

**ARTIFICIAL INTELLIGENCE AND CLASSROOM TEACHING:
TRANSFORMING TEACHING–LEARNING PRACTICES**

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Abstract

Artificial Intelligence (AI) is becoming an important part of modern classroom teaching. AI tools help teachers teach better and help students learn in easier and more interesting ways. Examples of AI in classrooms include smart learning apps, online quizzes with instant results, and virtual teaching assistants. This paper explains the use of Artificial Intelligence in classroom teaching with clear examples of advantages and disadvantages. It discusses how AI supports teachers and students, what problems may arise, and why a balanced use of technology and human teaching is important.

Keywords: Artificial Intelligence, Classroom Teaching, Smart Learning, Educational Technology, Teaching Tools

Introduction

Classroom teaching plays a crucial role in shaping students' academic knowledge, critical thinking, and social skills. With rapid advancements in digital technologies, Artificial Intelligence has emerged as a significant innovation in the education sector. AI enables personalized learning, real-time feedback, and efficient classroom management, thereby supporting both teachers and students. In modern classrooms, AI is used to analyse learning patterns, predict student performance, and improve teaching strategies. This paper explores

how AI is redefining classroom teaching and discusses its relevance in the context of national-level educational development.

Artificial Intelligence in Education

Artificial Intelligence refers to the simulation of human intelligence in machines that are programmed to think, learn, and make decisions. In education, AI systems use techniques such as machine learning, natural language processing, and data analytics to enhance teaching and learning processes. AI-based educational tools can adapt content according to learner needs, provide instant feedback, and assist teachers in instructional planning.

Applications of AI in Classroom Teaching

Personalized Learning

AI-based learning apps like BYJU'S or Google Classroom suggest lessons based on each student's performance. For example, if a student is weak in mathematics, the app gives more practice questions in maths. This helps slow learners improve without feeling pressure.

Intelligent Tutoring Systems

AI tutors act like virtual teachers. For example, chatbots can answer students' questions after school hours. If a student does not understand a topic taught in class, the AI tutor can explain it again using simple examples.

Smart Content and Digital Resources

AI helps create smart content such as animated videos and simulations. For example, science concepts like the solar system can be shown using animations, making it easier for students to understand than only reading from textbooks.

Automated Assessment and Feedback

AI-based systems automatically check online tests and give instant results. For example, multiple-choice tests conducted through learning platforms provide immediate scores and feedback, saving teachers' time.

Classroom Management

AI tools can mark attendance using face recognition. For example, instead of calling names every day, a smart camera system records attendance automatically, allowing teachers to start teaching quickly.

Advantages of AI in Classroom Teaching

Advantages for Teachers

1. Less Administrative Work:

AI automatically checks attendance and assignments. *Example:* Teachers do not need to manually check answer sheets for objective exams.

2. Better Teaching Planning:

AI shows student progress reports. *Example:* A teacher can see which students are weak in a topic and revise it again in class.

3. Support for Large Classes:

AI helps manage large classrooms easily. *Example:* Online quizzes allow teachers to assess many students at once.

Advantages for Students

1. Learning at Own Speed:

Students can learn slowly or quickly as needed. *Example:* A slow learner can replay a video lesson many times.

2. More Interest in Learning:

Interactive videos and games make learning fun. *Example:* Learning mathematics through games increases student interest.

3. Immediate Feedback:

Students know their mistakes instantly. *Example:* Online tests show correct answers immediately.

Disadvantages and Challenges of AI in Classroom Teaching

1. Lack of Infrastructure: Not all schools have computers or internet. *Example:* Rural schools may not be able to use AI tools due to poor connectivity.

2. Need for Teacher Training: Teachers must learn how to use AI tools. *Example:* Without training, teachers may avoid using smart boards or AI apps.

3. Overdependence on Technology: Students may depend too much on AI. *Example:* Students may stop solving problems on their own and wait for AI answers.

4. Reduced Social Interaction: Excessive screen time reduces interaction. *Example:* Students may talk less with classmates during group activities.

5. Privacy and Data Issues: Student data may not be safe. *Example:* Online platforms collect personal data, which can be misused if not protected.

Future Scope

In the future, AI can be combined with virtual reality and augmented reality to make classroom teaching more interactive. For example, students can take virtual tours of historical places or science laboratories. With proper policies and teacher training, AI can improve the quality of education across the country.

Conclusion

Artificial Intelligence has the potential to significantly enhance classroom teaching by making learning more personalized, interactive, and efficient. While AI can support teachers and improve learning outcomes, it cannot replace the human role of educators. A balanced approach that combines AI technologies with effective pedagogy is essential for meaningful classroom learning. This research paper highlights the relevance of AI in classroom teaching and its importance for academic discussion at the national conference level.

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