

STUDY OF THE PROBABILITY OF IMPROVING THE EFFECTIVENESS OF EDUCATION OF CHILDREN WITH DISABILITIES THROUGH INFORMATION AND COMMUNICATION TECHNOLOGIES

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ANNOTATION

The relevance of the use of information and communication technologies in inclusive and distance learning of students of this category is justified. Recommendations on the organization of computer science lessons for children with disabilities using information and communication technologies are given, the technical and software necessary for teaching children with visual impairments is analyzed. When organizing and conducting a number of classes, the results of the ascertaining stage of the experiment were taken into account. The results obtained by us show a positive trend when conducting classes with the use of ICT, the results of which we gave in the control stage of the experiment. Also, information and communication technologies are productive in the development of dialogic speech in children with hearing impairment. Thus, the adapted thematic presentations, dialog presentations, and game presentations used by us made it possible for children to use the saved analyzers. Therefore, the use of ICT significantly improves the quality of learning by mastering the program requirements.

Keywords: *computer science, information and communication technologies, children with disabilities, limited health opportunities, inclusive education, distance learning, schoolchildren, computer science techniques.*

АННОТАЦИЯ

Обоснована актуальность использования информационно-коммуникационных технологий при инклюзивном и дистанционном обучении учащихся данной категории. Даны рекомендации по организации уроков информатики для детей с ограниченными возможностями здоровья с использованием информационно-коммуникационных технологий, проанализировано техническое и программное обеспечение, необходимое для обучения детей с нарушением зрения. При организации и проведения ряд занятий, были приняты во внимание результаты констатирующего этапа эксперимента. Полученные нами результаты показывают положительную динамику при проведении занятий с применением ИКТ, результаты, которых мы привели в контрольном этапе эксперимента. Также информационно-коммуникативные технологии являются продуктивным в развитии диалогической речи у детей с нарушением слуха. Таким образом, применённые нами адаптированные тематические презентации, презентации диалогов, игровые презентации дали возможность пользование детьми на сохранные анализаторы. Значить применение ИКТ значительно улучшает качество обучения усвоением программных требований.

Ключевые слова: *информатика, информационно-коммуникационные технологии, дети с ограниченными возможностями здоровья, ограниченные возможности здоровья, инклюзивное образование, дистанционное обучение, школьники, методика информатики в школе.*

Today, along with the implementation of reforms in all sectors, the emphasis on the purposeful, full-fledged development of the growing generation is one of the most urgent problems and a number of resolutions require implementation and improvement. The adoption of the Decree of the President of the Republic of Uzbekistan "On additional measures to further strengthen the guarantees of the rights of the child" dated 22.04.2019, No. PP-4296, was due to the increased need for fundamental improvement of the institutional and legal foundations for ensuring the protection of the rights and legitimate interests of the child (children), and the upbringing of a

harmoniously developed generation .Thus, a strong legal framework has been established in Uzbekistan that regulates the rights, guarantees, freedoms and status of the child (s). All these normative documents are aimed at educating a harmoniously developed generation, improving the living conditions and the position of the child (children) in the family and society, while the state is obliged to establish legal responsibility for any illegal actions against the child (children).

In the conditions of a dynamically changing world, constant improvement and complication of technologies, informatization of the education sector is of fundamental importance. This direction of development of the educational sector, as emphasized in state documents, is recognized as the most important national priority. Thanks to the changes, the role of information and communication technologies (ICTs) is becoming increasingly evident not only in the school system, but also in preschool education. The Concept of the development of inclusive education in the public education system in 2020-2025, as well as the "Road Map" for its implementation, was approved. In accordance with the resolution, as an experiment, in the 2021/2022 academic year, a system of inclusive education will be introduced in one of the general education schools in all cities of the republic and districts of Tashkent. It is also planned to open primary basic correctional classes for children with special educational needs in one of the secondary schools of Karakalpakstan, regions and Tashkent .It is planned to create a "Laboratory of inclusive education" at the Republican Center for Professional Orientation and Psychological and Pedagogical Diagnostics of Students. One of its main tasks will be to create conditions for inclusive education in schools, to develop criteria for determining its quality and effectiveness. UNICEF is working to integrate inclusive learning into the education system in Uzbekistan. Inclusive education aims to provide quality education to all children, regardless of their abilities and position.

