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The advantages and disadvantages of using higher education students' Artificial intelligence.

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الملخص

مع تزايد انتشار الذكاء الاصطناعي في حياتنا اليومية، فإن تأثيره على التعليم يستدعي كلاً من الرغبة الشديدة والحذر. يعتقد كثير من الناس أن الذكاء الاصطناعي يوفّر فرصًا كبيرة للتعلّم المخصص، ويسهّل المهام الإدارية، ويقدّم أساليب جديدة للتدريس. ومع ذلك، لا تزال هناك مخاوف بشأن الخصوصية والعدالة وإمكانية استبدال وظائف التدريس التقليدية. وقد وجدت دراسة أجراها مجلس التعليم الرقمي أن 86% من الطلاب يعترفون باستخدام الذكاء الاصطناعي في دراستهم. تبحث هذه الورقة في الآثار التعليمية الإيجابية والسلبية لاستخدام طلاب التعليم العالي لأدوات الذكاء الاصطناعي (AI) في التعلّم. ومع تزايد دمج الذكاء الاصطناعي في البيئات التعليمية، يجب على أصحاب المصلحة فهم كلٍّ من الفوائد المحتملة والتحديات التي يطرحها. واستنادًا إلى الأدبيات الحديثة والاستبيانات ودراسات الحالة، يحدّد هذا البحث مزايا رئيسية مثل التعلّم المخصص والكفاءة الإدارية بالإضافة الى عيوبًا كبيرة، بما في ذلك مخاوف النزاهة الأكاديمية وتجميد العقل البشري في التفكير والابداع. كما تُقدَّم توصيات للسياسات والممارسات.

Abstract

As artificial intelligence becomes more common in our daily lives, its effect on education calls for both enthusiasm and caution. Many people believe that AI offers great opportunities for personalized learning, making administrative tasks easier and bringing new ways to teach. However, there are still worries about privacy, fairness and the possibility of replacing traditional teaching jobs. A study by the Digital Education Council found that 86% of students admit to using AI in their studies. This paper explores the positive and negative educational effects of higher education students using AI tools in learning. As AI becomes increasingly integrated into educational settings, stakeholders must understand both the potential benefits and the challenges it poses. Drawing on recent literature, surveys, and case studies, this research identifies key advantages such as personalized learning and administrative efficiency and significant disadvantages, including academic integrity concerns and the stop of human thinking and creativity. Recommendations for policy and practice are offered.

Keywords Artificial Intelligence, higher education, advantages, disadvantages.

Introduction

Technology continues to develop rapidly, its adoption is widening, and AI presents significant opportunities to raise the quality of education to a level that our standardized curriculum and testing systems have not been able to achieve. AI can process far more information than a human can and perform tasks faster. Consider, for example, curriculum software developments; these capabilities of AI have been used to create programs that can adapt to each student's unique circumstances.35 Adaptive learning solutions36, for instance, personalize lesson plans to an individual student's existing knowledge, learning preferences, and progress in order to deliver the right content, at the right time and in the best way, to the student. Artificial Intelligence (AI) is a transformative force in higher education, reshaping how knowledge is imparted, acquired, and managed. As institutions navigate an era defined by rapid technological innovation, AI emerges as a pivotal tool to enhance student engagement, optimize administrative tasks, and democratize access to education. Its applications range from intelligent tutoring systems and predictive analytics to adaptive learning technologies, which tailor educational experiences to individual learners' needs [1].

AI has introduced new paradigms that challenge established pedagogical models [2]. Moreover, personalized learning, enabled by AI-driven platforms, enables students to engage with material in a manner tailored to their peculiar learning styles and paces. Intelligent systems like Carnegie Learning adapt to students' performance, identifying weaknesses and adjusting content to optimize outcomes [3]. Artificial intelligence is the technological future that happens to make the lives of human beings a lot easier. It is a booming technological domain capable of altering every aspect of our social interactions [4]. Artificial intelligence is currently progressing at an accelerated pace, and this already impacts on the profound nature of services within higher education. For example, universities already use an incipient form of artificial intelligence. In the sector of education, artificial intelligence provides the potential of changing the way of teaching and learning, where artificial intelligence customizes learning by adapting the content to satisfy the individual needs of students. Also, it can automate the administrative tasks, such as grades and tabulation, and allows teachers more space to focus on regulations. Furthermore, artificial intelligence can contribute to determining students' behavioral patterns which, in turn, allows teachers to intervene as early as possible when students have problems. Therefore, it contributes to improving the total quality of education and enhancing the students' learning experience [5. Information technologies, particularly artificial intelligence (AI), are revolutionizing modern education. AI algorithms and educational robots are now integral to learning management and training systems, providing support for a wide array of teaching and learning activities [6].

It has no doubt that Artificial Intelligence in education is gaining popularity among teachers and students. Educators use AI in the form of EdTech tools to aid them in creating lesson plans or computing students' grades while as for the learners, AI can assist them to accomplish their projects, homework, and even research papers. While we can't deny that Artificial Intelligence in 2028 is becoming a part of our lives now, there are still a couple of pros and cons of AI that need further attention and are still up for discussion.

