



## Artificial Intelligence and Inclusive Education: Bridging Learning Gaps

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**Abstract:** *Artificial Intelligence (AI) has emerged as a transformative force in education, offering innovative solutions to address long-standing challenges in inclusive education. Inclusive education seeks to ensure equitable access and participation for all learners, particularly those with disabilities and diverse learning needs. This paper explores the role of AI in bridging learning gaps by enhancing accessibility, personalization, and engagement in educational settings. Drawing on recent research, the study highlights how AI-powered tools such as adaptive learning systems, speech recognition technologies, and intelligent tutoring systems support diverse learners. The paper adopts a qualitative research approach, analyzing existing literature and case studies to examine both the opportunities and challenges of AI integration. Findings suggest that AI significantly improves learning outcomes by providing customized educational experiences and reducing barriers to participation. However, issues such as digital inequality, lack of infrastructure, ethical concerns, and insufficient teacher training remain critical challenges. The study concludes that while AI holds immense potential for transforming inclusive education, its success depends on ethical implementation, policy support, and capacity building among educators. The paper recommends integrating AI with inclusive pedagogical frameworks to ensure equitable and sustainable educational development.*

**Keywords:** *Artificial Intelligence, Inclusive Education, Learning Gaps, Accessibility, Educational Technology, Special Needs Education, Personalization, Digital Divide.*

**1. Introduction:** Inclusive education has become a global priority, emphasizing equal access to quality education for all learners regardless of their abilities, socio-economic background, or learning differences. It is rooted in the principle that diversity in classrooms should be recognized and valued rather than marginalized.

However, traditional educational systems often struggle to meet the diverse needs of students, particularly those with disabilities or learning difficulties. In this context, Artificial Intelligence (AI) has emerged as a powerful tool capable of transforming teaching and learning processes.

AI refers to the development of intelligent systems capable of performing tasks that typically require human intelligence, such as learning, reasoning, and decision-making. In education, AI technologies enable personalized learning, automate administrative tasks, and provide real-time feedback.

Recent studies highlight that AI can significantly enhance inclusive education by improving accessibility and personalization for students with disabilities. Å

This paper explores how AI contributes to bridging learning gaps and promoting inclusive education, while also addressing associated challenges and ethical concerns.

## 2. Objectives of the Study:

- a) To examine the role of AI in promoting inclusive education.
- b) To analyze how AI helps bridge learning gaps.
- c) To identify challenges in implementing AI in inclusive education.
- d) To suggest strategies for effective integration

**3. Methodology:** This study adopts a qualitative and analytical approach to explore the role of Artificial Intelligence (AI) in promoting inclusive education and bridging learning gaps among diverse learners. A qualitative approach is appropriate because it enables an in-depth understanding of educational practices, technological innovations, and their implications for learners with varied abilities, backgrounds, and needs.

This study based on secondary data analysis, documentary and policies analysis. It examines primary sources such as the NEP 2020 document and related policy papers, along with secondary literature on the Artificial Intelligence and Inclusive Education .

The research is primarily descriptive and analytical in nature. It examines existing theories, policies, scholarly literature, and practical applications of AI in inclusive education. Rather than collecting numerical data, the study focuses on interpreting and synthesizing information from secondary sources to understand how AI-driven tools contribute to equitable learning opportunities.

The study uses hermeneutic and comparative analysis to interpret between Research articles, Peer-reviewed journals and Policy reports. Thematic analysis was used to identify patterns and insights from existing literature.

Through textual interpretation and thematic analysis, the paper explores how AI contributes to bridging learning gaps and promoting inclusive education.

**4. Review of Literature:** The integration of Artificial Intelligence (AI) into education has emerged as a transformative approach for promoting inclusive and equitable learning opportunities. AI technologies such as adaptive learning systems, intelligent tutoring systems, speech recognition, and predictive analytics have shown significant potential in addressing the diverse needs of learners, particularly those with disabilities and learning difficulties. Recent literature highlights AI's role in personalizing instruction, improving accessibility, and reducing educational inequalities.