In order to study the level of speech development of children with hearing impairment, we conducted a ascertaining experiment in the form of classes without the use of information and communication technologies, that is, with the use of didactic games and visual material, the type of classes that we basically call "traditional classes". The purpose of the study: to identify the level of speech development of students with hearing impairment. 10 students of the 1st grade were selected for the study.

During the experiment, a number of classes were conducted to identify the level of speech development. We also determined the level of performance of the class and each student separately. In the experimental work, we decided to study the following parameters:

- * Level of understanding of speech material;
- * The level of independent reproduction of speech material.

The level of the above parameters is determined by performing the following traditional classes without the use of ICT:

- * Understanding simple instructions;
- * Understanding complex instructions;
- * Ability to understand complex relationships in sentences;
- * The level of development of coherent speech.
- * Below is a work plan for identifying the above parameters.

Work plan for the development of speech communication of deaf children Table No. 1

№	Тема	Программные требования	Речевой материал и самостоятельная речь	Сопутствующие формы работы
1	Семья	Знать состав своей семьи. Узнавать на фотографиях	Папа, мама, бабуля,	Встречи с родителями,

		своих родителей и близких родственников, соотносить фото с реальными лицами.	дедуля, ляля, малыш, я, тут, там, вот, это семья, брат, сестра, Это кто?	присутствие родителей на занятиях, праздники - «Папин день», «8 марта».
2	Сказка «Курочка Ряба»	Драматизация сказки с использованием всех речевых возможностей ребенка.	Дед-дедушка-дедуля; баба-бабушка-бабуля; ко-ко-ко-курочка; пипи-мышка; плачет, радуется, упало, она-она-они; Ой! Упало! Не плачь!	Изготовление книжки-самodelки. Просмотр мультфильма.
3	Мои игрушки	Учить правильно соотносить игрушки с их функциональным назначением, использовать сюжетные игрушки; драматизировать ситуации, доступные ребенку.	Кукла, машина (авто), кубики, мяч, шар, дом, пирамида, кошка, мышка. (ляля, би-би, мяу, пи-пи, оп-оп, прр, топ-топ и др.). Иди играть. У меня... Лови мяч. Кати мяч. Ест, пьет, моет, одевает.	Сюжетно-ролевые игры: «Накорми куклу», «Поезд», «Кто в домике живет», «Строим дом», «Кукла купается». Подвижные игры: «Кот и птички», «Лошадки», «Кати мяч»
4	Магазин	Продолжать учить вступать в общение с незнакомыми людьми, пользоваться общепринятыми словами для выражения своих потребностей и действий	Я пошёл в магазин. Купи мне, пожалуйста.. Сколько стоит... ? У меня есть 10 рублей(молоко, хлеб, масло, мороженое, шоколад). Дайте мне, пожалуйста ... Спасибо. - У вас есть ...	Экскурсия в магазин. Сюжетно-ролевая игра «Магазин продуктов»
5	Сказка «Репка»	Драматизация сказки с использованием всех речевых возможностей	Ля-ля, девочка, внучка, ав-ав-собака - Жучка, мяу-кошка-Мурка; пи-пи - мышка. Иди, помоги! Иду-иду! Помогу! Бегу-бегу! Помогу! Большая-	Изготовление книжки-самodelки, просмотр мультфильма.

	детей.	маленькая; упал-упала-упали	
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To determine the level of speech development in the course of classes, we identified the following, the results are shown in **Table 2**

The content of tasks that determine the level of development and understanding of speech Table

2

№	Содержание заданий	Количество учащихся	Опора на слух при восприятии речевого материала		опора восприятия аудиовизуально		Загруднялись в понимании и ввоспроизведении
			Полностью	Частично	Полностью	Частично	
1	Понимание простых инструкций	10	1	2	3	4	
		100%	10%	20%	30%	40%	
2	Понимание сложных инструкций (вербально и показ картинок)	10	1	3	2	4	-
		100%	50%	30%	20%	40%	
	Умение разбирать	10	Полностью	Частично	Полностью	частично	

3	Сложные связи в предложениях		1	2	2	4	1
		100%	10%	20%	20%	40	10%
4	Уровень развития связной речи	10	Полностью	Частично	Полностью	частично	
			1	2	2	3	3
		100%	10%	20%	20%	30%	30%

