

ADAPTING ARTIFICIAL INTELLIGENCE IN EDUCATION SECTOR: AN IMPACT ANALYSIS

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ABSTRACT

This paper made a modest attempt to give an insight in Artificial intelligence in education sector and its impact on education and the improvement it contributes to education sector. The goal of education is to develop the students holistically and ensuring quality delivery to the student community. Artificial Intelligence (AI) has a capability to address some of the biggest issues and challenges in education today. It helps to innovate teaching and learning processes. Many scholars believe that the role of teachers, school and leaders in education will Change. However, instantaneous technological progress possess different challenges and risks. AI became an integral part of our lives and education is no exception. In 2024, AI technologies are restructuring the academic environment, offering extraordinary opportunities. It is observed that AI is helpful in analyzing students' performances, better guidance, and platform for improvement. Teachers and educators found that AI is helpful making their job easier and spend more productive time with the students. AI is also helpful in connecting teachers and student across the borders and making learning process wider.

Keywords: Artificial intelligence, education, achievements, risks.

INTRODUCTION

Artificial intelligence in education offers potential opportunities and advantages but also it carries drawbacks and challenges. Artificial intelligence developed over the past 50 years and It has the capacity to perform works traditionally requiring human intelligence, such as perceiving, reasoning, learning and interacting. The development of AI has resulted in a form of advancement and innovations that have an influence on many aspects of human life. As a foundation of communal development and individual, education has had a noteworthy advantages through Artificial intelligence. Some of the very useful and universally used AI tools Chat GPT. After the release of ChatGPT the AI took attention of the student community throughout the world. The advanced writing and comprehension abilities of ChatGPT astonished the people. The birth of AI started from 1950-1956, when Alan Turing published his work “Computer Machinery and Intelligence”, which became the Turing Test, which experts used to measure computer intelligence. In 1952 computer scientist Arthur Samuel developed a program to play checkers, which is first to ever learn the game independently. The period between 1957-1980 was a period of rapid growth of AI research and 1980s labeled as the AI boom. This is because of lots of research on AI and additional government funding was allocated to support the researchers.

LITERATURE REVIEW

Firas (2024), in his paper titled “Explore the Impact of Artificial Intelligence in Teaching and Learning of Science: A systematic review of Empirical research” his paper examined the impact, perceptions, and challenges associated with the integration of Artificial Intelligence in the teaching and learning of science. The usage of AI in science education steadily established positive impacts on student learning outcomes. It encourages participation in the educational process enhances comprehension of the subject, and boosts motivation in the students. Both students and teachers showed positive views of AI effectiveness and ease of use. Both acknowledge its potential to boost learning experiences.

Firuz Kamalov et.al (2023), in their paper they reviewed and analyzed the current literature to better understand the potential effects of AI in education. They found that the advent of AI brings tantalizing possibilities and applications in the education sector. Its impact is multifaceted and holds the potential to revolutionize the way learning is delivered and experienced. The application of AI in education include personalized learning intelligent tutoring systems, assessment automation and teacher-student collaboration which can help improve learning outcomes efficiency and global access to quality education. The scalability of AI means that its benefits can be shared by large swaths of the society providing high quality education around the world.

Kyoungwon et.al (2021), analyzed in their paper on “The impact of artificial intelligence on learner-instructor interaction in online learning” their study found that most negative experiences came from

student' unrealistic expectations and misunderstandings about AI systems. The AI system's answer is nothing more than an algorithm based on accumulated data yet students typically expect the AI system to be accurate. These misconception can be barriers to the effective use of AI systems by students and instructors. To address this, it is important to foster AI literacy in students and instructor without a technical background.

Ahmet and Fatih (2020), in their paper on “Artificial Intelligence in Education and Schools” their results shows that schools and teachers will have new products benefit and also face drawbacks with the arrival of AI in education. The findings point out some suggestions for use of AI and prevention of possible problems. While participants generally seem to have positive perceptions towards AI there are also certain drawbacks especially highlighted by teachers and academicians, regarding the future of teaching. Lawyers and jurists tend to focus more on legal grounds for AI in education and future problems, while engineers see AI as a tool to bring quality and benefit for all in the education sector.

OBJECTIVES

1. To analyze impact of Artificial Intelligence in Education Sector.
2. To know the achievement and risks of Artificial intelligence in Education.
3. To give the policy recommendations.

RESEARCH METHODOLOGY

This paper has been analyzed using the secondary data from various Articles, Journals, News, Research Papers and the Government websites. Also from Published and Unpublished sources, Reports of UNESCO, Forbes.

ARTIFICIAL INTELLIGENCE IN INDIA

According to the IBEF (India Brand Equity Foundation) report reveals that India's fast adoption of Artificial Intelligence with among 65 percent of Indians surveyed and they used AI more than double the global average of 31 percent. The Global Online Safety Survey, conducted between July 19 and August 9, 2024, across 15 countries with 15,000 participant (teenagers and adults), found that India leads in AI adoption for tasks like translation, answering queries, improving workplace efficiency, and assisting students. Millenials (aged 25-44) are the most active users, with 84 percent reporting AI usage. In India parents awareness have shown increasing trend of their children's using digital tools compared to the previous year. Despite this enthusiasm, concerns persist, particularly about online abuse, deep-fakes, scams, and AI hallucinations, aligning with global worries. The report highlights that over 80% of

respondents are concerned about AI usage among children under 18. It was also noted that same percentage of teenagers have faced online risks. As AI grows in India, balancing its benefits with safety measures remains crucial.

