



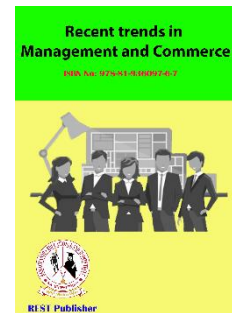
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Impact of Artificial Intelligence in Education Benefits and Challenges

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Abstract: *As today's world is developing in all aspects of human abilities, it is also reflecting in all areas where humans can reach. But these developments in no way should harm the natural existence of humans through their job or earning capacity. When Artificial Intelligence (AI) was initially brought into public, there was a major question about the job security of millions of peoples as AI and robotics in combination may replace a wide range of employees from their current job. Similar scenarios exist in the case of education sector also, as in future the teachers or professors may be replaced by AI led robotic teachers. It has several advantages and disadvantages in Education sector. This paper deals with an analysis of the impact of AI in Education sector.*

Keywords: *Artificial Intelligence, Education, Benefits, Challenges*

1. INTRODUCTION

Artificial Intelligence is the science of making machines to think like humans. As it sounds, it can be considered as great achievement of human ability to create something that doesn't exist or to create something to replicate that exists in nature is astonishing. But there are some factors which are also to be considered when such creations or inventions are done by mankind. There should be a balancing factor like, in nature all creations maintain that balancing factor so that there arises no question for sustainability. It must be thoroughly studied that whether these inventions do any harm to nature's balancing factor before implementing it completely on any area of human life. Education is one among the vast spectrum of AI application areas. An analysis of impact of AI in this area is done in this paper.

2. STATEMENT OF THE PROBLEM

The integration of Artificial Intelligence (AI) in education has the potential to revolutionize teaching and learning processes, offering personalized learning experiences and improving administrative efficiency. However, this rapid adoption raises several critical issues that need to be addressed to ensure equitable and effective implementation. The problem lies in understanding the multifaceted impact of AI on education, particularly concerning data privacy, ethical considerations, potential biases in AI algorithms, and the digital divide. Addressing these problems is crucial for maximizing the benefits of AI in education while minimizing potential harms. This study aims to explore these challenges in depth, providing a comprehensive analysis of the impact of AI on education and proposing strategies for ethical and equitable implementation.

3. OBJECTIVES OF THE STUDY

The primary objective of this study is to comprehensively examine the impact of artificial intelligence (AI) on the education sector. This includes understanding both the potential benefits and the challenges associated with AI integration in educational settings.

4. SCOPE OF THE STUDY

The scope of studying the impact of artificial intelligence (AI) in education encompasses a broad array of dimensions, considering various stakeholders, technological advancements and educational outcomes.

5. LITERATURE REVIEW

The use of AI in education has been a topic of considerable research over the past decade. Several studies have highlighted the potential of AI to revolutionize educational practices. For instance, Zawacki-Richter et al. (2019) conducted a comprehensive review of AI applications in higher education and found that AI can significantly enhance personalized learning and administrative efficiency. Holmes et al. (2019) emphasized the role of AI in providing adaptive learning environments that cater to individual student needs. Chen et al. (2020) explored the impact of AI-driven analytics on student performance and found that predictive analytics can help identify at-risk students and tailor interventions accordingly. Furthermore, Luckin et al. (2016) discussed the potential of AI to support teachers by automating routine tasks, allowing them to focus more on instructional activities. However, the literature also points to several challenges associated with the integration of AI in education. Selwyn (2019) raised concerns about data privacy and ethical implications of AI systems that collect and process vast amounts of student data. Williamson and Eynon (2020) highlighted the digital divide and the risk of exacerbating educational inequalities if AI tools are not accessible to all students.

6. IMPACT OF ARTIFICIAL INTELLIGENCE IN EDUCATION

One of the major benefits of AI in education is its ability to reduce the burden on teachers and streamline administrative tasks. Personalized learning, automated grading and intelligent tutoring systems are just some of the ways AI is changing how students learn and how educators work. By automating routine tasks, teachers have more time for one-on-one interactions with students or to focus on more creative aspects of teaching. There are several advantages for AI in education sector such as personalized learning, Instant feedback, Access to Advanced educational resources etc.

