the object through touch. From this comes the interdependence of the form of the subject and the transmitted information. Important and accurate transmission of the structure of the subject, the ratio and proportion of its components. At the same time, items must meet a number of requirements, which include naturalness, in which students will be able to better understand what kind of item they have in their hands, and this item should be versatile enough to use, not harm and not wear out instantly in the curious hands of children (Pérez-Pereira & Castro, 1997).

As for the color of the tactile material that will be developed, it is important to remember that the created tactile visualization should be bright enough and immediately highlight the necessary elements for study in a certain color. Pale colors or halftones, or even complex, intricate, interweaving of colors should in no case be present on the material. Excess brightness, saturation, or the presence of a certain, annoying cornea, color on the training material can affect the work of children, this will increase the load on the visual analyzer and fatigue will increase with it. The solution to the problem is to exclude the already mentioned aggressive details and instead use saturated colors, but only muted tones, such as colors such as blue, green and yellow.

Properly adapted, this technique can be used as a refinement of grammatical rules, such as, for example, prepositions of a location. To work in the lesson, you can take a box or any other item that can be on the students' desk (it will be enough to take a textbook or notebook) and the second, which can be one of the tactile means given by the teacher, is smaller. Students will be asked to move it to different positions depending on which pretext is considered - in the textbook, on it, under it, etc. This visual method of learning the rule will be more effective as opposed to illustrations, since interactive work with objects will add variety to the educational process, as well as add an element of interactivity. The students pass them on to each other, feeling and highlighting specific details.

3. Also, among effective means for introducing and consolidating new vocabulary and grammatical realities, flash cards can also be useful. On the cards, on the one hand, there can be a word in a foreign language, and on the other, a translation or picture, so that the student guesses the meaning in the image. They can be made of dense material and preferably laminated for a longer period of use (Milrud, 2007).

4. Speaking of grammatical rules and constructions, the whole theory in ordinary classes is presented in text form with the inclusion of tables, but for children with visual impairment, this approach can become an obstacle to the assimilation of the material. In this regard, it is possible to offer work with a punch card, which will be a way to practice any given grammatical structure. However, the use of punch cards can also be adapted to work with another aspect of the English language, which is the training of the studied vocabulary, because You can give various tasks related to them. Most often, students like to work with punch cards, as they perform tasks in a playful way. This is a fascinating and quick method of working and checking the material studied. In addition, it will also be possible to invite them to exchange cards for verification, which will add an interactive element to the task. Pupils can work both in pairs and in larger groups, depending on the size of the class, the number of students and their characteristics.

5. One cannot fail to note the method of complete physical activity. One of the goals when using this method is to reduce the stress factor and stress, from which students have problems in the speed and quality of assimilation of the material. Throughout the exercise, children will be able to escape from a series of tasks and at the same time play, which can help to look at studying vocabulary or grammar from the other side, which will not only inspire them to a more thorough study of English, but they will also find their captivating in this moments. Then the learning process will go smoother for both students and the teacher himself. This method of working with children is based on the principle that they stimulate segments of memory. Movement at the same time as pronouncing or completing a command or task makes it possible to engage a psychomotor association. Teacher's teams, expressed in words, will work synchronously with body movements or work with objects, both their movement and any other interaction with them.

6. The requirements for the material and technical support of the educational space of a visually impaired student are oriented not only to the student, but also to all participants in the educational process. Therefore, all teachers involved in the process of education of students with poor eyesight should have unlimited access to technology that allows you to change the type of material, adapt it to the needs of students with visual impairment, and complete (print) the individual manuals and materials necessary for the learning process of a visually impaired student. When using them, it is worth remembering certain limitations. In turn, this concerns a special mode of work, in which there should be a balance between classes and rest, that is, reduce the duration of visual work in the lesson, at least up to half an hour, so that there is no overwork. Prevention includes a regulated break during the lesson with visual, auditory, musculoskeletal and other types of gymnastics to relieve general and visual fatigue, which is also an important component of working with students with visual dysfunction (Dostál, 2015).

7. It is impossible to imagine the modern process of teaching the visually impaired without the inclusion of modern technical means, special instruments and equipment: rulers, frames, magnifying devices, tape recorders, language laboratories, a projector, a television set, interactive whiteboards with special programs, which reduces the load on the eyes of students and achieve learning goals.

Often, taking into account the indicated features of the organization of the learning process for students with visual impairment, the teacher manages to convey to the visually impaired students the meaning of abstract concepts, teach them the rules for using norms of coherent speech in a foreign

language, develop mental activity, overcome difficulties in the process of obtaining knowledge in English lessons.

4. Purpose of the Study

After analyzing the existing methodological material and making a few recommendations for creating an adaptive learning environment, a pedagogical experiment was conducted as part of our study, which helped determine the effectiveness of the theoretical research done in practice. In the course of work, stating, formative and control experiments were carried out. At an ascertaining stage, in two groups of specialized 6th grade for visually impaired students (14 people each) in Murmansk a test was conducted to analyze the level of the English language. Then, based on the test results, at the formative stage, a series of English lessons were held over the course of 1 quarter to test the working hypothesis of the effectiveness of using the developed methodological approaches for teaching children with low vision. This technique was carried out in the first, experimental group, while the second group, the control, was trained in the usual mode. The last stage was a control experiment, in which the dynamics of increasing the efficiency of the educational process in the course of using special methods and approaches to training was tested.