ARTIFICIAL INTELLIGENCE: CURRENT TREND

The reports published by the National University in their Blog on “131 AI Statistics and Trends for 2025”, according to the report they state that AI has emerged as cornerstone of innovation, reshaping industries and altering the fabric of our daily lives. It is revealed that 77 percent of devices being used have some form of AI and 9 out of 10 organizations support AI for a competitive advantage, AI projected to contribute \$15.7 trillion to the global economy by 2030. By age about 30.8 percent of people age 61+ use this tech weekly, 14 percent of 41-60 year old use virtual assistant weekly, 25.3 percent of 26-40 year old use virtual assistant weekly, 29.9 percent of 18-25 year old use virtual assistant weekly. It is also revealed that 4 out of 5 people ages 18-25 have never used a large language model and 68 percent of non-users are Gen X or Baby Boomers. It is observed that men have slightly more awareness of AI than women and the virtual assistants are slightly more popular with men than women. Women use AI slightly more than men when looking at tech used a monthly basis, such as virtual assistants and wearable fitness trackers.

ACHIEVEMENTS IN EDUCATION USING ARTIFICIAL INTELLIGENCE

1. Personalized Learning

Artificial intelligence helps students individual learning in targeted domain where they struggle. It also helps in providing immediate assistance while working on assignments, projects and other study areas. Like, a student can ask “How do I solve for X?” and it will remind the steps to solve the equation and if students are asking to ChatGPT a same question multiple times, ChatGPT comes with different sets of answers each time, the same answers are not repeated. The AI tool ChatGPT can quickly translate materials to another language, it make easier for the students who speaks different languages.

2. Assistant to Teachers

Teacher's who have used AI, they found that it is helpful to make their job easier like lesson planning, student project ideas and creating quizzes. It provides intelligent tutoring systems can identify areas of weakness, provide targeted feedback and of recommendations for improvements. AI continuously monitor the learner's performances and helps to adjust content difficulty level. Intelligent tutoring system have proven highly effective in enhancing student outcomes.

3. Virtual Classrooms

AI is equipped with advance interactive features, it enabled virtual classrooms for video conferencing, chat functions, file sharing capabilities and interactive whiteboards. It also helps in integration of multimedia content, online assessments, instant feedback mechanisms can happen. Students can explore historical sites or dive into the depths of outer space through captivating visual simulations presented. Additionally, students can even connect with different educators and teachers around the world. This furnish students with unique perspectives and extensive understanding of the subject matter.

4. Student Progression

Artificial Intelligence analyzes vast amount of data and can predict students' future performance and reshape interventions to improve their success. With predictive analytic, educators can gain valuable insights into students' learning patterns, identifying trends and factors that impact academic performance. It also offers personalized recommendations for each student's learning journey. By understanding student's strengths and weaknesses teachers and educators can provide better guidance and ideas to improve their performances.

RISKS OF USING ARTIFICIAL INTELLIGENCE IN EDUCATION

1. Cheating Practice

The vast usage of Artificial Intelligence in education may lead to increase the cheating practices among students. They can use ChatGPT to write entire essays, answer quiz questions or the home works. But now there are AI programs are available which can detect the AI writing to help teachers to determine if their students are cheating. It is also possible that sometimes these apps falsely identify a students original works as plagiarism.

2. Inaccuracy

AI may generate misinformation by drawing the data with error and outdated. This will lead to spreading of misinformation. It is unknown to students and well as teachers that provided data by AI is accurate or not.

3. Soliteriness

After using AI the students can feel disconnected and isolated with a teacher being more dependent on AI. Their interaction will be more with a software rather than teachers. It is also observed that students' motivation and commitments may decrease which may lead to increase in the drop out rates.

4. Job Threat

Artificial intelligence has the potential to be learning tool which connects teachers and students from around the world and access the resources at wider range, Some teachers worry that AI will replace them.

RECOMMENDATIONS

- ✓ There should be certain measurement system when using artificial intelligence in education.
- ✓ Artificial Intelligence tools used in education should be tested with pilot applications and integrated into system according to their results.
- ✓ Preventive and supportive software should be developed.
- ✓ AI integration process should proceed in way that does not affect social relation adversely.

CONCLUSION

In this paper the researcher analyzed the current literature to understand better the potential impacts of AI in the education sector. It is observed from the above analysis that AI helps in individual learning process, assists teachers to make their job easier, provides virtual classroom facilities, student progression, these are the benefits AI provides in the education sector. AI is most famous among the student community for their study purposes, home works and assignments. AI helps the students to cover the vast knowledge within their place where they live. It also help them in connecting teacher-student communication around the world. Even though it has many positive sides, it has some negative effects too like Cheating practices which means that, if a teacher assigns home work or assignments to the students, they may easily get from the AI tool without any hard work for their studies, they easily get the resources and may not give them a mental work to think and write. However, there is technological development for a nation is important for the economic growth and individual growth. In the education sector how a guidance and motivation a teacher can give is not possible with AI alone. Students should grow ethically and intelligently with both hand in hand Artificial intelligence with ethical, emotional and empowered intelligence in needed.

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