

INCLUSIVE EDUCATION IN THE DIGITAL AGE: OPPORTUNITIES, CHALLENGES AND PROSPECTS

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Abstract:In the modern world, digital technologies play a key role in the development of inclusive education, providing equal opportunities for learning for all categories of students, including people with special educational needs. The article examines the main opportunities provided by digital tools for creating an accessible educational environment, and analyzes the challenges associated with their implementation. Particular attention is paid to the prospects for the development of inclusive education, taking into account innovative technologies such as artificial intelligence, virtual and augmented reality, as well as adaptive educational platforms. The author emphasizes the importance of an integrated approach, including pedagogical, technical and social aspects, for the successful implementation of the principles of inclusiveness in the digital age.

Keywords:digital technologies, inclusive education, personalized learning, distance learning, sign language, dactyl alphabet.

In Uzbekistan, comprehensive support for people with hearing impairments, protection of their rights and interests, and creation of an environment without obstacles for them to take a worthy place in society have risen to the level of state policy. The special attention paid to deaf and hard of hearing people in our country is reflected in the existence of a regulatory framework in this area and the implementation of measures to protect the rights and interests of people with disabilities in the country.

In world educational and research institutions, research is being carried out on improving communicative competencies based on dictation and sign language, on developing communicative competencies based on dictation and sign language in the process of personality formation at each stage of education. Special attention is paid to research on improving intensive teaching technologies, developing communicative competencies through intensive educational technologies, improving methods of communication through sign language, and engaging in work in society.

Digital technologies have become so deeply embedded in our lives that today it is impossible to imagine not only our daily activities, but also the development of the education sector without them. Naturally, the introduction of digital technologies in education, as in other areas, is fundamentally changing its activities. This is not only related to the relationship between students and teachers, but also introduces innovations to the methods of teaching the inclusive education system through digital electronic programs.

Among the scientists of our republic who have worked on the creation of an electronic learning environment and working in it are M.Aripov [6], U.Begimkulov [8], F.Zakirova [3], O.Mamarajabov [9] and others, as well as scientists from the CIS countries V.V.Borisova, O.G.Nalbandyan [1], V.N.Strelsov [2], foreign scientists E. Simon [13], A.M. Pathan [12] and studied by others.

Semantics, a branch of linguistics, is aimed at examining the meanings conveyed by phrases and combinations of signs. The author begins to study the degree of similarity between oral and sign languages, highlighting their main differences. The main goal of the study is to thoroughly study the features of parts of speech in the Kazakh language when expressed by gestures, the principles of regulating the translation of verbs and auxiliary tenses. The article concludes by emphasizing the importance of understanding both structural elements and contextual aspects in the fascinating world of Kazakh sign language semantics [11].

Today, teaching in an e-learning environment is about improving the learning process based on the principles of optimizing it through the automation of learning, the design and application of methods and materials that serve to increase the effectiveness of learning [10].

An electronic learning environment is a synonym for an information-based learning environment, defined as a personal computer, telecommunications, methodological and organizational environment of the professional training process based on modern information technologies in order to meet the needs of users for educational resources [7].

The use of modern digital technologies is essential to increase competitiveness in the market of inclusive education services. In particular, electronic programs and platforms will take inclusive education to a new level by increasing the quality, convenience, and opportunities of education.

Digital e-learning applications play a key role in improving inclusive education services in certain areas. These areas include:

- Personalized education – allows you to create customized learning programs tailored to the needs of each student.
- Distance learning opportunities create favorable conditions for people with physical disabilities, those living in remote areas, or those who cannot access traditional education for other reasons.
- Accessible and adaptive interfaces – through speech recognition, audiovisual materials, and text-to-speech functions – facilitate learning for individuals with different abilities [5].

Digital technologies play an important role in developing the market for inclusive education services and increasing its competitiveness. E-learning programs allow creating equal opportunities for education, simplifying the learning process, and providing educational services to a wider audience. Therefore, high efficiency in the field of inclusive education can be achieved by introducing modern digital solutions.

the inclusive education market, digital technologies are distinguished by their ability to reach a wide audience, affordable and cost-effective solutions, and an innovative competitive environment that provides advantages in the following aspects:

- Reaching a broad audience – digital platforms allow for the provision of educational services at both the national and international levels.
- Cheap and cost-effective solutions – the educational process through digital technologies becomes cost-effective, reducing the need for expensive traditional resources.
- An innovative competitive environment - through the development of new electronic programs, educational services are improved and help to gain a strong position in the market.

The social integration of deaf and hard of hearing people is carried out not only in the direction of adaptation to the urban environment, but also through the introduction of various information technologies into their lives. It is necessary to distinguish between the types of information technologies used in the social integration of these individuals: these are special technical means, telecommunication technologies, and the Internet.

The advent of digital technologies has made it easier for deaf and hard of hearing children to access information in many areas, one of which is education [14].

