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Students and Artificial Intelligence

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Abstract. This study aims to conduct a literature study on the influence of Artificial Intelligence (AI) on students. In today's digital age, AI has played an essential role in various aspects of human life, including Education. Students are a group that is directly affected by the development of AI technology. Therefore, this study aims to identify and analyze the impact of AI on students, both in terms of learning, skill development, well-being, and challenges that may be faced. This research uses a literature study approach. Data and information will be collected through literature searches from academic sources and related research related to the use of AI in student education. The relevant data will be systematically analyzed and synthesized to understand this topic comprehensively. This research is expected to provide insight into the influence of AI on college students and provide a better understanding of the benefits, challenges, and implications of using AI in Higher Education. The results of this research can be a foundation for developing better strategies for integrating AI technology in student learning environments. With the increasing presence of AI in Education, it is essential to understand its impact on college students. This literature study will provide a comprehensive overview of the benefits of AI for college students, such as increased access to resources, personalized learning, and technology skills development. However, privacy concerns, ethics, and access inequality also need attention. The results of this research are expected to provide insights for educational institutions to integrate AI wisely and effectively in the student learning experience. A limitation of this study is the reliance on existing literature studies. The study did not include primary data or students' direct experiences related to AI. Therefore, advanced research with different methods, such as surveys or interviews, can be needed to complete the understanding of the influence of AI on college students.

Keywords: Students; Artificial Intelligence; Education; Technology

INTRODUCTION

In today's digital era, Artificial Intelligence (AI) has become one of the increasingly important and widespread technologies in various fields, including Education. Artificial intelligence (AI) is defined as "the science and engineering of creating intelligent machines" (Mccarthy, 2007). AI refers to the ability of computer systems to perform tasks that require human intelligence, such as speech recognition, natural language processing, and decision-making. In the context of Education, AI has played an essential role in enriching students' learning experiences and changing the way teaching is done.

Students are a group directly affected by the development of AI technology. They are a digital generation that grew up in an era of information and communication technology dominating everyday life. As significant technology users, students interact with AI in various aspects of their lives, including educational contexts. Therefore, it is essential to understand that AI influences students and impacts learning, skills development, well-being, and the challenges it may face.

One of the positive impacts of AI on students is increased accessibility to educational resources. With AI, students can access various learning materials online and join distance learning programs more efficiently. This opens the door to more inclusive learning opportunities, especially for those with geographical or physical limitations. AI knowledge aims to help students understand the basic ideas of artificial intelligence (Kim et al., 2021).

Developing technical skills is also one of the essential aspects influenced by AI for students. In an AI-driven digital era, students need to have adequate understanding and technological skills to face the changing demands of the world of work. AI can provide opportunities for students to develop programming skills, data analysis, and an understanding of algorithms.

However, the use of AI in Education also poses some challenges. One of them is the issue of privacy. In collecting and analyzing student data, it is necessary to ensure that data privacy and security are maintained. It is important to ensure unauthorized parties do not misuse or access students' data. In addition, ethics is also an important concern in the use of AI in Education. It is important to consider the ethical implications of using AI, such as algorithm bias, fairness, and transparency. AI should be based on clear ethical principles to protect students' interests and ensure that decision-making is not discriminatory or unfair.

Another challenge that needs to be addressed is the inequality of access to AI

technology. While AI can provide substantial benefits to students, there is a risk of inequality in its access and utilization. Students from low economic backgrounds or remote areas may face barriers to accessing advanced AI technology. Therefore, efforts must be made to reduce access gaps and ensure inclusivity in using AI in Education. Learning in the AI era will be student-centred, and students will dominate learning activities (Chang & Lu, 2019; Fu, 2020).

A literature study on the influence of AI on students will provide important insights for educational institutions to integrate AI effectively. By understanding the benefits and challenges associated with using AI, institutions can develop appropriate strategies to maximize the potential of this technology in enhancing the learning experience.

Through this research, it is hoped that the understanding of the influence of AI on students can be expanded. The findings of this study could provide a foundation for developing policies, guidelines, and best practices in integrating AI in educational environments. Thus, this research has important implications for developing innovative and adaptive education systems in the face of the challenges and opportunities offered by the development of AI technology.

This research aims to identify and analyze the impact of AI on students, both in terms of learning, skill development, well-being, and challenges that may be faced.

