

ARTIFICIAL INTELLIGENCE (AI) IN EDUCATION: STRENGTHS AND DRAWBACKS

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Abstract. Artificial intelligence (AI) technologies are advancing rapidly, significantly impacting all aspects of life. This transformation is increasingly evident, particularly with the increased adoption of generative AI tools such as ChatGPT. Educational systems are experiencing the most substantial effects in this area. On the one hand, the growth of such systems in the labor market has created an urgent need for educational institutions to quickly reorganize schooling in response to skill changes in professions. However, difficult considerations arise regarding whether and how these systems should be incorporated into education, if at all, as well as how to handle ethical concerns brought on by AI systems. From the viewpoints of students, instructors, and administrators, this study assesses the probable advantages and hazards of implementing AI systems in educational systems. The pertinent research on the possible advantages and disadvantages of AI from various scholarly databases was taken into account in the systematic review. As a result, the study addresses the possible applications of AI systems in education as well as any potential hazards.

Keywords: Artificial Intelligence; AI in Education; Generative AI; Educational Technology; Ethical Issues; Advantages and Drawbacks; AI Literacy; ChatGPT.

Introduction

Numerous facets of contemporary life, including business, healthcare, government, and most notably, education are increasingly utilizing artificial intelligence (AI). AI according to several researchers, may enhance decision-making, cut down on administrative work, provide prompt feedback, customize learning, and modify instructional materials in response to students' progress. Studies indicate that while the application of AI in higher education is still in its infancy, it is anticipated to expand dramatically over the next several years.

Researchers like Andrew McAfee and Erik Brynjolfsson [1] identify artificial intelligence (AI) as a powerful force that is transforming human communication, learning, and labor. AI in education has potential to transform institutional processes and instructional methodologies, making it more than just a tool.

But there are other issues. While Shoshana Zuboff [2] draws attention to privacy and digital monitoring concerns, scholars such as Cathy O'Neil [3] caution that biased algorithms may exacerbate social inequalities. As a result, while AI has advantages like efficiency and tailored learning, it also poses significant moral and practical issues.

The benefits and drawbacks of AI in contemporary education institutions are examined in this article.

Literature Review

The growing application of artificial intelligence (AI) in learning systems has increased scholarly interest in AI in education. AI has the potential to increase educational efficacy through automation, personalization, and data-driven decision-

making, according to research. According to academics AI can promote tailored learning by analyzing students performance, modifying course materials, and giving feedback. Adaptive learning environments can be produced by intelligent technology, according to Wayne Holmes. Similarly, Stuart Russell and Peter Norvig [4] characterize AI as learning and reasoning systems that are helpful for teaching and assessment. More broadly, Erik Brynjolfsson and Andrew McAfee [1] contend that AI is changing education and the workplace, necessitating that educational systems adjust to the demands of the new job market.

But researchers also caution potential difficulties. Shoshana Zuboff [2] expresses worries about data privacy and surveillance while Cathy O'Neil [3] draws attention to the dangers of algorithmic prejudice. Reduced personal interaction, reliance on technology, and unequal access are further problems.

The literature as a whole indicates that although AI can improve learning results, its incorporation into the classroom needs to be carefully regulated to meet privacy, social, and ethical issues.

Methodology

The primary benefits and drawbacks of artificial intelligence (AI) in education are examined in this article through literature analysis. Reputable databases that offer peer-reviewed research in education and technology, including Scopus, Web of Science, and Google Scholar, were used to gather academic sources. AI in education, AI-supported learning, generative AI, and ethical problems were among the terms utilized in the search, which concentrated on current studies. Purely technical or non-scholarly texts were not included; only pertinent academic publications addressing educational outcomes, institutional implications, or ethical and social issues were. Following a theme analysis, the chosen works were categorized into important topics like the advantages of education, technical applications, ethical issues, and more general social issues. This method assisted in giving a fair summary of the present applications of AI in education, as well as any possible advantages and dangers.

Findings and Analysis

According to the literature review, artificial intelligence (AI) has a number of significant educational advantages. Encouraging personalized learning is one significant benefit. AI systems are able to evaluate student performance, spot learning gaps, and modify instruction to meet the needs of individual students. According to Wayne Holmes, AI platforms can provide adaptable learning environments that let students advance at their own speed, which is beneficial in classrooms with a range of ability levels.