7. BENEFITS OF AI IN EDUCATION

Personalized Learning

It is one of the prominent advantages of AI in education that it could provide personalized learning according to each student's individual needs. AI systems can analyze student data such as strengths, weakness and learning preferences of each student. After analyzing such data, it can provide learning content for each student based on the analysis. This helps the student to learn at their own pace and receive additional support in areas where they need it.

Access to Advanced Educational Resources

AI provides access to high quality, up to date educational resources. Virtual assistants and chatbots can provide instant and accurate information on any topic, which enables students to access updated knowledge in real time. Chat GPT is an example for such resource.

Immediate Feedback for students

AI provides immediate and accurate feedback on student's performance. AI systems can evaluate the responses of students in a much faster way and give detailed feedback quickly. This helps students to learn about their areas for improvement and correct the mistakes accordingly.

Improved Teaching Resources

AI can assist teachers in creating more engaging and interactive teaching materials. Virtual reality, simulations and other AI-driven tools enhance the learning experience more interesting and memorable for students.

8. CHALLENGES OF AI IN EDUCATION

While there are many advantages for Education sector in using AI as a tool, there are certain disadvantages too. Some of them are Data privacy concerns, Job Displacement etc.

Data privacy Concerns

As AI heavily depends on data, and in education sector these data mainly focus on student information. Vast amount of student data will be collected and analyzed. Hence there is a high-risk factor when sensitive data falls into the wrong hands or can be misused.

Job Displacement

When AI combined with robotics may replace traditional teachers in future. Even though initially it might be expensive for educational institutions, there is no need of paying salary to the teachers as in traditional system. Hence, institutions in developed countries may find it as quiet better option. This in turn results in loss of job for traditional teachers.

Lack of Emotional Connection

One area where AI cannot replicate is human's emotional feelings. This clearly establishes the fact that AI cannot completely replace a traditional teacher's emotional connection with the students. When dealing with a weaker student, AI related tool cannot show much empathy or sentiments as a traditional teacher.

Overreliance on Technology

Even though AI is a powerful tool, overreliance on technology can have adverse effects on students. AI may miss some major aspects of learning such as social interaction, creativity and emotional intelligence.

9. CONCLUSION

Artificial Intelligence is definitely a powerful tool invented by humanity to reduce burden on human workers on various sectors and acts as a companion to many people in their respective fields as different kind of tools. In future also the usage of AI tools in one's daily life will be inevitable. Such kind of an area is education sector, where AI has already been implemented for paper valuation, student progress evaluation etc. Even though AI has several advantages there are some factors which can be considered as its disadvantages. Job displacement can be considered as one among them. But it is not only in education sector, AI when combined with robotics will cause Job displacement in various sectors in much wider range. This can be controlled only by setting strict boundaries by Government that which are the areas or how far an institution or organization can use AI tools replacing humans. As a conclusion, AI can be considered as a very beneficial tool for mankind not only in Education sector but also for all areas where it can be beneficial for humans, when used in a controlled manner.

REFERENCES

- [1]. Chen, L., Chen, P., & Lin, Z. (2020). Artificial intelligence in education: A review. *Journal of educational Technology Development and Exchange*, 13(1), 1-20.
- [2]. Holmes, W., Bialik, M., & Fadel, C. (2019). *Artificial Intelligence in Education: Promises and Implications for Teaching and Learning*. Center for Curriculum Redesign.
- [3]. Luckin, R., Holmes, W., Griffiths, M., & Forcier, L. B. (2016). *Intelligence Unleashed: An argument for AI in Education*. Pearson.
- [4]. Selwyn, N. (2019). Should robots replace teachers? AI and the future of education. *Learning, Media and Technology*, 44(2), 204-216.
- [5]. Williamson, B., & Eynon, R. (2020). Historical threads, missing links, and future directions in AI in education. *Learning, Media and Technology*, 45(3), 223-235.
- [6]. Zawacki-Ritcher, O., Marin, V. I., Bond, M., & Gouverneur, F. (2019). Systematic review of research on artificial Intelligence applications in higher education – where are the educators? *International Journal of Educational Technology in Higher Education*, 16(1), 1-27.
- [7]. <https://schiller.edu/blog/the-impact-of-artificial-intelligence-on-higher-education-how-it-is-transforming-learning>
- [8]. <https://www.questionpro.com/blog/ai-in-education/>
- [9]. <https://www.kasigaschool.com/blog/positive-and-negative-effects-of-ai-on-education/>