**TITLE-** IMPACT OF ARTIFICIAL INTELLIGENCE ON EDUCATION

**AUTHORS-** Dr. Natasha Verma1

Assistant Professor, School of Health Sciences, Department of Physiotherapy, Garden City University, Bengaluru, Karnataka, India1

**ABSTRACT**

Artificial Intelligence (AI) has emerged as a powerful tool with the potential to revolutionize various industries, including education. This research paper aims to explore the role of AI in education, its impact on teaching and learning, as well as its advantages and disadvantages. By leveraging AI technologies, educational institutions can personalize learning experiences, improve administrative tasks, and enhance student engagement. However, ethical considerations and the potential for job displacement must also be taken into account. This paper concludes by highlighting the transformative potential of AI in education while emphasizing the need for responsible and thoughtful integration.

Keywords: Artificial Intelligence, education, learning, personalized learning, student engagement, administrative tasks, ethical considerations, job displacement.

**INTRODUCTION**

The 2018 Horizon report states that experts believe the application of AI in education would increase by 43% between 2018 and 2022(1). According to a survey by Research and Markets, the global AI education market reached $1.1 billion in 2019 and is anticipated to grow to more than $25.7 billion by 2030(2). The psychologists B. F. Skinner, known as the father of behaviorism and a professor at Harvard University from 1948 until his retirement in 1974, and Sidney Pressey, a professor at Ohio State University in the 1920s, are the forerunners in the application of AI in education (3).

**AI ON EDUCATION**

The International Artificial Intelligence in Education Society (AIED) is a multidisciplinary group at the cutting edge of computer science, education, and psychology. It was founded on January 1st, 1997, and was called as the International AIED Society. It brings scholars together through hosting the AIED conference series and the International Journal of AI in Education (IJAIED). In general, there are four categories of AIED, including profiling and prediction, assessment and evaluation, adaptive systems, personalization, and intelligent tutoring systems. These categories are found in academic support services, institutional services, and administrative services. Both novel and derived ideas are used in the field of AI. The rapidly developing field of artificial intelligence has begun to alter educational resources and organizations (4).

Artificial intelligence is a new technology that has begun to alter educational resources and organizations. The ideal educational practice in the sphere of education is the requirement for teachers' presence. The introduction of artificial intelligence alters the role of teachers, who are important to the educational system. For tracking a specific person's pace relative to others, AI mostly uses sophisticated analytics, deep learning, and machine learning (5).

The advancement of AI solutions makes it easier to spot where there are gaps in teaching and learning and raises educational standards. Artificial intelligence has the potential to enhance efficiency, personalize learning experiences, and streamline administrative tasks in education. By leveraging AI technology, teachers can save time and gain the freedom to focus on providing understanding and adaptability, which are uniquely human capabilities that machines struggle to replicate. The collaboration between machines and teachers can lead to optimal results for students, maximizing their learning outcomes (5) (6).

**ADVANTAGES OF AI ON EDUCATION**

Young people today often spend a lot of time on their smartphones or tablets. They can use AI applications to study for ten to fifteen minutes during their downtime as a result. Gesture Recognition Technology combined with AI aids in understanding the student's state of mind or comfort during lectures. As AI becomes more powerful, it can now analyze a student's facial expressions or hand movements to determine whether they are having trouble understanding the lecture and can then adjust the lesson so that they can easily follow along (6).

AI can adapt educational content and teaching strategies to cater to the individual needs and learning styles of students. It provides personalized learning experiences by analyzing data on students' strengths, weaknesses, and preferences. This enables tailored instruction and helps students to learn at their own pace (7). AI-powered tools and technologies, such as gamification, virtual reality, and chatbots, can significantly enhance student engagement by making learning interactive and immersive. These tools create interactive and stimulating learning environments, increasing student motivation and interest in the subject matter (8). AI-powered intelligent tutoring systems can provide immediate feedback and personalized guidance to students, promoting mastery of concepts and improving learning outcomes. These systems can adapt to individual learning needs and provide targeted support, helping students overcome challenges and improve their performance (9).

A report by UNESCO in 2019 reported AI can automate administrative tasks, such as grading assignments, managing attendance, and generating reports, allowing teachers to focus more on instruction and student support. This automation saves time, reduces manual workload, and increases administrative efficiency (10). AI can analyze large volumes of educational data, including student performance data, learning patterns, and feedback, to provide valuable insights for educators. These insights can inform data-driven decision-making, enabling teachers to identify areas for improvement, develop personalized interventions, and optimize teaching strategies (11).

**DISADVANTAGES OF AI ON EDUCATION**

Although AI presents significant opportunities, it also brings potential risks. AI has the potential to be either the greatest asset or the greatest threat to humanity. While AI can enhance teaching and learning in higher education, it is important to consider the emerging ethical implications and associated risks that arise with the development and implementation of AI applications. The use of AI in education raises ethical concerns regarding data privacy, security, and algorithmic bias. There is a need for transparency and accountability in the collection, storage, and use of student data to ensure privacy rights are protected (10,11).

AI-based educational systems may lack the human touch and emotional intelligence that human teachers provide. The absence of personal connection and empathy may hinder the development of social and emotional skills in students (12).

**CONCLUSION**

Artificial intelligence offers immense potential for transforming education, providing personalized learning experiences, improving administrative efficiency, and enhancing student engagement. However, careful consideration must be given to the ethical implications and potential job displacement. Responsible integration of AI in education should prioritize human-centric approaches, leveraging AI as a complementary tool to augment the role of educators and foster the development of critical thinking skills. By embracing the transformative power of AI in education, we can create a future where learning is more accessible, engaging, and tailored to individual needs.

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