Gupta and Kaul (2024), in their systematic review AI in Inclusive Education: A Systematic Review of Opportunities and Challenges in the Indian Context, examined the role of AI in addressing the diverse learning needs of Indian students. Their study found that AI-powered adaptive learning systems, speech-to-text technologies, and personalized educational platforms can significantly support students with disabilities and learners from disadvantaged backgrounds. However, they also emphasized challenges such as inadequate digital infrastructure, teacher preparedness, and ethical concerns related to data privacy. [Research Gate]

Sharma and V. M. (2026) conducted a bibliometric analysis of AI research in Indian education. Their findings revealed that although AI research in India has expanded rapidly, relatively few studies specifically focus on inclusive and special education. They identified a pressing need for more empirical research exploring how AI can bridge learning gaps among marginalized and differently-abled learners. ([journals.ncert.gov.in])

Bhatia (2025), in *Intelli Learn: Empowering Education Through Artificial Intelligence: A Comprehensive Indian Perspective*, discussed AI's transformative role in Indian classrooms. The study highlighted that AI-driven personalized learning, virtual tutoring, and multilingual educational tools can make learning more accessible for diverse student populations. The author argued that AI can contribute significantly to equitable education if supported by appropriate policy measures and teacher training. ([ijemr.vandanapublications.com])

Paul (2026) examined the regulated integration of Generative AI across the Indian education system. The study stressed that AI should complement rather than replace teachers and recommended ethical frameworks and governance policies to ensure inclusive and equitable implementation across educational institutions. ([Springer])

Recent Indian educational initiatives also reflect this growing emphasis on AI-enabled inclusion. Government programs aimed at developing AI literacy seek to reduce the digital divide and prepare students from diverse backgrounds for future learning environments. ([The Times of India])

Despite these advantages, several scholars have identified significant challenges associated with AI adoption in inclusive education. Studies consistently report concerns regarding digital inequality, inadequate technological infrastructure, limited teacher preparedness, algorithmic bias, and data privacy. Human-centred AI research emphasizes that successful implementation requires active involvement of educators and learners in the design and evaluation of AI systems to ensure trustworthiness and fairness.

Another important theme emerging from the literature is the ethical use of AI. International organizations advocate for human-centered and equitable AI practices that complement rather than replace teachers. Current evidence suggests that AI should function as a supportive educational tool, with educators maintaining responsibility for pedagogical decisions and student well-being.

## 5. Conceptual Framework

**5.1 Artificial Intelligence in Education:** (AI) in education refers to the application of intelligent computer systems and machine learning technologies to improve teaching, learning, assessment, and educational administration. AI-powered systems can analyze large amounts of educational data, adapt learning materials to individual students' needs, provide instant feedback, and automate routine tasks, thereby enhancing the overall quality and accessibility of education.

AI in education is based on the idea that technology can simulate certain aspects of human intelligence—such as learning, reasoning, problem-solving, and decision-making—to support both teachers and learners. It enables personalized learning experiences by identifying students' strengths, weaknesses, learning pace, and preferences, allowing educational content to be tailored accordingly.

According to Wayne Holmes, Maya Bialik, and Charles Fadel, AI in education involves the use of computational systems that can perform tasks associated with intelligent behavior to support teaching and learning processes.

AI in education involves the use of intelligent systems such as machine learning, natural language processing, and data analytics to improve teaching and learning outcomes.

**5.2 Inclusive Education:** Inclusive education is an educational approach that ensures all learners, regardless of their abilities, disabilities, gender, socio-economic background, language, ethnicity, or any other differences, have equal opportunities to learn together in the same educational environment. It aims to remove barriers to learning and participation by adapting teaching methods, curricula, and school environments to meet the diverse needs of all students.