Currently, the world is witnessing several rapid changes that are driven by knowledge as well as scientific and technological advancement. These developments enhanced the human abilities to generate knowledge, innovate new technological applications, restructure institutions, and

apply knowledge in the various domains of life. Artificial intelligence (AI) was introduced as a pioneer technique that can create a revolution in several domains of the human life, including the domain of education.

AI has been seen to have already begun initiating new teaching and learning solutions that are currently under trial and undergoing restructuring in different contexts [4]. AI requires advanced infrastructures and an ecosystem of thriving innovators. We are, therefore, on the threshold of a new era in the way of learning. In this age of big data and digitalization, we happen to all discover that individual information footprints are left behind, which results in a myriad of data, which eventually allows human and societal behavior to be objectively quantified and measured.

Artificial intelligence will only add value to the quality of training. There have been lots of arguments around the development of artificial intelligence as having more potential to change higher education than any other technological advancement. For instance, [7] have listed the following goals for AI in higher education increase outcomes, increase access, lower cost, decrease time to completion

The study problem

Using artificial intelligence in education has become increasingly prevalent in the world. In the near future, the patterns of traditional education in classrooms and lecturing halls will be replaced by robots and artificial intelligence components in order to satisfy the individual needs. Also, an increasing percentage of students will benefit from using adaptable robots, and teachers will enjoy the advantages offered by the techniques of artificial intelligence [8].

Furthermore, using artificial intelligence in teaching has the potential of reducing face to face teaching, where learners can acquire knowledge anytime and anywhere. Independent learning can help students acquire knowledge while being at home which, in turn, results in missing school and academic communication. This could lead to a lack of social interaction and isolation, which ultimately leads to a lack in social cohesion in the community on the long run [9]. Even though artificial intelligence can lead to a revolution in education by improving the results of learning and enhancing the students' experience, there are more concerns about its adverse effects on students.

The Study Objectives

The study aims to:

- Determine the advantages and disadvantages of using artificial intelligence in teaching inside universities.

- Evaluate the students' perceptions about using artificial intelligence in teaching.

The Study Questions

− what are the advantages and disadvantages of using artificial intelligence in teaching inside universities?

− what are the students' perceptions about using artificial intelligence in teaching?

The structure of research:

This research paper is structured as follows. Section 2. Literature Review, with section 3. Case study, While Section 4. advantages and disadvantages of artificial intelligence in high education, Section 5 The recommended for using AI in higher education. Finally, Section 6 conclusion the paper.

2-Literature Review

AI is a subfield of computer science dedicated to understanding human thought processes and recreating their effects through information systems. The primary goal of AI is to create intelligent systems that are capable of intelligent behaviors, including learning, reasoning, problem-solving, perception, and creating. Typical examples of AI technologies include expert systems, neural networks including machine learning and deep learning techniques, fuzzy logic, genetic algorithms, and intelligent agents [10]. Scholars often distinguish between strong and weak AI [11]. Strong AI, also known as artificial general intelligence, possesses a broad spectrum of human capabilities, including communication, reasoning, and emotional responses, and is capable of multiple tasks**.** The field of education especially lends itself to AI technologies since educational activities, including learning and teaching, are knowledge-intensive cognitive activities, and AI applications, which are created for cognition and problem-solving based on algorithms and knowledge base, can effectively support and augment educators' and learners' abilities in teaching and learning. Since the advent of AI in the mid-1950 s, AI technologies have been increasingly applied to facilitate education and training in various subjects, including language, STEM (science, technology, engineering and medicine) [12]. To date, AI in education applications are developed to support teaching and learning activities such as content preparation and dissemination, interactions and collaboration, and performance assessment.

Despite existing review studies on AI in education research, there is a need for a comprehensive review of the up-to-date literature to gain insights into the conceptual structure of the field. First, the majority of the existing review focuses on AI in education applications and their characteristics [13].AI in education can contribute to collaborative learning by supporting adaptive group formation based on learner models, by facilitating online group interaction or by summarizing discussions that can then be used by a human tutor to guide students towards the aims and objectives of a particular course. These developments are sometimes described as 'modern' AI to differentiate them from earlier applications of computer-based learning, perhaps inaccurately described as AI previously. However, there is currently little evidence of a major breakthrough in the application of 'modern' AI to teaching and learning in higher education, with the exception perhaps of learning analytics.

Although concerted efforts have been made over the last two decades to promote, develop and update the digital skills of instructors, researchers and administrators, the challenges now seem to be much more complex. In the last few years, one of the most interesting developments observed in the evolution of AI has been the diversification of new interfaces [14]. They extend far beyond the keyboard and mouse, allowing users (especially non-expert users) to interact with AI simply by using voice or image recognition. This makes the interaction with advanced systems more transparent and creates possibilities for users with lower levels of skills to benefit. Therefore, practical and realistic ideas and recommendations about further research

and work in the emerging field of artificial intelligence and higher education will be made at the end of this paper, in addition to highlighting its benefits and challenges.