METHODS

This study is a literature review that uses a descriptive qualitative research approach using library research. The purpose of this study is to describe the relevance or relationship between several concepts or topics contained in the literature under study. Data and information will be collected through literature searches from academic sources and research on the use of AI in student education. In this literature study research, the author refers to various written sources, such as articles, journals, and books, that are relevant to the study topic. The author uses these sources to gain a comprehensive and in-depth understanding of the studies conducted in this study. Relevant data will be systematically analyzed and synthesized to understand this topic comprehensively.

RESULTS AND DISCUSSION

Use of Artificial Intelligence in Education

Education is the main foundation that is very important in advancing and developing the nation's next generation in the future. To achieve this, collaboration from all parties and effective regulations are needed to improve the quality of Education and teaching (Dito., &; Pujiastuti, 2021).

Educational institutions must adapt by adjusting and developing learning implementation techniques and considering suggestions and agreements from academics. In addition, educational institutions also need to provide training to educators to improve their knowledge and skills related to AI. Cooperation with industry also needs to be established by educational institutions to provide facilities that support the use of AI (Sudirman, 2023).

Using AI in Education creates new opportunities, fully untapped potential, and new challenges in educational practice (Ouyang &; Jiao, 2021). AI in Education aims to significantly advance learning techniques through real-world trials and the development of standardized modular prototypes in statistical reasoning, data visualization, and learning analysis (Alam, 2021).

Artificial Intelligence programs with chatbot types are considered a very promising technology in advances in Education. UNESCO also affirmed this view in its "AI and Education: Guidance for Policy Makers, " published in 2021. However, within about two months of the publication, some academics have found that around one in five students in Australia use ChatGPT fraudulently to complete their assignments (Cassidy, 2023).

Identify And Analyze The Impact Of AI On Students In Terms Of Learning, Skills Development, And Well-Being.

Over the past few years, communication and information technology through computers have experienced rapid development. This progress then impacts the development of artificial intelligence (Meria et al., 2021).

Education today requires innovation and creativity in the implementation of the learning process. Artificial intelligence's advancement in Education has facilitated various daily activities, including the teaching and learning process (Tjahyanti., Saputra., &; Santo, 2022).

According to Zsolt (Masduki et al., 2020), Artificial Intelligence (AI) is a term used in

industrial Society 4.0 of Society 5.0, the concept to remember this term is a computer program, machine learning, hardware and software. AI is a science used to build intelligence using hardware and software solutions.

AI is a technology that aims to make computers like human reasoning. That will accelerate the transformation of the digital industry. Whether humans, animals, plants, computers, tools, rocks, rocks, lakes, buildings, or whatever people think (Sharma, 2021).

In research (Rusilowati, 2019), the era of *artificial intelligence* requires Alpha generation students to be accustomed to higher-order thinking. They are expected to be accustomed to answering questions about why, how, and what can create. The learning model is also chosen to familiarise children with activities like experiencing, interacting, communicating and collaborating. Thus, students will get used to asking questions, expressing opinions, and presenting the results of their work without fear and awkwardness. However, character cultivation must still be considered to shape the Alpha generation into polite, wise, and confident people.

The involvement of Artificial Intelligence in the community realm is already very large, so the development of Artificial Intelligence will touch the education sector and affect the education system in schools, where educational technology will further develop (Astagia, R et al., 2022). Teacher competence in involving technology in learning certainly requires full support from the government (Masduki et al., 2020). So in line with research (Pratikno, 2017), The application of artificial intelligence in the world of Education will bring breakthroughs for the application of science and technology-based learning, especially in the 21st century. The competence of parents and teachers in understanding the development of Science and Technology (IPTEK) can be trained and improved by artificial intelligence technology. Therefore, it is hoped that this research will trigger the emergence of innovations in the field of Education.

ChatGPT is one of the AIs used by students and can also be used to support deeper learning and better student learning outcomes. In doing so, we offer commentary that offers opportunities for practitioners and research potential for scholars (Crawfod., Cowling., Allen, 2023).

Strict scrutiny of the use of this technology is required to ensure that inappropriate or unethical content is not shown to students. In addition, protecting the privacy and data security of students using this technology must also be prioritized. Overall, the use of GPT Chat technology in the context of Education has great potential to improve the quality of teaching and learning. However, challenges related to using this technology must also be handled properly to be utilized optimally and not negatively impact the educational process (Arifdarma, 2023).

