

IMPACT OF AI ON THE TEACHING-LEARNING PROCESS

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pmtelgote@gmail.com***Abstract**

Artificial Intelligence (AI) is revolutionizing education globally by introducing personalized learning experiences, and it has definitely affected the teaching and learning process in our country. In India, we have many challenges, including overcrowded classrooms, unequal resource distribution, language diversity, unavailability of qualified teachers, and insufficient funding. Because of AI, we have an opportunity to address these gaps effectively. The integration of AI in education has the potential to create tailored learning pathways, accommodate diverse linguistic needs, and alleviate the workload on teachers, allowing them to focus on more advanced tools.

Keywords: *Artificial Intelligence, Dominant class, Revolution, Chaos, Teacher Roles, Indian Education, and legacy. Digital classroom, virtual teacher.*

Aim

This research paper aims to study the grassroots reality while applying AI in the teaching-learning process.

Method

A critical analysis method is applied in the present research paper.

Introduction

Education can bring vital changes in our society. We have a rich legacy of higher education dating back to ancient times. We had universities where many subjects were taught, and students from across the world came to our country to seek higher education. Today we have been in a chaotic situation. Though we are passionate about applying the new education policy in our country, the culturally dominant class and the ruling class are not ready to lose hold of the majority of Indian people. Along with big challenges, AI brings a revolution in the education system.

If we see the world canvas of education, we realize that there is a drastic change because of AI. AI has emerged as a transforming tool in the industrial sector, making production more accurate and efficient, and it also reduces the hard work of humans and does big tasks in a few minutes or hours. In the education system, it becomes an effective tool for teachers as well as students. AI can give multiple examples of anything, within a moment teacher of a student can find anything. In other words, it alleviated the burden of teachers. Virtual teaching assistants have further enhanced accessibility, offering support to students and reducing reliance on traditional classroom boundaries.

If we compare the condition of our education system with the education systems of developed countries, we observe many lacunas and loopholes

between the two systems. India's education system is one of the largest and most complex in the world, serving a population of over 1.4 billion people. Despite significant progress in increasing enrollment rates and literacy levels, the system has drawbacks such as large classrooms, a lack of qualified teachers, diversity of language, and government and private schools. IA can offer solutions for these challenges or drawbacks, but we are not potent enough to use AI in all classes across the nation. It is affordable in private schools and colleges, but public schools and colleges are lagging.

Definition of AI

An Artificial Intelligence (AI) in education refers to the application of intelligent algorithms and data-driven technologies to enhance the learning experience. By simulating human intelligence, AI systems can analyze vast amounts of educational data to identify patterns, make predictions, and customize learning experiences. These systems operate through machine learning algorithms, which enable them to adapt based on student inputs and outcomes.

AI-powered chatbots can simulate one-on-one tutoring by answering queries in real time, creating a personalized learning environment. It can be used as a data analytics tool to provide actionable insights to educators by identifying trends in student performance, enabling targeted interventions. A virtual teacher can offer very effective conversation tips and expected explanations in regional languages, also.

AI offers Adaptive learning Platforms like Byju's and Duolingo Adaptive Learning Platforms: These platforms utilize AI algorithms to tailor educational content to the pace, style, and strengths of individual learners. For instance, platforms like Byju's and Duolingo dynamically adjust the

difficulty level of questions and tasks based on real-time performance, ensuring an optimal balance between challenge and skill development.

Automated Grading Systems

The grading assignments and exams are time-consuming; AI makes it automated, which can assess MCQs, essays with full accuracy.

Role of Virtual Tutors

AI provides round-the-clock access, guidance, and support. It can explain concepts, offer practice exercises, and even simulate interactive dialogues to reinforce learning. The Squirrel in China and Carnegie in U. S. are famous examples of AI.

Utilization Of AI

AI has been used in streamlined administrative tasks; for example, scheduling, attendance tracking, and source management. It not only develops efficiency in an organization but also creates a good learning setup.

Use of AI In Education

In developed countries like the USA and China, AI has become an integral part of innovation in education. AI technology is used in STEM education to enhance students' engagement and performance. Box learning and ALEKS are well-known techniques. These techniques are very useful in teaching and learning Mathematics, Science, and languages. In China, the Government has been implementing AI-driven system to bridge the gap between rural and urban students. The students have been given free, affordable, and personalized education through AI. Countries like Japan, Britain, Canada, and many others have invested a lot in research on AI techniques to make it better than today. We lag in AI and changing policies are concerned.

The ground reality of the Indian Teaching-Learning Process

Though we have the second-largest country in population, but could not use our strength to face the challenges prevalent in our society. Our enrollment ratio in education is the highest in the world, but there are certain reasons that become a hindrance to our overall development. Yet we have been using the traditional lecture method in the classroom. The teachers are not trained to use the digital board, and it is a big question how many schools and colleges have at least 50 percent digital boards in their classrooms.

Large Classrooms.

In comparison to the classrooms of the developed countries, our classrooms are very large; in America and England, there are 20 to 25 students in a college classroom. In the degree colleges, we

have 120 students in each class. In such conditions, how can a teacher pay attention to every student? Even his voice is not audible to half of the classroom. How does a teacher deliver a quality lecture in such a large classroom?

Insufficient Resources

In India, we have a dual education system, one is public and another is private, and rural and Urban, which has created a lot of problems. Public and Rural schools and colleges have poor infrastructure, digital illiteracy, poor network access, a lack of qualified teachers, etc.

A barrier of Language

In our country, we come across linguistic diversity, along with 22 official languages, there are many dialects and pidgins. Most of the schools and colleges' study material is available in either English or Hindi. Language diversity affects the delivery of the lecture, and most students feel incompetent in their respective subjects. AI can solve this problem, but there is a need to rectify its importance.

Digital Issues

In Urban India, we witness a big transformation in the education system, yet rural and poor India is suffering a lot. The problems include a lack of electricity, power outages, poor internet connections, inadequate broadband services in rural areas, and schools and colleges are facing numerous challenges. Digital literacy increased slightly after COVID, yet we are not yet competent enough to apply it effectively.

Poverty Ratio

In India, most people live below the poverty line and cannot afford a mobile phone or a monthly recharge. Very few of them have a personal laptop. The poor boys learn in public school, and rich students a private schools and Colleges. Without addressing the poverty, we can use AI in our education system.

Lack of Ambitious political leadership

There is a need for bold initiative at the level of policy design and implementation. In our country, instead of increasing the budget for the education sector, it has been decreasing continuously for the last decade. Without the support of the Government, it is futile to hope for a drastic change in the education field.

Conclusion

India has a great legacy of education, and we have led the world in the kingdom of Emperor Ashoka. We had the world's universities like Takshashila and Nalanda, where students used to come across the world. We can regain our glorious legacy if we

work hard to make our education system potent enough to tackle any problem.

AI can definitely help bring massive change in our education system, but we should of a comprehensive model of education to address it. Instead of imposing a foreign model, we should develop our own model of education by considering the ground reality of our nation.

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