Foydalanilgan adabiyotlar ro'yxati:
1. Zhang, J., & Li, S. (2021). An overview of intelligent tutoring systems. Journal of Educational Technology Development and Exchange, 14(1), 99-110.

2. Chen, X., Li, L., Li, X., & Li, J. (2021). A review of personalized learning based on artificial intelligence. International Journal of Emerging Technologies in Learning, 16(4), 35-47.

3. Liu, Y., Zhao, S., Li, J., & Zhang, B. (2020). Intelligent chatbots in education: A review of recent advances. Educational Technology Research and Development, 68(1), 87-104.

4. Singh, V., & Singh, A. (2021). Role of artificial intelligence in educational management. Journal of Education and Practice, 12(12), 78- 85.

5. Igbokwe, Innocent. (2023). Application of Artificial Intelligence (AI) in Educational Management. International Journal of Scientific and Research Publications (IJSRP). 13. 300. 10.29322/IJSRP.13.03.2023.p13536.

ARTIFICIAL INTELLIGENCE IN EDUCATION: PAVING THE WAY FOR A MORE EFFECTIVE LEARNING EXPERIENCE

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Abstract: Artificial Intelligence in Education (AIED) is rapidly evolving, offering innovative possibilities to transform the way we approach learning and teaching. While AIED initially focused on automating traditional educational practices, its potential extends far beyond that. This review paper explores how AIED can offer more than mere automation and why it is crucial to consider its role in supporting collaborative learning, student forum monitoring, continuous assessment, AI learning companions, AI teaching assistants, and as a research tool to enhance the learning sciences. By examining these facets, we aim to shed light on the exciting opportunities that AIED can bring to education while acknowledging the complex challenges and ethical considerations involved.

Keywords: Artificial Intelligence in Education (AIED), Innovative possibilities, Transforming learning and teaching, Automation in education, Collaborative learning.

Introduction
The field of Artificial Intelligence in Education (AIED) has seen significant growth and development in recent years. Initially, AIED aimed to automate existing educational practices, but it has the potential to offer much more. In this review paper, we explore how AIED can revolutionize education by going beyond automation and fostering a more effective and inclusive learning experience. We delve into several key areas where AIED can make a substantial impact, including collaborative learning,

student forum monitoring, continuous assessment, AI learning companions, AI teaching assistants, and its role as a research tool for advancing the learning sciences [9].

Collaborative Learning

Collaborative learning is known to enhance learning outcomes, but effective collaboration can be challenging to achieve [1]. AIED can play a pivotal role by automating the formation of student groups based on their individual profiles and learning needs [2]. It can also act as a facilitator, monitoring group activities, identifying comprehension issues, and providing targeted support. Furthermore, virtual agents can actively contribute to group discussions or connect students with relevant materials from the semantic web. While promising, implementing AIED in collaborative learning still faces technical hurdles.

Student Forum Monitoring

Online education often involves student forums, generating massive amounts of posts that require monitoring and moderation. AIED can assist by triaging forum posts, automating responses to routine queries, and referring complex issues to human tutors. It can also analyze and aggregate similar posts to provide more efficient responses and identify sentiment in posts to detect emotional states or inappropriate content. AIED has the potential to keep both students and tutors well-informed about relevant discussions and emerging themes [3].

Continuous Assessment

Traditional high-stakes examinations have limitations in evaluating a student's comprehensive understanding and can induce anxiety. AIED can address this by continuously monitoring student progress and aggregating data on their learning experiences, both formal and informal. This data can create comprehensive profiles of individual learners, which can be visualized in AI-driven e-portfolios. Continuous assessment provides a more holistic view of a student's capabilities, reducing the emphasis on one-time exams [4,5].

AI Learning Companions

AIED can offer lifelong learners personalized AI-driven learning companions that adapt to their needs and goals. These companions can provide instructional activities, track progress, offer guidance, and connect learners to relevant resources. Leveraging the capabilities of smartphones and AI technologies, every student can have their own personalized learning partner, enriching their educational journey from kindergarten to adulthood [6].

AI Teaching Assistant

Contrary to replacing teachers, AIED can augment their skills and expertise by serving as AI teaching assistants (AI TAs). AI TAs can automate administrative tasks, provide resources, and monitor student performance [7]. They offer a supportive role, allowing teachers to focus on more meaningful aspects of education. A future classroom scenario with AI TAs could revolutionize the teaching and learning experience.

AIED as a Research Tool

AIED can be a valuable tool for advancing the learning sciences. It aligns with fields like learning analytics and educational data mining, offering insights into student

behavior, learning difficulties, and effective learning designs. Researchers can use AIED to better understand how students learn and improve educational practices. For example, machine learning can categorize struggling students at a granular level, enabling tailored support [8].

Conclusion

Artificial Intelligence in Education has the potential to reshape education by offering more than just automation. From supporting collaborative learning to continuous assessment, AI learning companions, and AI teaching assistants, AIED can enhance the educational experience. Additionally, it serves as a powerful research tool to advance the learning sciences. However, ethical considerations and technical challenges must be addressed as we navigate this transformative journey in education. Embracing the full potential of AIED requires a commitment to innovation, collaboration, and a student-centric approach.

Reference:

1. Luckin, R., et al. 2017. Solved! Making the Case for Collaborative Problem-Solving. Nesta. https://www.nesta.org.uk/report/solved-making-the-case-for-collaborative-problem-solving/

2. The Universitat Politècnica de València have been researching just such a system: Alberola, J.M., del Val, E., Sanchez-Anguix, V., Palomares, A., and Teruel, M.D. 2016. "An artificial intelligence tool for heterogeneous team for- mation in the classroom." Knowledge-Based Systems 101: 1–14. https://doi.org/10.1016/j.knosys.2016.02.010

3. Goel, A.K., and Joyner, D.A. 2017. "Using AI to teach AI: Lessons from an online AI class." AI Magazine 38(2):

4. Gunzelmann, B.G. 2005. "Toxic testing: It's time to reflect upon our current testing practices." Educational Horizons 83 (3): 214. Evolving Assessments for a 21st Century Education.

5. Shulevitz, J. (2018) Alexa's most dangerous feature can't be undone, The Atlantic. Available at: https://www.theatlantic.com/magazine/archive/2018/11/alexa-how-will-you-change-us/570844/ (Accessed: 10 October 2023).

6. Luckin. R., et al. Intelligence Unleashed, 11. https://www.pearson.com/content/dam/one-dot-com/one-dot-com/global/Files/about-pearson/innovation/Intelligence-Unleashed-Publication.pdf.

7. Mayer-Schonberger, V. and Cukier, K. 2013. Big Data: A Revolution That Will Transform How We Live, Work and Think. John Murray.

8. Globethics Publications. (n.d.). Artificial intelligence in education - UCL Discovery. https://discovery.ucl.ac.uk/id/eprint/10168357/