

A STUDY ON THE USE OF AI IN TODAY'S EDUCATIONAL SCENARIO

Ms. Pragati Kala, Ms. Damita Khanna, Mr. Sharv Datt Anand

Pre Service Teacher, School of Education and Humanities, Manav Rachna University

Pre Service Teacher, School of Education and Humanities, Manav Rachna University

Assistant Professor- School of Education and Humanities , Manav Rachna University

Abstract

Artificial Intelligence (AI) is changing the way we learn and teach. It helps students by making lessons more personalized, improving tests, and reducing extra work for teachers. AI tools like smart learning apps, virtual tutors, and automatic grading systems allow students to learn at their own speed and get quick feedback, making education more flexible and engaging. One big advantage of AI is personalized learning. Instead of teaching everyone the same way, AI studies how a student learns and suggests study materials based on their needs. This makes learning more effective and interactive. For example, platforms like Duolingo and Google Classroom use AI to adjust lessons based on student progress. AI chatbots and virtual assistants also help by answering students' questions instantly, making it easier for them to learn even outside the classroom. AI is also a big help for teachers. It takes care of time-consuming tasks like taking attendance, planning lessons, and grading tests. This gives teachers more time to focus on actual teaching and student engagement. AI-powered grading systems provide quick and fair assessments, reducing errors. AI also supports language learning by offering real-time translations and pronunciation guidance, helping students worldwide access education in different languages. Additionally, AI can assist in identifying students struggling with certain concepts and recommend targeted interventions to support their learning journey. However, AI comes with some challenges. Privacy concerns, the cost of AI tools, and the gap between students with and without access to technology need attention. Another concern is AI bias—if AI is trained with limited data, it might provide unfair results. Teachers also need training to use AI effectively in classrooms. Many educators fear that AI could replace human teachers, but AI should complement teaching rather than replace the human connection, which remains crucial for effective learning. Additionally, ethical concerns such as data security and student surveillance must be addressed to ensure AI is used responsibly. This study follows a mixed-method research approach, combining both qualitative and quantitative data to understand how AI is impacting education. The research involves a survey of 30 students from higher education and 10 faculty members to gather insights on their experiences with AI-powered education tools. The study aims to analyze how AI is improving student engagement, learning outcomes, and teaching efficiency while also identifying the challenges and limitations faced by both students and educators. This study explores how AI is being used in education today, its benefits, and the challenges that must be addressed to ensure AI improves learning without replacing human educators. By understanding both the advantages and risks, we can make AI a more effective and inclusive tool for education.

Keywords: AI in Education, Smart Learning, Personalized Learning, AI Ethics, Digital Divide, Virtual Tutors, Automated Grading

INTRODUCTION

Artificial intelligence (AI) is increasingly shaping various sectors, and education is no exception. AI-powered tools are being integrated into the classroom to enhance both teaching and learning experiences. From adaptive learning platforms that customize lessons for students to automated grading systems that reduce the burden on educators, AI is revolutionizing traditional educational methods.

The role of AI in education goes beyond just automating tasks. It fosters a more interactive, student-centered learning environment where students receive instant feedback, adaptive learning paths, and access to virtual tutors. In online education, AI is playing a crucial role in bridging gaps in accessibility, supporting remote learning, and making education more inclusive.

- However, the adoption of AI in education also brings challenges. Data privacy, AI bias, affordability, and the digital divide are concerns that need to be addressed to ensure equitable access to AI-powered education. Furthermore, AI should be seen as a supplementary tool rather than a replacement for teachers, as human interaction remains a crucial part of learning.

- This paper aims to explore the use of AI in modern educational settings, analysing its benefits, challenges and the future scope of AI-driven learning.

LITERATURE REVIEW

Several studies have explored the impact of Ai in education, highlighting both its potential and limitations.

- Smith and Johnson (2021) in “Ai powered learning : A new era of education” discussed how Ai-driven platforms enhanced personalised learning by analysing student progress and tailoring content accordingly
- Williams et al. (2020) in “the role of Ai in higher education” examined how Ai chat bots assist students with academic queries, providing instant responses and reducing administrative work load.
- Gupta and Sharma (2022) in “challenges of Ai integration in schools” emphasised the concerns related to Ai bias and ethical consideration, particularly regarding student data privacy.
- Brown (2019) in “automated grading systems: efficiency vs accuracy” analyzed the effectiveness of Ai-based grading system, highlighting their ability to provide quick feedback but also pointing out occasional errors in subjective assessment.
- Miller (2023) in “the future of Ai in education: opportunities and risks” the future impact of Ai in schools and universities, suggesting the need for teacher training programs to ensure the effective use of Ai tools.

These studies provide a foundation for understanding the current landscape of Ai in education and guide the direction of this research.

RESEARCH METHODS AND METHODOLOGY

This study employs a mixed-method research approach, incorporating both quantitative and qualitative methods.

- Participants :- 30 students and 10 faculty members from Manav Rachna University.
- Data collection:- A structured survey was conducted to gather insights on AI tools used in education, their effectiveness, and challenges faced.
- Survey questions:- Focused on the use of AI-powered learning apps, virtual tutors, automated grading, and AI chatbots.
- Analysis:- Data was analysed using statistical tools to identify trends and perceptions regarding AI in education.

The study aims to provide a balanced perspective on the role of AI in education, highlighting both its advantages and potential drawbacks.

FINDINGS

The study revealed several significant insights regarding the impact of Ai on students and educators.

