

A Study of Artificial Intelligence in Education System & Role of AI in Indian Education Sector

Dr. Padma C. Assistant Professor, Department of Commerce, Sivananda Sarma Memorial R V College, Bengaluru

Dr. Rama. C, Assistant Professor, (Guest faculty), Department of Education, Institute of Advanced Study in Education, (Autonomous) Chennai

Abstract:

Artificial intelligence (AI) is a branch of science that creates and studies machines aimed at stimulating human intelligence processes. The primary goal of AI is to improve the speed and efficiency of routine processes. As a result, the number of businesses adopting AI continues to rise around the world. The widespread use of technology in education is changing the way we teach and learn. Artificial intelligence is one of the disruptive techniques used to personalize the learning experiences of various learning groups, teachers, and tutors. This Paper explains how Artificial Intelligence can and is being used in the educational sector & current Role of AI in Indian Education Sector.

Key Words : Role of AI in Education System – Steps to Implement in AI – Emerging Technology

Introduction :

Artificial intelligence is a new technology that has begun to alter educational tools and institutions. Education is a field in which teachers must be present in order to provide the best educational practice. The introduction of Artificial Intelligence alters the role of teachers, who are indispensable in the educational system. For monitoring the speed of a specific individual among others, AI primarily employs advanced analytics, deep learning, and machine learning.

Artificial intelligence's impact as a powerful technology can be seen in a variety of industry verticals. This is true in the education industry all over the world. Artificial intelligence in education is being used in a variety of schools across the country. The use of AI in education has provided teachers, students, parents, and, of course, educational institutions with a completely new way of looking at education.

"The analysts forecast the Artificial Intelligence Market in the US Education Sector to grow at a CAGR of 47.77 percent during the period 2018-2022," according to Research and Markets.

Here are some statistics on artificial intelligence in education:

- ✓ In 2020, the market for AI in education will have surpassed \$1 billion USD. Between 2021 and 2027, it is expected to grow at a CAGR of more than 40%. (Source: Global Market Insights)
- ✓ By 2030, the artificial intelligence in education market is expected to generate \$25.7 billion USD in revenue.
- ✓ By 2023, the global AI in education market is expected to be worth \$3.68 billion USD. (Markets, Markets, Markets)

According to eLearning Industry, in the next three years, up to 47 percent of learning management tools will be equipped with AI capabilities. While AI-powered solutions have been around for a while in the EdTech space, the industry has been slow to adopt them. The pandemic, on the other hand, drastically altered the landscape, forcing educators to rely on technology for virtual learning. Now, 86 percent of educators believe that technology should be an integral part of education. AI has the potential to improve both learning and teaching, assisting the education sector in evolving to benefit both students and teachers.

How Can Artificial Intelligence Be Used in Education Sector?

We want to use artificial intelligence in your educational institution? We must first define our long-term goals and understand the limitations of the current system. Investing in AI will not be beneficial unless you know what we want to achieve. Then, we need to hire AI experts to bridge the talent gap or outsource the responsibility to a machine learning consulting firm. This ensures that our institution's goals and the company's services are aligned and in sync. Many well-known institutions, including Nuance (Massachusetts), Querium (Texas), Kidsense (California), and others, have successfully implemented AI models in their educational systems.

Identify Needs: What do we expect AI to do in our organisation? Which processes we are looking to automate? Which areas of training do we want to concentrate on?

Determine our Goals: Do we understand how artificial intelligence works? Do we understand the disadvantages of using AI systems? How do we intend to overcome the obstacles to implementing artificial intelligence?

Align Processes: The AI solutions you select should create the right environment for we organization's talent, technology, and work culture to be aligned. To make better decisions, we must transform your institution into an analytical-based model that focuses on actionable insights.

Artificial Intelligence's Role in Education:

Administrative Tasks Can Be Automated:

Is there a place where the backend work can be done without the administrative and teaching staff? From morning to evening, the administrative crew is hard at work, whether filing paperwork, sending emails and messages, contacting students and their parents, or compiling periodic reports.

Similarly, teachers and professors must grade homework, administer tests, plan lessons, prepare for upcoming classes, and so on. Do you realize that a teacher only spends around half of his or her time really teaching the students? Teachers spend only 43% of their time teaching, according to a story published by The Telegraph.

The remaining of the time is spent marking exam sheets, preparing future classes, and finishing administrative tasks. The AI consultant will help us to create an AI system that will allow both workers and teachers to be more productive at work. Teachers may utilize smart question generators like Prep-AI to help them create better exam question sheets while saving time.

Creating a Customized Learning Experience for Students:

Individualized learning is akin to the personalized recommendations provided by online marketplaces like Netflix. The courses and subjects are suggested depending on the students' interests and choices. Teachers are not replaced by AI in online learning. Instead, it aids teachers in comprehending each student's skills and limitations. It facilitates the creation of an individual course plan for each student by students and professors.