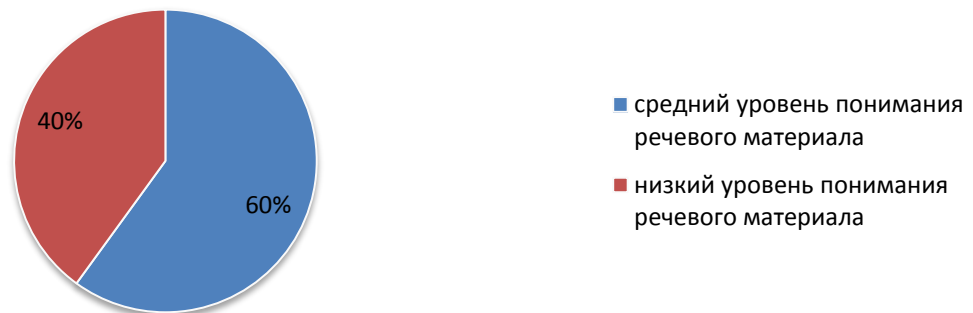
According to the results of Table 2, the percentage ratio of the ascertaining experiment was determined. We determined the high level by performing tasks "completely" in thematic classes. "Medium" level with partial completion and " low " level with difficult completion (almost no understanding of tasks).

Percentage of results at the ascertaining stage of the study **table No. 3**

Research stage	Level of understanding of speech material		
	High	Medium	Low
The ascertaining stage	0%	60% (6 children)	40% (4 children)

The table shows that conducting classes without the use of ICT, limited to didactic games and specific methods, today does not make it possible to achieve high results. The subjects found it difficult to understand complex instructions and to parse complex connections in sentences. The results also showed a low level of development of coherent speech, since they do not have enough skills of complex support for compensating analyzers. The average level of understanding of speech material was 60%, the low level was 40%. In all types of classes, the subjects had difficulties in the ability to parse complex connections in sentences and the level of development of coherent speech showed low results.30% of the students found it difficult to understand and reproduce texts on the subject.Clearly, the results of the level of understanding of the speech material are presented in the form of a diagram (Drawing.1).

Процентное соотношение результатов уровня понимания речевого материала



Drawing.1. The percentage of the results of the level of understanding of the speech material.

According to Table No. 4, it can be seen that the high level of independent reproduction of speech material was not revealed, the average level of independent reproduction of speech material was 60%, and the low level of independent reproduction of speech material was 40%

Percentage of results at the ascertaining stage of the study Table No. 4

Stage of the study	The level of independent reproduction of speech material		
	High	Medium	Low
The ascertaining stage	0%	60% (6 children)	40% (4 children)

Clearly, the results of the level of understanding of the speech material are presented in the form of a diagram (Drawing 2).

Процентное соотношение уровня самостоятельного воспроизведения речевого материала

