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AI in Education: Boon or Bane?

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Much has been debated about artificial intelligence (AI) and whether this new technology of the century is a boon or bane. While many welcome AI and see it as a boon, others view it as a bane for the simple reason that they fear AI may replace human beings someday.

So, what is AI? Artificial Intelligence (AI) refers to the development of computer systems that can perform tasks that typically require human intelligence (Limna et al., 2022). AI is becoming increasingly popular and used in many sectors, such as the business, finance, tourism, medicine, food and beverage, entertainment, and education sectors. In the education field, the current use of AI can be seen in Classroom/Behaviour Management, Lesson Planning, Language Learning, Test Preparation, Assessment, Learning Management Systems, Gamification, Staff Scheduling, Finance and many more. AI has gained prominence in education because it supports various learning platforms. For students, an example of a typically popular AI is ChatGPT. ChatGPT can assist students with homework questions, providing explanations and solutions to various academic topics. Therefore, artificial intelligence (AI) can improve education by enhancing teaching and learning outcomes. However, like any new technology, there are risks to its use.



Naturally, there are advantages and disadvantages to artificial intelligence in education. Firstly, AI can customize learning experiences for students in the education field. AI algorithms can build personalized student learning programs based on their needs, preferences, and talents. According to Limna et al. (2022), AI can improve learning outcomes and participation since students are more motivated by customized information that accommodates their interests. Thus, using AI can reduce teachers' burden by allowing them to spend less time planning and more time connecting with individual students. Furthermore, AI may analyse tasks, giving teachers time for other responsibilities.

Another advantage of AI is that it can be applied to standard education processes. According to Kolesnikova (2020), AI systems are excellent at gathering informal proof of skills, expertise, and competence from various open sources, such as social networks and student portfolios. AI video systems and data from social media and Internet of Things (IoT) platforms can change institutional norms and boost students' potential. Besides that, AI enables the processing and collecting of Big Data to improve competitiveness and management effectiveness, particularly in training and education.

Furthermore, AI tools are well-known for their effectiveness in education. As stated by Khawlah et al. (2023), the education industry benefits from AI since it allows pupils to develop more quickly and efficiently towards their learning goals. Researchers can also benefit from using AI as it can improve researcher



collaboration by facilitating idea sharing and the sharing of creative ideas. AI can deliver individualized tutoring and study plans, giving students individualized attention and support despite lacking human teachers.

AI in education can also improve the overall quality of education. According to Khawlah et al. (2023), AI can change the teaching and learning process landscape in education by customizing lessons to accommodate each student's specific needs. Thus, AI can allow teachers more time to focus on teaching by automating manual tasks such as grading. In addition, AI can help recognize students' behavioural tendencies, allowing teachers to assist students with problems. Another benefit of AI is that it can reduce manual chores such as test scoring and task evaluation and increase the overall quality of education.

However, AI tools cannot replace real teachers' effectiveness despite the advantages. Ayala-Pazmiño (2023) mention that AI cannot provide immediate feedback and advice as teachers do in the classroom. In addition, AI cannot reproduce gross and fine motor skills, such as handwriting. Teachers possess critical thinking skills and are responsible for the growth and success of students who are beyond the capability of AI. Teachers ensure students develop distinct human attributes that distinguish them from future AIs through consistent reinforcement in the classroom. Besides that, incorporating Artificial Intelligence into educational operations creates new moral and legal challenges. Here, AI in education raises concerns about the confidentiality of student data and the inability to guarantee that machine specifications will not produce inaccurate answers.

Global observations also found that only 5 to 10% of students display the ability to complete online education independently (Kolesnikova, 2020). Additionally, AI in education also frequently challenges middle-aged and older teachers to understand technological developments. A further disadvantage is that AI integration in education requires renewed guidelines as AI systems can outsmart computers at processing tasks but still cannot think as well as humans.



Therefore, teachers must receive extensive training to master AI technology. Adapting to AI in education requires significant human and financial work due to a lack of training, limited resources, and hidden costs. (Pisica, Edu, Zaharia, & Zaharia, 2023). Also, Pisica et al. (2023) add that it is difficult and costly to keep up with the latest software updates and technology upgrades.

Lastly, AI can raise concerns about inappropriate unsupervised learning among students, as there are claims that AI can result in students' missing classes and poor academic communication. This could lead to a lack of social engagement, which weakens the community's social ability to connect. Ethical issues related to using AI and the possibility of job loss for educators. AI can also widen the gap between students and teachers while increasing data security concerns (Khawlah et al., 2023).

In conclusion, the integration of AI in education brings about both advantages and disadvantages. As this educational style continues to evolve, it is essential to carefully manage AI implementation to maximize benefits while limiting its potential drawbacks in education. Policymakers, educators, and technology developers must collaborate to establish guidelines prioritizing inclusivity, fairness, and transparency. Moreover, continuous monitoring and adaptation of these guidelines are necessary to keep pace with the normal pace of AI technologies and their impact on education.



Integrating AI in education with a thoughtful and responsible approach can empower learners, educators, and educational institutions to thrive in the rapidly evolving 21st century. In short, AI is here to stay in this modern era of the Industrial Revolution 4.0, where all human activities are integrated with information technology (IT), be it in service or activities. Thus, it is time for AI to be viewed as a boon, not a bane.

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