Smart teaching solutions can provide students with immediate customized feedback to help them understand how they can improve. Teachers can turn their teachings into interactive activities and flashcards to stimulate students' interest in studying the material.

Creating Insightful Content:

In the field of education, smart content is a major topic. It is nothing more than the digitization of textbooks and notes, the creation of video lessons and lectures, the creation of interactive practice sessions, and so on. In education, artificial intelligence aids in the creation of customization interfaces that allow students to learn more readily and comprehend concepts better. Smart content may be created for any subject and any class, whether it is at the primary or postgraduate level.

Micro learning and skills mapping are two examples of similar of learning. The act of developing a visual representation of the skills students need to succeed in their studies is termed as skills mapping. Micro learning is a skill-based learning module that focuses on individual topics in order to gain proficiency in a certain sector.

Breaking Through Geographical Barrier:

Online courses have enabled students from any region to participate in a course from any other country. In terms of online education, physical barriers between countries have been removed. Technology has enabled students to learn specialized skills from the best teachers, regardless of where they are located.

Students now have a better chance of updating their skills thanks to AI-powered training sessions. AI is used in a wide range of courses in the field of information technology. That should come as no surprise given the industry's reliance on artificial intelligence. These courses are being taken by students and professionals who want to become AI and ML experts.

Education Made Simple for People with Disabilities

Creating a learning programme for people with special needs has always been a difficult task. Despite the existence of special schools for pupils with hearing, speech, and vision impairments, the educational process may have been more effective.

Students with ADHD, dyslexia, autism, and other learning disabilities must also attend special schools to help them cope. Why, therefore, are these youngsters unable to attend conventional schools? Is there a method for teachers to better comprehend these students and pay more attention to them? Artificial intelligence is allowing children with special needs to study in the most comfortable way imaginable.

SpeakIt!, Widex's Evoke, and Empower Me are a few AI in education examples that target specifically to children with unique needs.

Providing access to learning and study materials 24 hours a day, seven days a week

Wouldn't it be great if a student could study whenever he or she wanted? We're not talking about studying at home with a student's personal library. Even in the middle of the night, several teachers would have received calls from students seeking references or study materials. What if students could go to the internet library and get the materials right away? What if, instead of bothering academics at inconvenient times, students could rely on AI-powered sessions to understand a tough concept?

People require rest, but systems do not. AI strategy consulting for educational institutions answers these questions by developing a model that students can access 24 hours a day, seven days a week. In fact, the student's training schedule can be designed around when he or she is most productive and likely to pay attention to what is being taught.

Boost Student Engagement and Interest

Following on from the previous point, artificial intelligence offers a solution for making learning more interesting. Even the best professors can have difficult moments when students simply do not pay attention in class. It could be due to a lack of interest in the subject, to the teaching method, or to the environment (be it at school or online classes). One teaching programme does not fit all, so it is time to concentrate on tailoring learning sessions.

Artificial intelligence can be used to create interactive modules and lessons for various types of students. Visualization is an excellent method for helping students grasp a concept. Graphs, charts, 3D images, and other visual aids keep children engaged in their studies. Touchscreen-based interactive training is quickly becoming a part of online education.

Reducing Teachers' and Students' Workloads

One of the major benefits of hiring artificial intelligence consulting services is that AI-powered systems and processes can reduce teachers' workload and give them more time to focus on improving education. We've already discussed how automating administrative tasks can reduce the workload of office workers.

Students are subjected to the same theory. Students can make their own schedules and work at their own pace. They don't have to feel burdened by having to complete multiple assignments on the same day. This allows everyone involved to relax and give it their all. There is also no pressure to learn at the same rate as other students. This gives students more confidence to study even subjects that they are normally afraid of.

Aiding Teachers in Understanding Students' Capabilities and Limitations

With a large number of students in each class, it can be difficult for teachers to pay attention to individual students and understand their limitations. This problem is solved by artificial intelligence, which creates a model training session for each student. Teachers and students can collaborate using AI-powered tools to improve comprehension skills and fine-tune each student's abilities.

When a teacher is better able to understand their students, it fosters a healthy relationship between both parties and allows for effective communication. The teacher can rely on AI to chart the next course programme from the students and use it as a foundation for lesson planning.

Creating Virtual Learning Environment:

Instead of contacting the teacher, an AI business consultant can create a virtual learning environment where students can clear their doubts by asking chatbots and virtual assistants. If a student is unable to clear their doubts with the teacher, they can seek the assistance of technology. There is no reason to be discouraged or give up on the subject because of these factors.

Topics that students do not understand in school or that parents cannot adequately explain are better handled by artificial intelligence. The same virtual environment can also be used to administer online exams.

There are already a variety of such recruitment test tools available. The same principle is applied in the educational sector. AI services can be used to create a safe online exam tool that allows teachers to create and customize test forms.

