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## Role of AI and ChatGPT in Promoting Holistic and Multidisciplinary Education: NEP-2020 Perspectives

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### Abstract



The National Education Policy (NEP) 2020 envisions a transformative overhaul of the Indian education system, aiming to foster holistic, flexible and multidisciplinary education. Central to this vision is the integration of advanced technologies like Artificial Intelligence (AI) and tools such as ChatGPT, which have the potential to revolutionize educational practices. This review explores the role of AI and ChatGPT in facilitating personalized learning, promoting multidisciplinary education and supporting holistic development, all of which are central to the objectives of NEP 2020. Drawing on existing literature, this article highlights how AI can enhance educational outcomes, foster interdisciplinary learning and help create more inclusive and adaptive learning environments and also examines the challenges associated with implementing AI in the Indian context and proposes recommendations for its effective integration.

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### INTRODUCTION

The National Education Policy (NEP) 2020 represents a paradigm shift in India's education system, focusing on fostering critical thinking, problem-solving, interdisciplinary learning and holistic development. One of the key goals of NEP 2020 is to make education more flexible, inclusive and aligned with the demands of the 21st century (Ministry of Education, 2020). To achieve these ambitious objectives, the integration of AI technologies and chatbots

like ChatGPT offers promising solutions, particularly in promoting personalized education, enabling multidisciplinary learning and supporting holistic student development. AI and conversational tools, like ChatGPT, can support the goals of NEP 2020 by providing personalized learning experiences, facilitating access to cross-disciplinary knowledge and offering continuous support to both students and educators. However, the full potential of these tools can only be realized when educational institutions address certain barriers, including the digital divide, teacher training and data privacy concerns. This review explores how AI and ChatGPT can contribute to the realization of NEP 2020's vision, referencing key studies and insights from scholars in the field [11].

### **Artificial Intelligence in Education: A Transformative Tool**

The National Education Policy (NEP) 2020 envisions a learner-centric, inclusive and multidisciplinary approach to education, emphasizing the need for innovative tools to enhance learning experiences.

Artificial Intelligence (AI) serves as a transformative force in achieving this vision by personalizing education, streamlining administrative processes, and fostering critical thinking. AI-driven platforms can adapt to individual learning paces, identify gaps in understanding and provide targeted resources, ensuring that every learner achieves their potential.

Moreover, AI facilitates seamless integration of diverse disciplines, enabling a more interconnected and holistic approach to education. By automating routine tasks, it empowers educators to focus on creativity and engagement.

In the context of NEP 2020, AI is not merely a tool but a catalyst for realizing an equitable,

accessible, and future-ready education system.

### **Empowering Educators: AI as a Partner in Pedagogical Innovation**

The National Education Policy (NEP) 2020 underscores the critical role of educators as facilitators of learning, creativity, and innovation. Artificial Intelligence (AI) serves as a valuable partner in this mission by enhancing pedagogical practices and reducing administrative burdens. AI tools can assist educators in designing interdisciplinary curricula, generating innovative teaching resources, and tailoring lessons to cater to diverse learning needs.

By analyzing student performance data, AI provides actionable insights, enabling teachers to adopt strategies that address individual and group challenges effectively. Furthermore, AI-driven platforms like ChatGPT can offer instant support to educators by providing knowledge across disciplines, thus aligning with NEP 2020's emphasis on multidisciplinary and holistic learning.

As a result, AI empowers educators to focus on fostering critical thinking, creativity, and collaboration, transforming traditional classrooms into vibrant learning ecosystems.

### **Promoting Holistic Education through AI and ChatGPT**

Holistic education, as emphasized in NEP 2020, aims to nurture a student's intellectual, emotional, social, and ethical capabilities (Singh, 2020). Rather than focusing solely on academic knowledge, holistic education promotes life skills, values, and emotional intelligence (Patel & Shah, 2021). AI tools like ChatGPT can play a significant role in fostering this approach by providing personalized feedback, emotional support, and social learning opportunities [14] [18].

### **AI and ChatGPT in Emotional and Social Development**

AI systems can act as personalized learning companions, offering students real-time emotional support, advice and reflective exercises (Hughes, 2020). ChatGPT, for example, can help students deal with academic stress and mental health issues by providing evidence-based resources and self-help techniques, a need highlighted in NEP 2020's emphasis on promoting mental well-being in schools (Ministry of Education, 2020). According to Zhang et al. (2021), AI models can help alleviate stress by offering personalized suggestions for relaxation and time management. By incorporating social-emotional learning (SEL) into the AI's conversational prompts, platforms like ChatGPT can help students develop critical empathy, communication, and conflict resolution skills, which are integral to holistic education [5] [11] [22].