According to UNESCO, inclusive education is: “A process of addressing and responding to the diversity of needs of all learners through increasing participation in learning, cultures, and communities, and reducing exclusion within and from education.”

Inclusive education is based on the principles of equality, social justice, human rights, and respect for diversity. Rather than expecting students to adapt to the educational system, it requires the system to adapt to the needs of every learner

Inclusive education refers to an approach that ensures all students, including those with disabilities and special needs, learn together in mainstream educational settings.

**5.3 Learning Gaps:** Learning gaps refer to disparities in academic achievement between different groups of students, often caused by socio-economic inequality, disability, or lack of access to resources. Learning gaps may arise due to various factors, such as differences in learning pace, inadequate teaching methods, socio-economic challenges, lack of educational resources, language barriers, disabilities, prolonged absence from school, or disruptions like the COVID-19 pandemic. If these gaps are not identified and addressed early, they can accumulate over time and negatively affect students’ academic achievement, confidence, and motivation.

In the context of inclusive education, learning gaps are particularly important because students come from diverse backgrounds and have varying learning needs. Modern educational approaches, including the use of Artificial Intelligence (AI), adaptive learning systems, and personalized instruction, can help identify and bridge these gaps by providing targeted support and individualized learning experiences.

**6.1 AI and Accessibility:** AI enhances accessibility by providing assistive technologies such as:

- **Speech-to-text for hearing-impaired learners:** Artificial Intelligence (AI) has significantly transformed the field of inclusive education by making learning more accessible for students with diverse needs. One of the most impactful AI- powered assistive technologies is **speech-to-text (STT)**, which converts spoken language into written text in real time. This technology is particularly beneficial for learners with hearing impairments, enabling them to participate more effectively in classroom activities and reducing communication barriers. In educational settings, speech-to-text applications can convert a teacher’s lecture, classroom discussions, and multimedia content into readable text, allowing hearing-impaired students to follow lessons without depending solely on sign language interpreters or note-takers.

- **Text-to-speech for visually impaired learners:** Artificial Intelligence (AI) has revolutionized inclusive education by developing assistive technologies that ensure equal learning opportunities for students with disabilities. Among these innovations, Text-to-Speech (TTS) technology plays a crucial role in supporting visually impaired learners. TTS systems use AI algorithms to convert written digital text into natural-sounding spoken language, enabling students to access educational materials independently. driven Text-to-Speech technology enhances educational accessibility in several ways:

- 1. Access to Educational Materials:** TTS allows students to listen to textbooks, lecture notes, assignments, articles, and online resources. This ensures that visually impaired learners can access the same content as their peers without delay.

- 2. Promoting Independent Learning**

Instead of depending on teachers, family members, or assistants to read aloud, learners can independently study using AI-powered reading applications. This autonomy boosts confidence and self-reliance.

- 3. Supporting Digital and Online Education:** With the growth of e-learning, many educational platforms integrate TTS features that can read web pages, PDFs, e-books, and course materials aloud, making virtual learning environments more inclusive.

**4. Improving Reading and Comprehension:** Learners can adjust the speed, pitch, and voice settings according to their preferences. Listening to content while following along with text can also enhance language acquisition and comprehension.

**5. Facilitating Multilingual Learning:** Advanced AI-based TTS systems support multiple languages and accents, enabling visually impaired learners to study diverse subjects and access global educational resources.

**•Real-time translation for multilingual learners:** Artificial Intelligence (AI) has emerged as a powerful tool for promoting inclusive education by addressing the diverse linguistic needs of learners. One of the most significant AI-driven assistive technologies is real-time translation, which enables instant conversion of spoken or written content from one language into another. This technology helps multilingual learners overcome language barriers and ensures equitable access to educational opportunities.

In educational settings, real-time translation allows students to understand lectures, classroom discussions, digital content, and learning materials in their preferred language, fostering greater inclusion and participation.