The students can take the tests from their current locations at any time. The system, rather than the teachers, evaluates these tests. Of course, the teachers can monitor the entire process.

Enhanced Security Through Facial Recognition

Security has become a major concern in many schools, particularly in the United States. China has begun to use facial recognition systems to scan students' identities and confirm them before allowing them to enter the campus. Instead of traditional student ID cards, scanners are used to identify students and mark their entry, whether at school, the library, or the canteen. Because CCTV cameras alone are insufficient to provide security at educational institutions, the institutions are collaborating with the leading AI solutions company to revamp and upgrade their security systems and provide a safer working environment for staff, teachers, and students. Schools all over the world are looking forward to implementing this new technology in their classrooms.

Artificial Intelligence in Indian Education System:

Every country's youth are the most important and promising portion of its population. Because we effectively tap into the potential of the youth, India has a greater advantage over other countries in terms of becoming a worldwide leader. The only way to do this is through high-quality education.

With artificial intelligence's potential growth in India, now is an excellent time to incorporate AI into education in order to enjoy its benefits and educate India's youth for the future. In India, artificial intelligence has a lot of potential. India's artificial intelligence technology that has the potential to make it a world leader in the field. AI is successfully applied in practically every sector in India, including agriculture, healthcare, education, infrastructure, transportation, retail, manufacturing, and so on.

In India, AI in education will be critical to achieving the country's 2030 goals, which are aligned with the UN Sustainable Development Goals. One of these objectives is to considerably increase the number of qualified instructors. As stated in this article, AI in education can help our teachers become more efficient by using AI applications like real-time text to speech and text translation systems, automating mundane and repetitive tasks like taking attendance, automating grading, and personalizing the learning journey based on experience, skill, and understanding, and so on.

Artificial intelligence has enormous potential in India, and in order to properly use it, AI education in India must be implemented on a national scale. **PictoBlox** AI, India's first interactive AI education platform, was created to provide a rewarding project-based learning experience by integrating artificial intelligence and machine learning tools into a graphical programming interface, with the goal of implementing AI education in India and preparing the youth for an AI future. It includes tutorials, guided projects, and an online AI course taught by a teacher, all intended with generation Z in mind.

India has been a long-time proponent of universal education. There are around 600 million young people in India now. They are all entitled to a good education, skills, and work opportunities. Simultaneously, AI education may become more inclusive and accessible. Many tutoring services and learning applications with skill-based curricula are being developed all around the world. You will be able to access global classrooms from the comfort of your own home thanks to AI-enabled technologies. It would not only empower kids, but it will also help teachers stay current with current events. These types of ideas could be tremendously valuable to rural education. Students in India's most remote corners would be able to learn in the same way that students in urban areas do.

We must tap into India's creative potential to establish an innovation-led growth model that would aid in the transition of our country into a new India in order to make it a \$5 trillion economy. Artificial intelligence will be important in supporting us in accomplishing this goal. AI's impact on India is greater than one can imagine, and it will only grow with time, necessitating youth preparation. AI education is important to ensuring India's status as a global AI leader and making Indians AI-ready.

Conclusion

Artificial intelligence (AI) is slowly but steadily infiltrating every aspect of our life, from internet buying to television consumption. In other terms, AI, or Artificial Intelligence, is the study of man-made computational devices and systems. Today, artificial intelligence (AI) is a popular issue all over the place, and it's even making its way into education. However, some argue that AI will take over education, causing students to suffer, while others argue that AI would modernise and improve education.

AI's impact on education is not totally positive. Students, especially young children, might become addicted to cell phones and laptops if they use technology excessively. If parents and instructors are not vigilant at the appropriate moments, this can be harmful to their physical, emotional, and psychological health. Another factor to consider before implementing artificial intelligence in your educational institution is the rise in cyberbullying.

Tutoring, grading, any personalization in education, feedback on course quality, and fast feedback to students are just a few of the benefits that artificial intelligence provides.

Smart technology can enhance the educational experience, but it cannot replace personal interaction because machines cannot communicate with students. Interaction and personal connection are still required, and teachers must provide it to their students.

As you get more dependent on that machine in class to replace the teaching approach and also to assist students with their tasks, they become addicted to technology. If people don't use this gadget, they will believe they can't do better, and they will lose faith in their own feelings and minds. You don't believe in your own ability, but you do believe in the ability of the machine.

While the future of AI in education is still unknown, we can be confident that students of all talents and constraints will have a better opportunity of learning and demonstrating their strengths. As more AI tools are created, students will be able to plan their career routes with greater clarity and work toward their objectives. By investing in artificial intelligence, educational institutions can create wiser future generations.

Reference:

<https://unesdoc.unesco.org/ark:/48223/pf0000366994>

<https://www.hindawi.com/journals/complexity/2021/8812542/>