The purpose of this experimental study is to test the hypothesis about the effectiveness of the above developed technologies for teaching English to visually impaired students in practice in a specialized secondary school.

To achieve this goal, it was necessary to set and solve certain tasks that contribute to the process and the experiment. These are tasks such as:

1. Analysis of the features of visual impairment of students in grade 6;
2. Testing and analysis of the results, to identify the level of knowledge of grammar rules and vocabulary in the English language for the middle level (Grade 6);
3. Development of material on recommendations for conducting classes;
4. At the end of the study, an analysis of how the methodology turned out to be productive and how it affected the work of students throughout the entire period of the experiment, how their successes and the speed of work in the lesson improved.

5. Research Methods

At the beginning of the pedagogical experiment, after initial observations, all students of the specialized 6th grade had reduced visual acuity. By nature, and behavior, the children were calm in both groups, which helped to establish contact with them for analyzing the emotional state in the lessons.

For the next step, the purpose of which was to identify the level of assimilation of the studied material, a test was conducted in the control and experimental groups. The topic, based on which the tasks were compiled, was called "Travel and Leisure", and touched upon grammatical material and lexical units corresponding to level 6 of the class. During the test, one of the tasks was put on the board, as it contained graphic elements that students had to work with. All other jobs were printed on paper with a larger font. Each student was given punch cards to record answers.

After conducting and analyzing the testing, at the formative stage, a series of lessons was conducted in the experimental group for 3 months. The material that was offered to this group was already changed, adapted, in the form where the characteristics of the students were considered. The classes used a set of exercises and approaches, selected and prepared in accordance with the developed methodological technologies for teaching visually impaired students.

Each component of the material for conducting experimental training was changed and adjusted to the theme of each lesson. For the introduction of vocabulary, the method of visualization was most often used. Words were displayed on an interactive whiteboard, cards were distributed, objects that children could touch with their hands, and adapted for visually impaired tasks for listening were also developed. Work with an interactive whiteboard was actively included, students could use visual cues at the preparation stage, and after studying the material, they secured it with the help of issued tests. Various grammatical constructions were most often duplicated on the board with bright chalk and a sufficiently large size. Children often worked in pairs or groups if the task included working with cards or had an interactive element (interview questions). In addition, there were tasks for working out both the grammatical and lexical aspects of the language by the whole class with the help of a complete physical reaction, where the children memorized commands and learned to recognize individual elements worked out in speech. At half of the lesson, it was necessary to spend a short break, which included gymnastics for the visual organs of students, in order to avoid overwork.

At the end of the experiment, in conclusion, in two groups, a control experiment was held.

6. Findings

Table 01. The results of the tasks of the experiment in the control and experimental groups

Tasks	Experiment Stages	Control group	Experimental group
Lexical material	Ascertaining	23 %	58%
	Control	21%	26%
Grammatical material	Ascertaining	16%	46%
	Control	18%	23%

After analyzing the results of the stating and control experiments, one could notice an improvement in the level of proficiency in grammatical and lexical material in the experimental group. Pupils of this group, unlike the control group, in which classes were conducted without using special methodological technologies for teaching visually impaired students, successfully completed the proposed tasks (by 20–30 %), while the control group remained at approximately the same level of performance. In general, students began to better manage lexical tasks, since we can see the percentage of completion of the first and second tasks – 58 % from the final test, as opposed to 23 % from the first test (Table 01). The reason for this was the variety of types of visualization that were used to stimulate students' memory and their associative thinking. The level of the control group remained approximately the same – 21 % of the performance in the first test, and 26 % for the second time. The result of the assignment on grammar material has also improved. The feasibility of the task by the experimental group was 46 %, and the control group – 23 %. During experimental training, students were given the opportunity to work out material using cards that showed different parts of the sentence, students could analyze each part of the

speech to get a deeper understanding of the position of the word in relation to the rest using physical replacement technology. Punched cards were also useful, which made it possible for students not only to reduce time for checking assignments, but also to do it collectively by exchanging cards and observing the work of their classmates.

7. Conclusion

The correctional orientation of the general educational process in the modern world is acquiring special social and pedagogical significance in the process of teaching children. Mastering and work in all subjects in the school should be based on a varied and personality-oriented model of special and / or inclusive education, which requires the teacher to develop new original techniques and methods of teaching children with special needs, and especially students with visual impairment, which is a rarity these days. English lessons are no exception, they are also subject to current trends in society. For the formation of practical communication skills, a large vocabulary is required, coupled with knowledge of the construction of phrases and sentences, therefore the formation of grammar and lexical skills is one of the main goals in learning and one of the leading problems in the modern methodology of teaching foreign languages. To achieve a positive result in teaching English to visually impaired students, it is necessary to apply not only methodically verified teaching methods, but also take into account a number of points related to the characteristics of each student, with the organization of the educational space, the preparation of educational material in an accessible format for students, using special technical means and equipment that would help in the process and facilitate the adjustment of the flow of information in a more accessible form.

The experiment clearly showed how effective it is to use a special approach in teaching visually impaired students, since the characteristics of each child affect the perception and ability to remember information. The benefits of applying the guidelines for teaching visually impaired children were a key point in the experiment, and testing was a good starting point, from which it was necessary to build on in order to understand what to focus on. We have demonstrated the application of ways to create an adaptive educational environment for visually impaired students in English classes. These approaches can help each student achieve the optimal level of development of skills in learning English in accordance with their abilities and capabilities.

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