Research shows that AI-generated materials, such as audio transcripts and image descriptions, significantly improve access to learning for students with disabilities. ([MDPI][1])

**6.2 Personalized Learning through AI:** AI enables adaptive learning systems that tailor content based on individual student needs. These systems analyze learning patterns and adjust instruction accordingly. Personalized learning refers to an educational approach in which teaching methods, learning materials, and assessments are adapted to meet the unique requirements of each learner. AI facilitates this process through technologies such as Machine Learning (ML), Natural Language Processing (NLP), Learning Analytics, and Intelligent Tutoring Systems (ITS).

AI-powered educational platforms collect and analyze data related to students' learning patterns, strengths, weaknesses, preferences, and progress. Based on this analysis, the system recommends suitable learning resources, adjusts the difficulty level of tasks, and provides individualized guidance.

Studies indicate that AI-driven personalization enhances engagement and learning outcomes, particularly for students with special educational needs. Students supports individual learning pace and style, enhances motivation and engagement, Provides immediate feedback and continuous support, Improves academic achievement and retention, encourages self-directed and lifelong learning.

AI reduces teachers' administrative workload through automated assessment. AI provides data-driven insights into students' progress. AI helps teachers identify at-risk learners at an early stage. AI enables more effective instructional planning.

**6.3 AI in Supporting Diverse Learners:** In Supporting Diverse Learners Artificial Intelligence (AI) plays a significant role in promoting inclusive education by addressing the diverse learning needs of students. AI-powered technologies provide individualized support, adaptive learning experiences, and assistive tools that help learners overcome barriers to education. Among the groups that particularly benefit from AI are students with autism, students with dyslexia, and slow learners.

#### **AI tools support:**

**1) Students with autism (through structured learning environments):** Students with Autism Spectrum Disorder (ASD) often experience challenges in communication, social interaction, sensory processing, and adapting to changes in routine. AI can help create structured and predictable learning environments that reduce anxiety and improve engagement.

- **Structured Learning Environments:** AI-powered educational applications present lessons in a clear, organized, and step-by-step manner, which aligns with the learning preferences of many autistic students.
- **Personalized Instruction:** AI adapts the difficulty level and pace of learning according to the student's progress and individual needs.
- **Social Skills Development:** Interactive AI programs and virtual simulations can help students practice facial recognition, emotional understanding, and social communication.
- **Routine and Consistency:** AI systems provide consistent instructions and feedback, reducing confusion caused by changing teaching methods.

**2) Students with dyslexia (through reading assistance tools):** Dyslexia is a learning difficulty that primarily affects reading, spelling, writing, and language processing. AI-powered reading assistance tools help students overcome these challenges by providing alternative ways to access information. Text-to-Speech (TTS):\*\* AI converts written text into spoken words, allowing students to listen to educational materials instead of relying solely on reading.

**Speech-to-Text (STT):** Students can express their ideas verbally, and AI automatically converts speech into written text, reducing the burden of writing.

**Reading Assistance:** AI highlights words while reading aloud, helping learners connect written and spoken language.

**Spelling and Grammar Support:** Intelligent writing assistants detect spelling errors and suggest corrections in real time.

**3) Slow learners (through personalized pacing):** Slow learners generally require more time and repeated practice to understand and master academic concepts. Traditional classrooms may not always provide the individualized attention they need. AI addresses this challenge through personalized pacing and adaptive instruction.

**Personalized Learning Pace:** AI allows students to learn according to their own speed without the pressure of keeping up with the entire class.

**Adaptive Learning Systems:** If a student struggles with a topic, AI provides additional explanations, examples, and practice exercises before moving to the next concept.

**Immediate Feedback:** AI offers instant feedback on quizzes and assignments, helping students identify and correct mistakes promptly.

**Continuous Progress Monitoring:** Teachers can use AI-generated learning analytics to track student performance and provide timely support.

AI contributes to differentiated instruction, making education more inclusive and effective.