Due to problems with understanding texts in the process of learning, deaf and hard of hearing boarding school students face obstacles in their educational processes. Accordingly, the information received and assimilated by deaf and hard of hearing students is significantly lower in meaning and quantity than that received by hearing students of the same age. As a result, despite the high efforts of a deaf student while studying in high school, by the time of graduation, he has knowledge that is weaker than that of a healthy graduate. Therefore, another problem arises: unequal conditions for admission to universities between deaf and healthy students. Therefore, most of the graduates with hearing impairment choose secondary specialized vocational educational institutions to obtain working specialties. They mainly work as: car mechanics, cooks, tailors, shoemakers, restorers, plumbers, carpenters, gardeners.

Assistive devices for deaf and hard of hearing people can be divided into the following groups: individual and collective hearing correction devices (hearing aids, cochlear implants, sound-amplifying equipment).

Digital learning tools can be divided into the following types: passive, active and interactive methods. All technical tools can and are recommended to be used in the process of teaching children with hearing impairments, taking into account the specific characteristics of this category of students.

- passive technical means (learning machines and computers). Thanks to the emergence of these technical means, it is now possible to present information visually and with the help of sound. The presence of educational tools that perform their work on the basis of digital technologies is a distinctive feature of modern education.

- active technical means (simulators, educational computer programs, sound engineering devices (language classes, sound amplifiers, etc.). Active technical educational means involve the indirect presentation of information.

- interactive technical educational tools are educational programs that allow you to change and shape the content of the educational process and have an adaptive method of information interaction with students [4].

There is no university in our country that has dedicated teams to educating students with hearing problems. The reason is one problem: universities in our country are not equipped for deaf and hard of hearing students, and the curricula of universities and institutes in the higher education system do not take into account the educational characteristics of the deaf, as a result of which a deaf and hard of hearing student cannot compete with a healthy student.

References:

1. Борисова, В. В., & Налбандян, О. Г. (2016). Информационная система «речевые технологии» как эффективный инструмент диагностики и коррекции речевых нарушений детей младшего возраста. Сборник материалов Ежегодной международной научно практической конференции «Воспитание и обучение детей младшего возраста» (ООО Мозаика Синтез).
2. Стрельцов, В. Н., Налбандян, О. Г., & Борисова, В. В. (2016). Опыт применения компьютерных технологий для коррекции речевых нарушений у учащихся начальных классов. Инновационные проекты и программы в образовании, (5), 71.

3. Закирова, Ф. (2023). Теоретические и практические основы методической подготовки будущих преподавателей информатики в педагогических ВУЗах. Каталог авторефератов, 1(1), 1–42. Извлечено от <https://inlibrary.uz/index.php/autoabstract/article/view/42548>
4. Abdurakhimovna, A. S., & Mikhailovich, Y. V. (2023). APPLICATION OF DIGITAL LEARNING TECHNOLOGIES IN VOCATIONAL EDUCATION. ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ, 22(1), 143-145.
5. Abduraxmanova Shaxnoza Abdurakhimovna, & Saydivosilov Saidiabzal Anvar ugli. (2023). THE NEED TO DEVELOP THE DIGITAL TECHNOLOGY SKILLS OF FUTURE COMPUTER SCIENCE TEACHERS IN UZBEKISTAN. World Bulletin of Management and Law, 23, 64-67. Retrieved from <https://scholarexpress.net/index.php/wbml/article/view/2874>
6. Aripov, M., Sharipbay, A., Abdurakhmonova, N., & Razakhova, B. (2018). Ontology of grammar rules as example of noun of Uzbek and Kazakh languages. In Abstract of the VI international conference “Modern problems of applied mathematics and information technological-Khorezmiy (pp. 37-38).
7. Bakiyeva, Z. R. (2022). Teaching computer animation to students through an electronic learning platform. Journal of Integrated Education and Research, 1(6), 26-28.
8. Begimkulov, U. (2013). Distance teaching and pedagogical education. Pedagogical education, -Tashkent, 5, 19-21.
9. Mamarajabov Odil Elmurzaevich. (2022). Formation of students' competence in the use of cloud technologies in the information educational environment. World Bulletin of Social Sciences, 8, 79-80.
10. Muratov Elvin Ilich. (2022). Problems of choosing innovative strategies for the educational process based on empirical methods. World Bulletin of Social Sciences, 8, 101-103. Retrieved from <https://scholarexpress.net/index.php/wbss/article/view/732>
11. Nurzada Amangeldy, Saule Kudubayeva, Akmaral Kassymova, Ardak Karipzhanova, Bibigul Razakhova, Serikbay Kuralov: Sign Language Recognition Method Based on Palm Definition Model and Multiple Classification. Sensors 22(17): 6621 (2022)
12. Paxton A.M. (Curriculum and Instruction). Submitted in fulfilment of the requirements of the Degree of Doctor of Philosophy. School of Education, College of Social Sciences. University of Glasgow. 2020. 321 p.
13. Simon E. The impact of online teaching on higher education faculty's professional identity and the role of technology: the coming of age of the virtual teacher. Doctor of Philosophy. - 2012. - 281 p.
14. Sharofat, O. R. (2023, May). Electronic learning resources and requirements for their creation. In International Scientific and Practical Conference on Algorithms and Current Problems of Programming.