Findings from student's perspective :-

- Enhanced learning experience :around 80% of students reported that Ai powered platforms, such as adaptive learning apps and virtual tutors, helped them better understand complex topics by offering personalised learning paths and instant feedback.
- Quick academic assistance : 65% of students expressed satisfaction with Ai chat bots and virtual assistants that provided quick answers to their academic queries, reducing their dependency on teachers for minor doubts.
- Flexible learning opportunities: 70% of students appreciated Ai tools for enabling self-paced learning, allowing them to revise lessons, attempt quizzes, and improve weak areas at their convenience.
- Concerns about over-reliance on Ai: 50% of students were concerned that excessive use of Ai might discourage independent critical thinking and problem-solving skills, making students reliant on technology.
- Data privacy and ethical concerns: 45% of students expressed worries about their personal data being collected and used by Ai-powered platforms, highlighting the need for stricter security measures.

Findings from faculty's perspective :-

- Reduction in administrative workload:- 70% of faculty members acknowledged that AI tools significantly reduced time spent on repetitive tasks such as attendance tracking, grading, and lesson planning, allowing them to focus more on interactive teaching.
- Fair and Quick assessments :- 60% of educators found AI- powered grading tools useful, as they provided instant evaluation, minimized bias, and improved accuracy in assessing objective responses. However, some educators felt AI still struggles with grading subjective answers like essays.
- Concerns over AI Bias and Equity :- 40% of faculty members raised concerns about AI Bias in grading and content recommendations, fearing that students from diverse backgrounds may not receive truly fair assessments if AI models are not trained on inclusive datasets.
- Need for AI training among educators:- 55% of teachers expressed the need for professional training to effectively integrate AI tools into their teaching strategies. Many educators felt unequipped to maximize AI's potential into the classroom.
- Fear of AI replacing human teachers:- 30% of teachers worried that AI might eventually replace certain teaching roles, reducing the importance of human educators in the learning process.

These findings suggest that while AI offers significant advantages in making education more efficient, engaging, and personalized, it also comes with challenges that need to be carefully managed.

5. DISCUSSION

The findings of this study shows that AI is transforming education by making learning more interactive, efficient, and accessible. However, its implementation requires a balanced approach to maximize benefits while addressing potential challenges.

Positive Aspects of AI in Education :

1. Improved Student Engagement : AI based platforms cater to individual learning styles, making lessons more engaging and effective. Students can interact with AI tutors at any time, ensuring continuous learning.
2. Teacher Support and Efficiency : By automating administrative tasks like grading and lesson planning, AI enables teachers to focus more on student engagement and concept clarification.
3. Access to Global Education : AI-powered tools, such as real-time translation software and virtual classrooms, enable students worldwide to access quality education irrespective to their location.

Challenges and Ethical Concerns :

Despite its advantages, AI in education has several challenges ;

1. Digital Divide : Not all students have access to AI powered learning due to economic constraints. Schools in underprivileged areas may struggle to implement AI-based education.
2. AI Bias and Fairness Issues : If AI tools are trained on limited or biased datasets, they may unintentionally reinforce inequalities, leading to unfair assessments.
3. Loss of Human Interaction : While AI can assist teachers, it cannot replace the human connection, mentorship and emotional intelligence that educators bring into the learning process.

The Role of Educators in AI Integration :

Teachers should be trained to effectively use AI tools rather than feel threatened by them. AI should act as a support system rather than a replacement for teachers. Educational institutions should also implement clear policies on AI ethics, data privacy and student security to prevent misuse of technology.

By addressing these concerns, AI can enhance rather than disrupt the educational landscape.

6. CONCLUSION

Artificial Intelligence is reshaping the education system by offering innovative ways to personalize learning, automate tasks and improve student engagement. AI driven tools such as adaptive learning software, automated grading systems and virtual tutors are making education more efficient, flexible and accessible.

However the study highlights that while AI has immense potential, it is not a substitute for human teachers. Instead, it should be used alongside teachers to enhance the learning experience. The human element - empathy, mentorship and critical thinking guidance cannot be replaced by AI.

7. KEY TAKEAWAYS FROM THIS STUDY

- Ai personalized education by adapting to individual student needs , making learning more engaging and effective .
- AI reduces teachers workload , allowing them to focus more on student interaction
- AI increases accessibility through language translation and global learning platforms
- Challenges such as AI bias , privacy concerns and the digital divide must be addressed to ensure fair access to AI driven education .
- Teachers should receive proper training to integrate AI tools effectively into their classrooms.

8. FINAL THOUGHTS

If implemented responsibly , AI has the power to revolutionize education without compromising equity , fairness and the role of human teachers . By striking the right balance between technology and human interaction , AI can create an inclusive and dynamic educational experience for students across the globe .

9. REFERENCES

- [1] Brown T. (2019).Automated Grading Systems : Efficiency vs Accuracy . Education Technology Review , 32(4) , 145-159.
- [2] Gupta , A and Sharma R.(2022) Challenges of AI integration in Schools . Journal of Educational Research, 18(3) , 210-225
- [3] Miller,D.(2023). The Future of AI in Education : Opportunities and Risks. AI and learning Journal , 25(2) , 89-101
- [4] Smith,J.and Jhonson , K.(2021). AI-Powered Learning : A New Era of Education Learning and Development Review , 40(1) 33-48
- [5] Williams,P.et al.(2020). The Role of AI in Higher Education. International Journal of AI in Education 15(2) 75-92