## 7. Role of AI in Bridging Learning Gaps:

**7.1 Enhancing Accessibility:** Accessibility refers to the design of educational environments, materials, and teaching methods that accommodate the diverse needs of all learners. In inclusive education, accessibility ensures that students with disabilities, learning difficulties, or language barriers can access the same educational content as their peers.

AI enhances accessibility by adapting educational resources to individual learner needs and providing alternative ways to receive and interact with information.

AI tools remove barriers to learning by providing alternative formats of content, enabling students with disabilities to access educational materials effectively.

**1. Speech-to-Text Technology for Hearing-Impaired Learners:** AI-powered Speech-to-Text (STT) systems convert spoken language into written text in real time. During classroom lectures or online sessions, students with hearing impairments can read live captions and transcripts, enabling them to follow lessons effectively.

**Benefits:**

- \* Improves understanding of classroom instruction.
- \* Encourages active participation.
- \* Reduces dependence on human note-takers or interpreters.

**2. Text-to-Speech Technology for Visually Impaired Learners:** Text-to-Speech (TTS) technology converts written text into spoken words. AI-based TTS systems enable visually impaired students to listen to textbooks, digital resources, and online content independently.

**Benefits:**

- \* Provides equal access to educational materials.
- \* Promotes independent learning.
- \* Improves comprehension and information retention.

**3. Real-Time Translation for Multilingual Learners:** AI-powered translation tools instantly translate spoken and written content into different languages. This helps multilingual learners and students from diverse linguistic backgrounds understand lessons without language becoming a barrier.

**Benefits:**

- \* Supports communication in multilingual classrooms.
- \* Enhances understanding of instructional content.
- \* Promotes inclusion and cultural diversity.

**4. Personalized Accessibility Features:** AI systems can adapt educational content according to individual learner needs. For example, students can adjust font size, text color, reading speed, audio playback, or difficulty level based on their preferences.

**Benefits:**

- \* Creates a learner-centered educational environment.
- \* Supports students with different learning styles and abilities.
- \* Increases engagement and motivation.

**5. AI-Based Assistive Learning Tools:** AI powers several assistive technologies, including:

- Smart screen readers.

- AI-powered virtual assistants.
- Automated captioning systems.
- Predictive text and spelling correction tools.
- Intelligent tutoring systems.

These technologies help students with disabilities and learning difficulties participate more fully in educational activities

**7.2 Supporting Personalized Learning:** One of the most important roles of Artificial Intelligence (AI) in education is personalized learning. Personalized learning means that teaching and learning activities are adjusted according to the unique needs, abilities, and interests of each student. Instead of using the same method for everyone, AI helps provide a customized learning experience.

AI systems adapt content according to:

- **Learning pace:** Every student learns at a different speed. Some students understand a topic quickly, while others need more time and practice. AI-based learning platforms monitor a student's progress. If a student struggles with a concept, the system provides additional exercises, explanations, or videos. If a student learns quickly, AI can introduce more advanced topics without making them wait for the rest of the class.
- **Cognitive ability:** Cognitive ability refers to a learner's capacity to understand, remember, reason, and solve problems. Students have different levels of cognitive development and learning abilities. AI analyzes students' performance and identifies their strengths and weaknesses. It adjusts the difficulty level of tasks according to the learner's capability. Students with learning disabilities or special educational needs can receive simplified instructions or additional support.
- **Individual preferences:** Students often have different learning styles and preferences. Some learn better through visual materials, while others prefer listening or hands-on activities. AI recommends learning resources based on individual preferences. It may provide videos, interactive games, audio lessons, or text-based materials depending on what works best for the student. This increases student engagement and motivation.

This reduces disparities in learning outcomes.

**7.3 Improving Engagement:** Artificial Intelligence (AI) makes learning more interesting and interactive by keeping students actively involved in the learning process.