### **AI in Personalized Learning for Holistic Development**

The integration of AI-driven personalized learning tools is another way to promote holistic education. AI can analyze student behavior and performance data to suggest tailored learning pathways that align with each student's individual strengths, weaknesses, and interests (Miao & Liu, 2022). Personalized learning, as discussed by Sharma (2020), ensures that students engage with content that resonates with their unique needs, thus fostering intellectual growth and emotional resilience. For example, ChatGPT can provide students with instant feedback on assignments, answer questions related to study material and suggest additional resources based on their learning progress, which helps in nurturing both cognitive and emotional aspects of development [10] [17].

### **Facilitating Multidisciplinary Education with AI and ChatGPT**

One of the flagship reforms in NEP 2020 is its push for multidisciplinary education, which encourages students to explore a wide array of subjects and make connections across disciplines (Patel, 2020). AI, particularly conversational models like ChatGPT, can play an essential role in breaking down traditional silos between academic fields, facilitating cross-disciplinary learning [13].

### **Interdisciplinary Learning through AI-Powered Tools**

AI tools, including ChatGPT, can act as catalysts for interdisciplinary education by offering students access to diverse subjects and helping them make connections across fields. ChatGPT, for instance, can integrate information from multiple disciplines, allowing students to explore relationships between subjects such as science, technology, literature, and social studies (Chakraborty & Saha, 2021). In line with NEP 2020's emphasis on inquiry-based learning, AI tools can encourage students to engage in critical inquiry, asking open-ended questions that span across different domains. Bhatt (2021) suggests that AI systems can recommend interdisciplinary courses based on student interests, enabling them to explore new areas of knowledge that they may not have encountered in traditional curriculums [2] [4].

### **Promoting Collaborative Learning**

AI can also facilitate collaborative learning by connecting students from different disciplines for joint projects. ChatGPT, for instance, can function as a mediator, helping students from various fields collaborate effectively by synthesizing information from different areas, offering resources and suggesting solutions (Kumar, 2022). This approach not only fosters a broader understanding of complex

problems but also reflects NEP 2020's focus on problem-solving and critical thinking. Through AI-powered platforms, students can work on real-world problems in an interdisciplinary context, such as climate change, sustainable development or public health, where knowledge from diverse domains is required. According to Bhatnagar & Soni (2021) , such interdisciplinary projects stimulate creativity and innovation, helping students build problem-solving skills while drawing on multiple fields of study [1] [9].

### **Overcoming Barriers to AI Integration: Challenges and Opportunities**

While the potential of AI and ChatGPT in promoting holistic and multidisciplinary education is immense, several barriers must be addressed to ensure their successful implementation in line with NEP 2020.

#### **The Digital Divide**

One of the major challenges to AI integration in Indian education is the digital divide, particularly in rural areas with limited access to high-speed internet and digital infrastructure (Kapur, 2020) [8].

According to Singh et al. (2021), this gap in digital access could hinder the widespread adoption of AI-driven educational tools. To overcome this, policymakers must invest in digital infrastructure and ensure that AI tools are accessible to all students, regardless of their socioeconomic background [19].

#### **Teacher Training and Acceptance**

AI tools like ChatGPT are only effective if educators are adequately trained to use them. As Jha & Sharma (2021) note, teachers need to be familiar with AI-based tools to incorporate them effectively into their teaching practices. This includes understanding how AI can assist in curriculum development, assessment, and student engagement. NEP 2020 recognizes

the importance of teacher professional development and emphasizes the need for continuous training to help educators integrate technology into their pedagogy [7].

#### **Data Privacy and Ethical Considerations**

As AI technologies collect vast amounts of data on student performance and behavior, concerns around data privacy and ethical implications are paramount (Reddy & Mishra, 2020). It is crucial that AI tools used in education adhere to strict data protection laws and ensure transparency in how data is used. Sarkar (2021) emphasizes the need for well-defined guidelines on ethical AI usage in educational settings to protect students' rights and privacy effectively [15] [16].

#### **Conclusion**

The integration of AI and ChatGPT into the Indian education system offers a transformative opportunity to achieve the goals outlined in NEP 2020. By promoting holistic development, personalized learning and multidisciplinary education, AI can significantly enhance the quality of education and prepare students for the challenges of the modern world. However, to fully realize this potential, stakeholders must address challenges related to digital equity, teacher preparedness and ethical considerations.

As Patel (2020) suggests, the future of education lies in human-AI collaboration, where technology supports and enhances the role of teachers and students in the learning process. By leveraging AI and ChatGPT, India can create a more inclusive, flexible and adaptive education system that aligns with the progressive vision of NEP 2020 [13].

#### **Ethical Approval**

No ethical approval was necessary for this study.

### Author Contribution

All authors made substantial contributions to the conception, design, acquisition, analysis, or interpretation of data for the work. They were involved in drafting the manuscript or revising it critically for important intellectual content. All authors gave final approval of the version to be published and agreed to be accountable for all aspects of the work, ensuring its accuracy and integrity.

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