ORIGINAL ARTICLE

INTERNATIONAL JOURNAL OF ARTIFICIAL INTELLIGENCE

ISSN: 2692-515-x, Impact Factor: 9.23

American Academic publishers, volume 6, issue 02,2026

Journal: https://www.academicpublishers.org/journals/index.php/ijai

APPLICATION OF AR/VR TECHNOLOGIES IN INCLUSIVE EDUCATION IN PRESCHOOL EDUCATION

Associate Professor of the department of Preschool education methods, Tashkent University of Applied sciences

Xujamiyarov Sadulla Chorieyvich

Annotatsiya. Ushbu maqolada virtual haqiqat (VR) va kengaytirilgan haqiqat (AR) texnologiyalarining maktabgacha ta`limda inklyuziv ta'lim tizimiga qo'shilishi va ularning nogironligi bo'lgan bolalar uchun ta'lim jarayonida qanday afzalliklarga ega ekanligi tahlil qilinadi. VR va AR texnologiyalari maxsus ta'lim ehtiyojlari bo'lgan bolalar uchun interaktiv va moslashtirilgan o'quv muhiti yaratish imkoniyatini beradi. Ushbu maqolada VR va AR texnologiyalarining imkoniyatlari, ulardan foydalanish metodikasi va ularning samaradorligi muhokama qilinadi.

Kalit so'zlar: virtual haqiqat, kengaytirilgan haqiqat, inklyuziv ta'lim, maxsus ehtiyojlar, interaktiv texnologiyalar, innovatsion pedagogika.

Annotation. This article analyzes the integration of virtual reality (VR) and augmented reality (AR) technologies into the inclusive education system in preschool education and their advantages in the educational process for children with disabilities. VR and AR technologies provide the opportunity to create an interactive and adapted learning environment for children with special educational needs. This article discusses the capabilities of VR and AR technologies, the methodology for their use and their effectiveness.

Keywords: virtual reality, augmented reality, inclusive education, special needs, interactive technologies, innovative pedagogy.

Аннотация. В данной статье анализируется интеграция технологий виртуальной реальности (VR) и дополненной реальности (AR) в систему инклюзивного образования в дошкольном образовании и их преимущества в образовательном процессе для детей с ограниченными возможностями. Технологии VR и AR предоставляют возможность создания интерактивной и адаптированной учебной среды для детей с особыми образовательными потребностями. В статье рассматриваются возможности технологий VR и AR, методология их использования и их эффективность.

Ключевые слова: виртуальная реальность, дополненная реальность, инклюзивное образование, особые потребности, интерактивные технологии, инновационная педагогика.

Modern technologies are revolutionizing the field of education. Virtual reality (VR) and augmented reality (AR) technologies are especially important in the process of inclusive education. These technologies help create adapted educational materials for children with disabilities and actively involve them in the educational process.

Students with disabilities face various challenges in traditional educational methods. In particular, children with hearing or visual impairments can find it difficult to understand educational materials. VR and AR technologies reduce these barriers and present the

ORIGINAL ARTICLE
INTERNATIONAL JOURNAL OF ARTIFICIAL INTELLIGENCE
ISSN: 2692-515-x, Impact Factor: 9.23
American Academic publishers, volume 6, issue 02,2026
Journal: https://www.academicpublishers.org/journals/index.php/ijai

educational process in an interactive, interesting and personalized way. In today's rapidly evolving education landscape, virtual reality (VR) and augmented reality (AR) technologies are revolutionizing the way inclusive education is delivered. These advanced technologies offer immersive experiences that meet the diverse needs and learning styles of students in ways that were never possible before.

This article explores the impact of VR and AR technologies on inclusive education, exploring their unique capabilities and potential to enhance the learning experience for all students. AR and VR technologies are evolving with new and exciting features. For example, AR learning environments allow students to use virtual models and tests for interactive lessons. VR, on the other hand, allows for the repetition of experiments to enhance the learning experience by making the experience infinite and using high-quality 3D models. Inclusive education uses AR and VR technologies to support students and learn from each other.

This technology is also important in distance learning and protecting individual rights. VR makes learning more immersive and engaging for students. By allowing them to stand out from the average student in the classroom, they They are learning. This helps to understand the document and to learn new information. Augmented reality technologies are finding their place in education. They provide students with interactive lessons, physically supporting the learning process. This helps to update education and support students. The time has come for you to wait - the newness of education is changing. Virtual reality and augmented reality technologies are playing a big role in the development of the learning process. Now you can move from books to the world! Virtual reality (VR) and augmented reality (AR) are two different reality technologies. VR allows the user to feel like they are in another world, for example, in areas that they often see in videos. AR helps to apply it to the physical world, providing a lot of short information and visual effects.

VR and AR technologies have a positive impact on inclusive education in the following aspects:

Experiential and experiential learning – Students have the opportunity to learn complex concepts in a visual and interactive environment.

Personalized learning – Each child can learn through curricula tailored to their needs.

Increased active participation and motivation – Technologies make the learning process more interesting and encourage children to be active.

Virtual reality and augmented reality are real for students. Through these technologies, learning processes become interesting and interactive, which helps to increase student engagement. VR provides a great help in visualizing knowledge, mastering mathematics. Virtual reality (VR) and augmented reality (AR) technologies play an important role in the inclusive education system. These technologies provide innovative educational tools for children with special needs, making their learning process convenient, interesting and effective. By widely introducing VR and AR technologies into the education system, educational opportunities for children with disabilities can be further expanded. Therefore, educational institutions should develop strategies for the development and use of these technologies.