Interactive AI tools increase student engagement through:

- **Gamification:** Gamification means applying game-like features to educational activities, such as points, badges, rewards, levels, and leader boards. AI-powered educational platforms turn lessons into fun and interactive experiences. Students earn rewards for completing tasks and achieving learning goals. This motivates learners to participate actively and reduces boredom.
- **Real-time feedback:** Real-time feedback means that students receive immediate responses to their work instead of waiting for a teacher to grade it. AI instantly checks answers and points out mistakes. It explains why an answer is incorrect and suggests ways to improve. Immediate feedback helps students correct errors and understand concepts more effectively.
- **Intelligent tutoring systems:** Intelligent tutoring systems are AI-based virtual tutors that provide personalized guidance to learners. They monitor a student's performance and learning progress. AI identifies

areas where the student needs extra help and provides customized lessons. These systems can answer questions, give explanations, and offer additional practice activities.

**7.4 Assisting Teachers\*\*:** Artificial Intelligence (AI) not only benefits students but also supports teachers by reducing the time spent on routine administrative tasks. By automating repetitive work, AI allows teachers to devote more attention to teaching, mentoring, and supporting students. AI reduces teachers' workload by automating tasks such as grading and attendance, allowing them to focus on student-centered teaching.

**1) Automated Grading:** Grading assignments and quizzes can be time-consuming, especially in large classrooms. AI-based systems can automatically evaluate multiple-choice questions, short-answer tests, and even some written assignments. These systems provide quick and consistent scoring. Teachers can spend more time giving personalized guidance instead of manually checking every paper.

**2) Automated Attendance:** Taking attendance every day requires valuable classroom time. AI technologies such as facial recognition, QR code scanning, or digital check-in systems can record attendance automatically. Attendance records are stored digitally, making it easier for teachers and schools to track student participation.

**3) Supporting Student-Centered Teaching:** When teachers spend less time on administrative duties, they can focus more on the individual needs of students. AI provides data about students' strengths, weaknesses, and learning progress. Teachers can use this information to design personalized learning activities and provide additional support to struggling learners. This promotes a more inclusive and effective classroom environment

## **8. Challenges of AI in Inclusive Education**

**8.1 Digital Divide:** Access to AI technologies is uneven, especially in developing countries, limiting its effectiveness. The digital divide refers to the gap between people who have access to digital technologies and those who do not. Many students, especially those in rural and economically disadvantaged areas, do not have access to computers, smart phones, or a stable internet connection. Without these resources, they cannot benefit from AI-powered educational tools. This may increase educational inequality instead of reducing it.

**8.2 Lack of Infrastructure:** Successful implementation of AI in education requires adequate technological infrastructure. Many schools lack computers, smart classrooms, high-speed internet, and technical support. Teachers may also have limited training in using AI technologies effectively. The high cost of installing and maintaining AI systems can be a challenge, particularly for government and rural schools. Many schools lack the necessary technological infrastructure to implement AI solutions.

**8.3 Ethical Issues:** The use of AI in education raises several ethical concerns related to privacy, fairness, and accountability. AI systems often collect and store large amounts of student data, creating concerns about data privacy and security. If AI algorithms are biased, they may treat some students unfairly or provide unequal learning opportunities. There are also concerns about excessive dependence on technology, which may reduce human interaction in education.

AI raises concerns regarding Data privacy, Algorithmic bias, Equity in access.

**8.4 Teacher Readiness:** Teacher readiness\*\* refers to the ability of teachers to understand, use, and integrate Artificial Intelligence (AI) tools effectively in the teaching-learning process. The successful implementation of AI in inclusive education depends not only on the availability of technology but also on the preparedness of teachers. Teachers often lack training in using AI tools effectively.

Many teachers have limited knowledge and experience with AI-based educational technologies. Most teacher education programs provide little or no formal training in the use of AI tools. As a result, teachers

may find it difficult to operate AI-powered applications or incorporate them into classroom activities. Without proper training, teachers may not be able to use AI to support students with diverse learning needs.