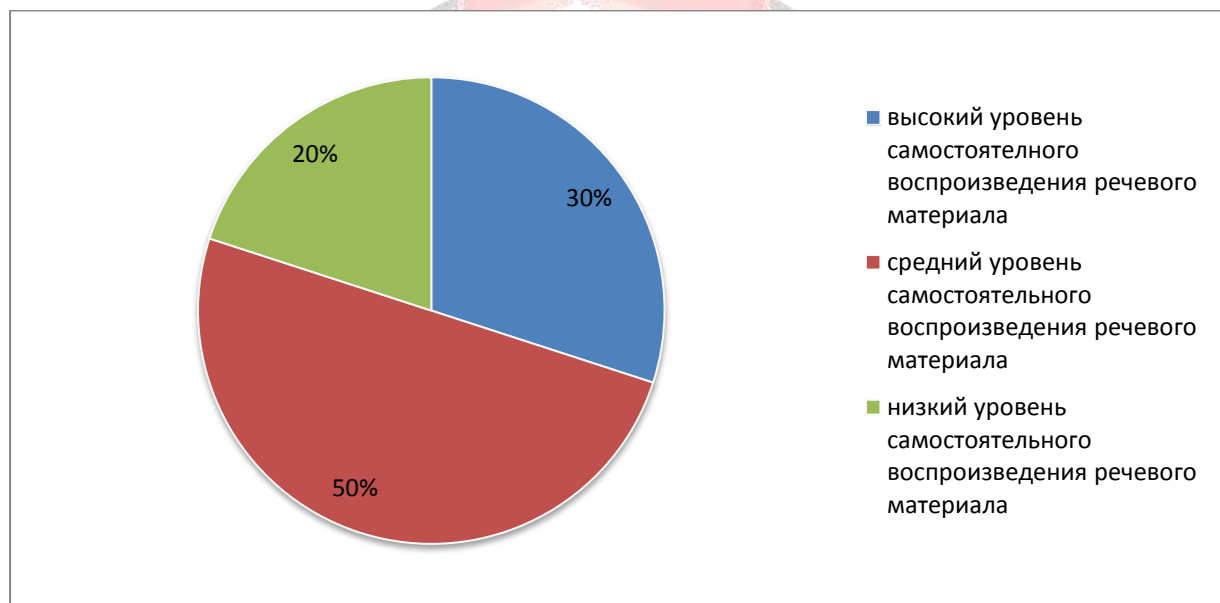


Drawing 2. Percentage of the results of the level of independent reproduction of speech material.

At the ascertaining stage of the study, the subjects showed the following results. There is no high level of understanding of speech material and a high level of independent reproduction of speech material. Six children have an average level of understanding of speech material and independent reproduction of speech material (60 %). For children with a low level of understanding of speech material and the level of independent reproduction of speech material (40%), the reduced productivity of reproduction is characteristic.

It was revealed that children with hearing impairment required a special speech environment, otherwise it was noticeable that the examined students were characterized by difficult perception of speech material, which led to errors in the reproduction of information. Rather than a complete understanding of the material, as a result, there was a noticeable lack of mental operations, affecting the result, which does not provide good memorization.

According to the results of the study, we see that using information and communication technologies, we have achieved positive results in the assimilation of speech material, as a result of which the level and quality of independent reproduction have increased. The indicator of the high level was 30%, the average level was 50%, and the low level of independent reproduction of speech material was 20%. Therefore, it can be considered that the correctional and developmental program with the use of ICT had a positive impact on the level of independent reproduction of speech material. The change in the results to the positive side can be seen in *Drawing 4*.



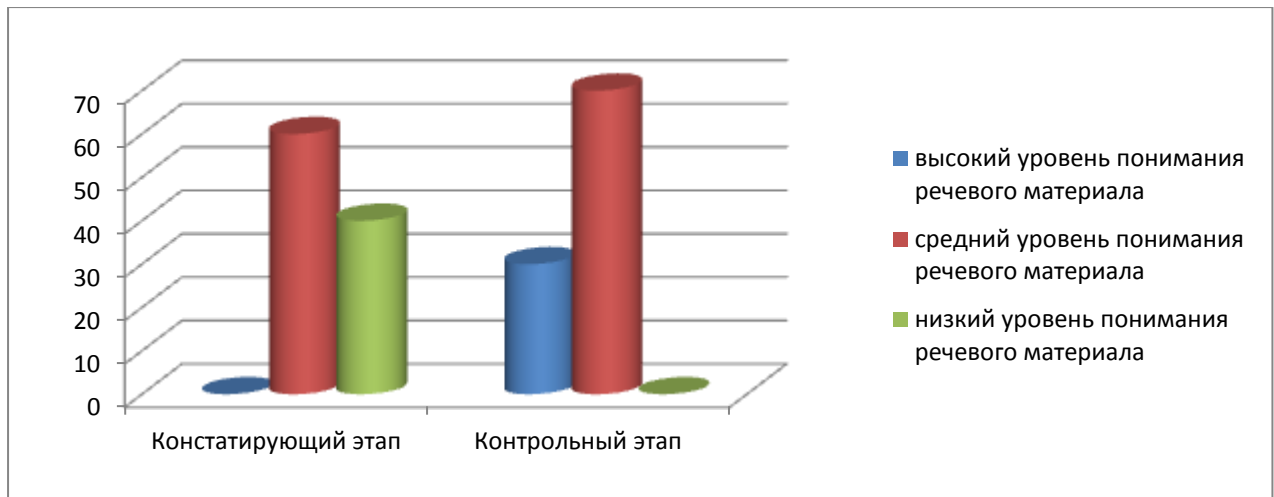
Drawing 4. Results of the level of independent reproduction of speech material in the classroom with the use of ICT.