Additionally, AI assists in automating administrative and regular duties like record-keeping and grading. UNESCO (2021) [5] claims that this increases overall efficiency by lowering teachers' workloads and freeing up more time for instructions and student support. AI also makes data-driven decision-making possible. Schools can spot patterns, foresee problems and take early action by evaluating vast volumes of performance data. According to Erik Brynjolfsson and Andrew McAfee [1] incorporating AI into education can better prepare students for the present labor market since it is altering the skills and prerequisites for employment.

AI also facilitates continuous assessment by giving pupils immediate feedback, which helps them stay motivated and make quick corrections. All things considered, AI

can enhance accessibility, effectiveness, customization, and data use in education; but its benefits must be weighed against social and ethical issues.

Risks and Challenges of Artificial Intelligence in Education

AI in education has several risks and difficulties despite its potential. There is a lot of discussion about ethical issues, including algorithmic bias. AI systems trained on biased datasets have the potential to perpetuate inequality, including student evaluation, opportunities, and resource distribution, according to Cathy O'Neil [3]. Other significant issues are digital spying and data privacy. Large volumes of student data, including performance and personal information, are needed by AI. Shoshana Zuboff [2] draws attention to the dangers associated with data ownership, permission, and abuse in educational environments.

AI may potentially have an effect on social interaction and education. According to Neil Selwyn [3], an over-reliance on automated technologies can hinder critical thinking, weaken the bond between teachers and students, and cause the emphasis to shift from holistic learning to efficiency. Inequalities in education can be exacerbated by unequal access to AI tools.

Another difficulty is maintaining academic integrity. While generative AI can aid in learning, it may also decrease autonomous effort and promote plagiarism.

Clear policies and ethical norms are crucial because of the governance and regulatory gaps created by rapid technological advancements. UNESCO and other organizations emphasize the importance of educators and students using AI responsibly and being AI literate.

In conclusion, even if AI presents educational opportunities, cautions regulations, moral supervision, and responsible application are required to prevent unfavorable outcomes.

Discussion

The results demonstrate that artificial intelligence (AI) has a dual function in education, presenting both advantages and difficulties. Positively, AI enhances learning through automation, customization, and data-driven choices. Adaptive systems can assist inclusive classrooms by meeting the requirements of individual students and increasing the flexibility and efficiency of learning. Wayne Holmes [6] emphasizes how AI can produce personalized adaptable learning experiences.

But AI also brings up moral and societal issues. The main concerns are algorithmic bias, data privacy and excessive dependence on automation. According to Neil Selwyn, technology by itself cannot provide improved education and, if improperly used, could exacerbate inequality. In general, proper use and governance determine AI's influence. UNESCO emphasizes the importance of moral standards, openness, and human supervision. AI should not only be viewed as a threat or a solution, but also as a tool whose efficacy depends on its application with caution and moderation.

Conclusion

This study shows how the benefits of artificial intelligence (AI), such as data-driven decision-making, real-time feedback, automation of tedious tasks, and personalized learning, can significantly improve education. AI's capacity to make learning more flexible, efficient, and accessible can be advantageous to both educators and learners. Nevertheless AI has disadvantages. Ethical issues include algorithmic bias, data privacy, excessive reliance on technology, and unequal access may restrict its

positive impacts. Human oversight, well-defined regulations, and appropriate governance are essential to ensuring that AI is used properly.

In summary, artificial intelligence (AI) in education is neither just a threat nor a remedy. Its effectiveness depends on careful, balanced execution that maximizes benefits while resolving ethical, social, and educational risks. In order to increase the efficacy and inclusivity of education, future research should focus on ethical AI integration strategies.

References

1. Brynjolfsson, E., & McAfee, A. (2014). The second machine age: Work, progress, and Prosperity in a tome of brilliant technologies (pp. 45-78). W.W. Norton & Company.
2. Holmes, W. (2021). Artificial intelligence in education: Promises and implications for teaching and learning (pp.23-52). Routledge.
3. Norvig, P., & Russell, S. (2020). Artificial intelligence: A modern approach (4th ed., pp. 1-36, 610-640). Pearson.
4. O'Neil, C. (2016). Weapons of math destruction: How big data increases inequality and threatens democracy (pp. 21-49). Crown Publishing.
5. Selwyn, N. (2019). Should robots replace teachers? AI and the future of education (pp. 7-18, 35-50). Polity Press.
6. UNESCO. (2021) Artificial intelligence in education: Challenges in opportunities for sustainable development (pp. 7-18, 35-50). UNESO Publishing.
7. Zuboff, S. (2019). The age of surveillance capitalism: The fight for a human future at the new frontier of power (pp. 8-24, 94-110). PublicAffairs.