
Importance of Artificial Intelligence (A.I.) in Education

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Abstract:

Artificial Intelligence (AI) is today's buzzword. It is revolutionizing the entire educational terrain by enhancing accessibility, personalization, and efficiency. The National Education Policy (NEP) 2020 highlights AI's role in modernizing learning, moving away from traditional methods toward student-centered education. AI-driven tools, such as adaptive learning platforms, automated grading systems, and virtual tutors, tailor lessons to individual student needs, improving engagement and comprehension. AI has also been expanding access to education through self learning platforms supporting teachers and students across diverse regions. Advanced AI applications, including language translation and intelligent tutoring systems, further bridge learning gaps. However, the integration of AI in education presents challenges, including ethical concerns, data privacy risks, and the need for teacher training. Over-reliance on AI may also reduce essential human interactions in learning. To ensure AI's positive impact, a balanced approach is necessary, combining technological advancements with traditional teaching methods. Governments and institutions must implement policies to regulate AI's ethical use and protect student data. The present research paper is an attempt to understand the potential use of AI in the field of education for the wellbeing of the field and the users for the betterment of humanity.

Keywords: Artificial Intelligence, Education, Change, Govt. Policy, Technology, Ethics, and Responsibility.

Introduction:

Today is the age of information technology. Technology is becoming a crucial part of day-to-day lives, bringing constant changes and improvements. Due to these advancements, the tasks of human society are getting easier. People of all ages now use technology for different purposes. Communication has become faster and cheaper with social media and the internet. One of the biggest changes in education is the use of Artificial Intelligence (AI).

AI is being used in many fields like banking, industries, business, and entertainment. The National Education Policy (NEP) 2020 has highlighted the need for AI in education. AI

can transform learning by making it more personalized and efficient. (Government of India, Ministry of Education).

History of Artificial Intelligence

John McCarthy first used the term "Artificial Intelligence" in 1955, so he is known as the father of AI. In 1956, at the Dartmouth Conference, he and other scientists discussed how machines could think and learn like humans. McCarthy believed that intelligence could be programmed into machines (Dartmouth Workshop, 1956). AI is not simply a term but it is a revolutionary technology that is changing the world. Initially, when AI came to India in the 1980s, people feared it would take away their jobs. However, with proper use, AI can bring significant progress in various fields, including education.

Objectives of AI in Education

- To use AI effectively in education.
- To improve the quality of education.
- To prepare students and teachers for the future.
- To develop AI-based skills as per the NEP 2020.

AI is helping to move away from traditional learning methods toward student-centered education. Technology allows teachers to store vast amounts of study material in small devices or online platforms. AI can help in managing schools, analyzing student progress, and making learning more interactive and engaging.

AI-based education systems work by understanding students' needs. AI collects data on how students learn and adjusts lessons accordingly. The government is investing in AI infrastructure to support schools, startups, and researchers. This will help teachers, students, and entrepreneurs to use AI effectively. If everything goes on with this speed, it would truly revolutionize the educational landscape of the entire world. Technological innovation has changed the face of the world right from when humans first started using technology-based equipment, now the time has reached to this point, that the entire world is on the verge of metamorphosis into something which would be technologically unimaginable.

AI and Education Platforms

Platforms like DIKSHA and SWAYAM are being used to train teachers and improve learning. These platforms help teachers upgrade their skills and make learning more engaging. AI tools can simplify school administration, attendance tracking, and student assessments.

Earlier education policies did not anticipate the rapid rise of technology. Today, AI, machine learning, and smart devices are transforming education. The NEP 2020 focuses on AI in education and research, including areas like healthcare and agriculture. It also emphasizes natural language processing for regional languages so that students from different backgrounds can benefit.

Apart from this there are numerous apps and platforms which are helping end number of users to access learner-centered knowledge; platforms such as Microsoft Immersive Reader, Code.org & CodeCombat, edx, and 'Socratic' by Google are some of

the examples which can be cited here as examples. AI is also raising concerns about privacy and ethics. Proper awareness and regulations are needed to handle data security and ethical issues related to AI-based technology (National Education Association).

AI and the Future of Education

Artificial Intelligence (AI) is transforming education by enhancing accessibility, personalization, and efficiency. AI-enabled tools such as adaptive learning platforms, automated grading systems, and virtual tutors are reshaping traditional teaching methods. These technologies help tailor education to individual learning styles, making it more engaging and effective.

One significant advantage of AI in education is personalized learning. AI algorithms analyze student performance and adapt lessons accordingly, ensuring that learners receive content suited to their pace and needs. This approach enhances understanding and retention, particularly for students with diverse learning abilities (Parida).

Additionally, AI automates administrative tasks, allowing educators to focus more on teaching and mentoring. Tasks such as grading assignments, tracking student progress, and even detecting plagiarism are streamlined with AI, reducing workload and increasing efficiency. Virtual assistants and chatbots also provide instant support to students, answering queries and offering guidance outside classroom hours.

AI also expands access to education through online platforms and intelligent tutoring systems. Students from remote areas or those with disabilities can benefit from AI-powered tools that break barriers to learning. Language translation and speech recognition technologies further enable global learning opportunities.

In the future, AI will not replace teachers but will complement them by enhancing their effectiveness. The ideal education system will integrate AI with human expertise to create a balanced and inclusive learning environment. With responsible implementation, AI has the potential to revolutionize education, making it more personalized, efficient, and accessible for all. Global summits, like the one in Paris in 2024, are discussing how AI can support sustainable development. AI is also improving the quality of regional languages, making learning accessible to a broader audience.

Challenges and Ethical Considerations

While AI is transforming education, it also presents challenges. Teachers need proper training to integrate AI into classrooms effectively. There is also a risk of over-reliance on technology, which may reduce human interaction in learning. Another key concern is data privacy—AI systems collect large amounts of student information, so strict regulations must be in place to protect their privacy and security.

Additionally, AI should be designed to promote fairness and inclusivity. Biases in AI algorithms could create inequalities in education. Developers and educators must work together to ensure AI tools are unbiased and serve all students equally.

The Way Forward

To maximize AI's potential in education, a balanced approach is needed. Schools and universities should invest in AI training for teachers, ensuring they understand its benefits and limitations. Governments should create policies that encourage ethical AI use and protect student data. Lastly, AI should be used as a tool to enhance learning, not replace human teachers. A collaborative approach, combining technology with traditional teaching methods, will create a more effective and inclusive education system.

AI is set to bring revolutionary changes in education and society. With the right approach, it can make learning more efficient, personalized, and accessible to everyone.

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