ISSN: 2692-515-x, Impact Factor: 9.23
American Academic publishers, volume 6, issue 02,2026
Journal: https://www.academicpublishers.org/journals/index.php/ijai

In conclusion, AR and VR help to create inclusiveness in education. Both for disabled students and for the program of increasing the educational capacity through technical support. This technology, personal use of students' methods of learning and managing their knowledge, as a result of which the effective integration of virtual reality and augmented reality technologies into inclusive education plays a major role in developing a more interesting and engaging learning environment. Using these innovative tools, teachers can personalize teaching, meet diverse learning needs, and arouse new interest in knowledge in students. As we continue to use the opportunities of AR and VR in education, we will move closer to a more inclusive and equitable learning experience for all.

References:

1. OMONOVICH, K. D., UMIROVICH, A. O., NORQOBILOVNA, J. S., ABDUKUNDUZOVNA, B. G., CHORIEVICH, X. S. D., JURAKOBILOVICH, T. S., ... & ADASHVOEVICH, K. R. (2025). TEACHING METHODOLOGY OF HISTORICAL GEOGRAPHY THROUGH GEOSPATIAL AND IMMERSIVE TECHNOLOGIES COMPLETED WITH BIBLIOMETRIC ANALYSIS. *Journal of Engineering Science and Technology*, *20*(6), 1935-1942.
2. Nafisa, A., Nargiza, M., Sadulla, K., & Dilmira, S. (2020). Development of independence, initiativity and responsibility for preschool children in the process of approaching accessible labor activity. *Journal of Critical Reviews*, *7*(5), 785-786.
3. Choriyevich, X. S. (2025). ORGANIZATION OF WORK FORMS IN PARTNERSHIP WITH PRESCHOOL EDUCATION AND FAMILY. *SHOKH LIBRARY*.
4. Chorievich, K. S. (2020). The development of vocabulary in children of middle preschool age through the role-playing games. *European Journal of Research and Reflection in Educational Sciences Vol*, *8*(1).
5. Choriyevich, X. S. D. (2025). BOLALARDA MAS'ULIYAT HISSINI SHAKLLANTIRISHDA TARBIYACHI VA OTA-ONA HAMKORLIGINI TASHKIL ETISHNING PEDAGOGIK JIHATLARI. *Scientific and methodological journal of the Tashkent Institute of Economics and Pedagogy*, *2*(1), 134-142.
6. Xojamiyarov, S. (2025). THE ROLE OF COOPERATION OF TEACHERS, EDUCATORS AND PARENTS IN DEVELOPING A SENSE OF RESPONSIBILITY IN PRESCHOOL CHILDREN. *Web of Teachers: Inderscience Research*, *3*(1), 87-93.
7. Xo, S. C., Nazarova, R. R., & Ibragimova, G. X. (2024). MAKTABGACHA YOSHDAGI BOLALARDA ERTAK TERAPIYA ASOSIDA MAS'ULIYAT HISSINI SHAKLLANTIRISH. *Academic research in educational sciences*, (1), 96-99.
8. Хужамияров, С. Ч. ФОРМИРОВАНИЕ ЭТИЧЕСКИХ ПРЕДСТАВЛЕНИЙ ДЕТЕЙ СТАРШЕГО ДОШКОЛЬНОГО ВОЗРАСТА В ИГРОВОЙ ДЕЯТЕЛЬНОСТИ. *НАУЧНЫЕ ИССЛЕДОВАНИЯ*, 29.
9. Махмудова,Д.М. (2022). МАКТАБГАЧА КАТТА ЁШДАГИ БОЛАЛАРНИ КИТОБХОНЛИККА ТАЙЁРЛАШ МЕТОДЛАРИ. Results of National Scientific Research International Journal, 1(6), 274-278.
10. Кадирова, Ф.Р., & Махмудова, Д. М. (2022). Мактабгача катта ёшдаги болаларни китобхонликка тайёрлаш методикасини такомиллаштириш. PEDAGOGS jurnali, 1(1), 10-16.

ISSN: 2692-515-x, Impact Factor: 9.23
American Academic publishers, volume 6, issue 02,2026
Journal: https://www.academicpublishers.org/journals/index.php/ijai

11. Makhmudova, D.M. (2023). EFFECTIVENESS OF INNOVATIVE TECHNOLOGIES IN PRESCHOOL EDUCATIONAL ORGANIZATIONS. Лучшие интеллектуальные исследования, 4(1), 177-180.
12. Махмудова,Д.М. (2022, November). СПОСОБЫ ЗАИНТЕРЕСОВАТЬ ДОШКОЛЬНИКОВ ЧТЕНИЕМ. In INTERNATIONAL SCIENTIFIC AND PRACTICAL CONFERENCE" THE TIME OF SCIENTIFIC PROGRESS" (Vol. 1, No. 3, pp. 96-101).
13. Maxmudova, D., & Raxmanova, X. (2022). РОЛЬ СОВРЕМЕННЫХ ТЕХНОЛОГИЙ В РАЗВИТИЕ ДЕТЕЙ ДОШКОЛЬНОГО ВОЗРАСТА. Science and innovation, 1(B7), 1213-1217.
14. Makhmudova, D. M., & Sultanova, Z. (2023, September). METHODS USED IN THE MORNING RECEPTION OF CHILDREN IN PRESCHOOL EDUCATIONAL INSTITUTIONS. In INTERNATIONAL SCIENTIFIC CONFERENCE" SCIENTIFIC ADVANCES AND INNOVATIVE APPROACHES" (Vol. 1, No. 4, pp. 8-12).
15. Makhmudova, D. M. (2023, September). ORGANIZATION AND MANAGEMENT OF MODERN PRESCHOOL EDUCATIONAL ORGANIZATIONS. In INTERNATIONAL SCIENTIFIC CONFERENCE" SCIENTIFIC ADVANCES AND INNOVATIVE APPROACHES" (Vol. 1, No. 3, pp. 53-57).