Teacher readiness is a key factor in the successful integration of AI into inclusive education. Although AI can support personalized learning and reduce administrative workload, many teachers lack the necessary training and skills to use these tools effectively. Therefore, providing adequate professional development and technical support is essential to help teachers confidently adopt AI and create more inclusive learning environments.

**9. Discussion:** The findings of this study suggest that Artificial Intelligence (AI) has significant potential to transform inclusive education by reducing learning disparities and providing equitable learning opportunities for diverse groups of learners. Through personalized learning, adaptive assessments, assistive technologies, and intelligent tutoring systems, AI can address the varied educational needs of students, including those with disabilities, learning difficulties, and different learning paces. AI-powered tools can create flexible and learner-centered educational environments, thereby supporting the broader goals of inclusive education. The findings indicate that AI has the potential to transform inclusive education by addressing learning disparities. However, its effectiveness depends on several factors: Availability of resources, Teacher preparedness, Ethical governance. AI as a Supportive Tool, Not a Replacement for Teachers. Teachers. Despite its transformative potential, AI should not be viewed as a substitute for teachers. Education is not merely the transmission of information; it also involves emotional support, social interaction, moral guidance, and the development of critical thinking and values. These human aspects of teaching cannot be fully replicated by machines. Instead, AI should be considered a supportive tool that enhances teaching and learning. By automating repetitive tasks such as grading, attendance management, and progress tracking, AI enables teachers to devote more time to mentoring, counseling, and individualized instruction. The collaboration between human teachers and AI technologies can create a more effective, inclusive, and student-centered educational environment.

AI should not replace teachers but act as a supportive tool to enhance teaching and learning.

## 10. Educational Implications

**1. Policy Development:** Governments and educational authorities should formulate clear policies to support the effective integration of Artificial Intelligence (AI) in education. These policies should promote equitable access, encourage innovation, and establish standards for the safe and ethical use of AI technologies in schools and higher education institutions.

**2. Teacher Training:** The successful implementation of AI depends largely on teachers' readiness. Professional development programs should focus on improving AI literacy, digital skills, and the ability to use AI-based tools effectively for personalized and inclusive teaching practices.

**3. Infrastructure Development:** Adequate digital infrastructure is essential for AI integration. Investments in reliable internet connectivity, digital devices, smart classrooms, and technical support systems are necessary to ensure that all learners can benefit from AI-enabled education.

**4. Ethical Frameworks:** The use of AI in education must be guided by strong ethical principles. Clear guidelines should protect student data privacy, minimize algorithmic bias, ensure transparency, and promote fairness and accountability in AI-driven educational systems.

**11. Conclusion:** In conclusion, AI has the capacity to bridge learning gaps and strengthen inclusive education by providing personalized, accessible, and adaptive learning opportunities. However, its success depends on the availability of technological resources, the preparedness of teachers, and the establishment of strong ethical and governance frameworks. Rather than replacing teachers, AI should complement and

empower them, allowing educators to focus on the human dimensions of teaching while leveraging technology to improve educational outcomes for all learners.

Artificial Intelligence has the potential to revolutionize inclusive education by bridging learning gaps and promoting equitable access to knowledge. It offers innovative solutions for addressing diverse learning needs through personalized and accessible education.

However, the successful integration of AI requires a balanced approach that considers ethical, social, and infrastructural challenges. By combining technological innovation with inclusive pedagogy, AI can contribute significantly to building an equitable and inclusive educational system.

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- Innovative teaching methodologies in the era of artificial intelligence: A review of inclusive educational practices Olabisi Oluwakemi Adeleye 1, Chima Abimbola Eden 2 and Idowu Sulaimon Adeniyi 3, \* 1 National Open University of Nigeria. 2 Faculty of Humanities and Social Sciences, University of Strathclyde, UK. 3 Department of Sociology, University of Ibadan, Ibadan, Oyo State, Nigeria. World Journal of Advanced Engineering Technology and Sciences,
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