A comparative analysis of the results obtained at the ascertaining and control stages of the study is presented in Table 9

Comparative results obtained at the ascertaining and control stages of the study **Table No. 9.**

Stage of the study	The level of independent reproduction of speech material		
	High	Medium	Low

The ascertaining stage	0%	60% (6 children)	40% (4 children)
Control stage	30 % (3 children)	70% (7 children)	0%



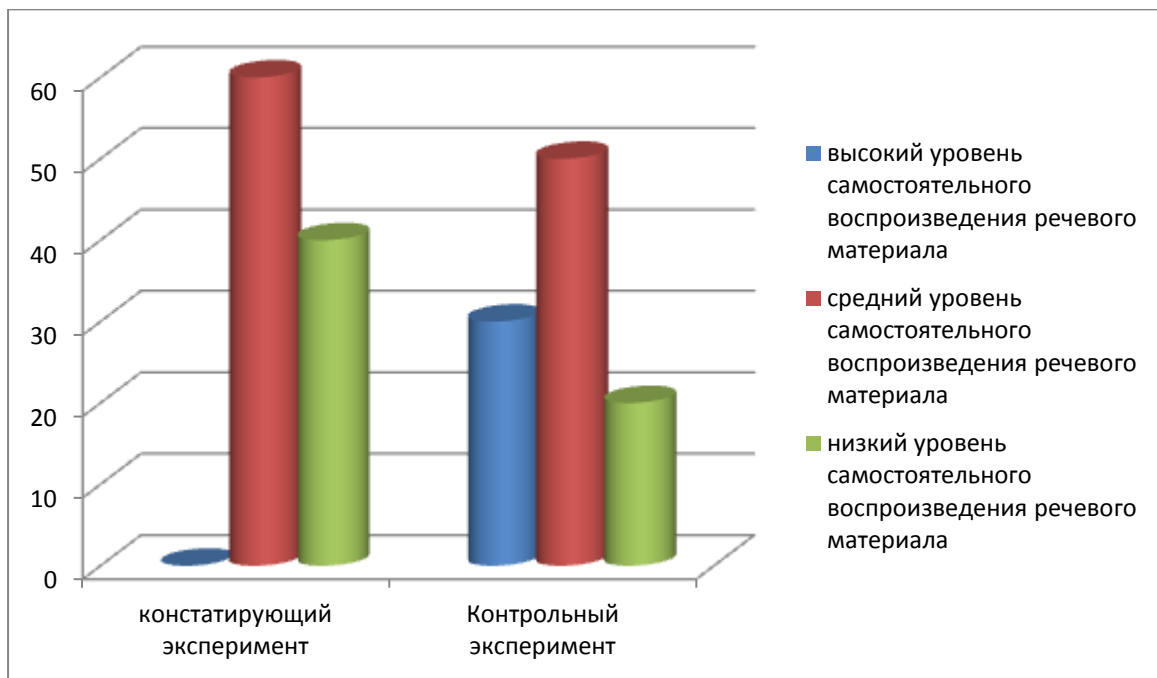
Drawing5. Comparative results obtained at the ascertaining and control stages of the study

Based on the results shown in the table and diagrams, you can see the dynamics and achievements of high results. If in the ascertaining stage of the study the high level of understanding of the speech material was 0%, then in the control stage of the study it was 30%. This means that using ICT made it easier for students to understand simple and complex instructions and to parse sentences. They entered into a dialogue more easily and the use of ICT, causing positive emotions, made it possible to easily enter into a dialogue, that is, a speech environment was created that encourages communication. In case of difficulties, students helped each other, which made it possible to exchange information with the access of communication. The average level of understanding of speech material was 60% at the ascertaining stage of the study, and 70% at the control stage of the study. If in the ascertaining stage of the study the low level of understanding of the speech material was 40%, then in the control stage of the study there were no low indicators in terms of understanding of the speech material. That is, we can say that there were no students who did not understand the speech material. The use of ICT provides accessibility in obtaining information and thus, the understanding of speech material also becomes available.

Comparative results obtained at the ascertaining and control stages of the study Table No. 10.

Stage of the study	The level of independent reproduction of speech material		
	High	Medium	Low
The ascertaining stage	0%	60% (6 children)	40% (4 children)

Control stage	30 %(3 children)	50% (5 children)	20 %(2 children)
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Drawing 6. Comparative results obtained at the ascertaining and control stages of the study

The comparative results show that at the control stage of the study, high results were achieved by 30% , the average level of indicators was 50% and the low level was only 20%. Taking into account the age of the students and their disabilities, and in our case, children with hearing impairment who have special features in development, we can say the results are positive and dynamic.

LITERATURE

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