3.Case study

In this research paper, we study a case in which students use artificial intelligence and illustrate the impact of AI on higher education students in their studies. A sample of students from a university was taken, about 100 students from one of the colleges, in a programming language course. It was found that most of the students, about 80%, use artificial intelligence. This was observed when the teacher assigns homework; we find that all students' answers are similar to each other and originate from artificial intelligence. Also, when the teacher asks a question during the lecture, many students immediately search for the answer through AI. This, consequently, affects their academic achievement, as they rely entirely on AI in their studies, leaving no room for the student to think, discuss, be creative, or develop independently, with full dependence on artificial intelligence. However, there is also a negative impact of artificial intelligence on students that must be considered. Overreliance on AI tools can lead to reduced critical thinking and problem-solving skills, as students may depend too heavily on automated assistance. Furthermore, AI systems may unintentionally introduce bias or limit creativity by focusing on data-driven learning paths. The lack of human interaction and emotional support in AI-driven education also poses challenges to students' social and emotional development. These concerns highlight the importance of balancing technology with traditional, human-centred teaching approaches.

4. advantages and disadvantages of artificial intelligence in higher education

As artificial intelligence continues to integrate into various sectors, its application in education is both celebrated and scrutinized. While AI holds significant potential to transform learning experiences, it also presents several disadvantages that need careful consideration that must be addressed to ensure a balanced and effective learning environment.

4.1. advantages of AI in higher education.

Enhancing Student Performance

Another significant pro of artificial intelligence in education is that it can help enhance student performance with increased feedback. AI-powered systems can evaluate students’ progress, provide them with targeted feedback, and identify areas where they need improvement. Moreover, AI can monitor students’ behavior patterns, assess their attention levels, and determine if they need additional assistance in certain subjects.

Improved Student Engagement and Motivation

The use of AI applications in teaching can enhance the learning experience in many ways such as personalized learning and instant feedback.

Low-cost education

The use of artificial intelligence in education can also reduce the cost of education from the perspective of the educational institution, and significantly so if it is used to its full potential.

It can provide tutoring instead of enrolling in expensive courses. Likewise, in less time, you can get the information you want without any effort.

4.2. disadvantages of AI in higher education.

Dependence On Technology

Another major concern is the growing dependence on technology that AI in education fosters. As educational institutions increasingly rely on AI-driven tools for teaching, assessment and administrative tasks, there is a risk of becoming overly dependent on these technologies. This dependence can lead to significant disruptions in the event of technical failures or cyber-attacks. Furthermore, it may also diminish the development of critical thinking and problem-solving skills among students, as they may become accustomed to AI systems providing answers and solutions.

Data Privacy Concerns

One of the primary disadvantages of AI in education is the issue of data privacy. AI systems often require vast amounts of personal data to function effectively, including students' academic records, behavioral data. This extensive data collection raises significant concerns about how this information is stored, used and protected. Inadequate safeguards can lead to data breaches, exposing sensitive student information to unauthorized parties.

Lack of Human Interaction

The lack of human interaction is a critical disadvantage of AI in education, leading to a dehumanized learning experience. Traditional education relies heavily on human interaction, with teachers providing not only academic instruction but also emotional support and mentorship. AI systems, while efficient, cannot replicate the empathy, understanding and personal connection that human educators offer. This absence of human elements can affect students' social and emotional development, as well as their overall engagement and motivation in the learning process.

Teacher Job losses

The rise of AI in education brings the concern of teacher job displacement. As AI systems take on more roles traditionally filled by educators, there is a fear that teachers may become obsolete. Automated grading, AI-driven tutoring, and administrative tasks handled by AI could reduce the need for human teachers, leading to job losses and a devaluation of the teaching profession. While AI can certainly support and enhance educational practices, it is essential to balance its implementation to ensure that teachers remain integral to the educational process, providing the human touch that technology cannot replace.

AI effect in education negatively

AI can impact education negatively by reducing the level of human interaction between students and teachers, which is essential for emotional support and social development. Overdependence on AI tools may lead students to rely less on critical thinking and creativity, as automated systems often provide quick answers without encouraging deep understanding. In some cases, AI systems can introduce bias or reinforce existing inequalities if the data used

to train them is not diverse or fair. These issues highlight how AI affects education negatively, especially when it's used without proper oversight or balance with traditional teaching methods.

5-The recommended for using AI in higher education

-AI should support learning, not replace thinking.

-institutions should teach students how to use AI responsibly, by issuing regulation and systems that govern how to interact with AI, rather than banning it.

-Understanding ethical and privacy concerns

-Institutions should Integrate AI tools into coursework and discuss the impact of AI on professions and society

6-Conclusion

In general, while university students have a positive view of the potential benefits of using artificial intelligence in education, there are concerns about the possible impact of AI on education. There are also further concerns about the potential effect of social intelligence on traditional educational roles, the accuracy of AI recommendations, the loss of human interaction in the classroom, as well as students losing the ability to think and be creative, relying entirely on artificial intelligence. Therefore, educational institutions should evaluate the costs and benefits associated with using AI and provide the necessary training and support for teachers and students on using AI-based educational tools. It is also essential to address the legal and ethical issues related to the use of AI in education, such as privacy and data security.

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