In educational operations, AI will be both a reformer and a facilitator, changing the characteristics and division of labour. AI will replace some professions, and other professions will change (Nature, 2021). Intrinsic motivation and competence for learning with chatbots depend on teacher support and student expertise (i.e. independent learning and digital literacy), and teacher support satisfies the need for connectedness, and less satisfies the need for autonomy (Chiu., Moorhouse., Chai., Ismallow, 2022). It can potentially provide important insights into AI learning for pre-college teens (Greenwald., Leitner., Wang, 2021). Students are intrinsically motivated to pursue further AI learning (Qi Xia, 2022).

Research that has been evaluated shows that machine learning has been accepted and implemented in teaching contexts and has provided significant advances in various industries. Notably, the use of artificial intelligence in teaching has proven effective, especially in management and teaching, and its impact has subsequently been felt in student education. The administration of learning activities has become more efficient thanks to artificial intelligence, such as assessing student work using web-based systems and automation of feedback on assignments and other tools. To help students learn more effectively, the application of artificial intelligence in Education has included the development of learning programs and materials and teaching techniques that utilize online platforms, video conferencing, 3D technology, virtual reality, and robots. This has led to an increase in academic success rates for pupils thanks to the presence of more competent educators (Cheung., Phusavat, K., &; Yang, 2021).

Artificial Intelligence-based online learning portals can improve student learning outcomes (Pardamean et al., 2022).

Challenges Faced

AI is a very promising field that can be used to deal with technological barriers and challenges that are increasingly complex when associated

with applications in the field of Education. Challenges can be identified based on three categories: Engineering, teachers and students, and social ethics.

Artificial intelligence is used in Education in many ways and purposes, significantly impacting the effectiveness and administrative operations in that field. Artificial intelligence allows educators or instructors to become more effective in carrying out their tasks, such as conducting assessments of students and getting feedback from them. The smart and flexible web-based teaching platform has integrated features that provide assessment guidance to instructors, making grading student work and providing critiques easier. Programs like Knewton also provide built-in functionality for instructors to measure effectiveness and value and provide student input to encourage continuous learning development (Manongga et al., 2022).

Thus, similar capabilities and features accessible through these programs provide instructors with the necessary tools to measure learning effectiveness and provide feedback to students, fostering continuous development in the teaching-learning process.

In the study (Huang., Saleh., Liu, 2021), the challenge faced is the gap in Education by technology and internet access. In addition, ethical and security issues arise from the use and dissemination of data. Another challenge is helping teachers prepare themselves for teaching with the help of AI, so teachers must master learning skills using AI. Fourth, changes in learning styles have high requirements for students' independent learning abilities.

AI has already made its way into the field of Education, becoming a crucial element in its development. The incorporation of AI technologies has proven to be strategic and essential. AI is being utilized as a digital assistant, providing valuable support to educators and students. One significant benefit is the ability of AI to offer personalized learning experiences by tailoring access to diverse educational resources based on individual learning needs and subject areas. However, it is important to acknowledge that AI advancements also bring certain risks, including safety, security, and privacy concerns. Consequently, AI technologies positively and negatively impact the education sector.

Based on the literature studies conducted, it can be concluded that AI has great potential to improve students' learning experience. Students can benefit from AI, such as personalized learning and technology skills development. However, it is also necessary to consider privacy, ethics, and access gaps. The integration of AI in Education needs to be done wisely and effectively to maximize its benefits.

CONCLUSION

AI in Education has great potential to enhance students' learning experience and aid their skill development. AI can be used in various ways, such as developing personalized learning programs, using chatbots to support learning, and using intelligent online platforms. AI in Education can improve administrative efficiency, such as student assessment and feedback, and guide instructors. Some challenges need to be overcome in implementing AI in Education, such as internet access gaps, data privacy and security issues, and the need for teachers to master AI skills. Protecting student data privacy and security using AI technology needs to be a significant concern. AI technology in Education should be closely monitored to prevent misuse and unethical use. The development of AI in Education requires cooperation between educational institutions, academia, government, and industry. The application of AI in Education needs to be done wisely and effectively to maximize its benefits and overcome potential negative impacts. Overall, the use of AI in Education can bring significant positive changes in learning techniques, administrative efficiency, and skill development of students. However, ethical challenges and issues related to the use of this technology need to be considered to optimize its benefits and safeguard students' interests.

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