

TEACHERS' PERCEPTIONS OF AI TOOLS LIKE CHATGPT IN ENHANCING TEACHING AND LEARNING

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Abstract:

The rapid integration of Artificial Intelligence (AI) in education, particularly through tools such as ChatGPT, has transformed traditional teaching and learning practices. While some educators perceive AI as a valuable support system that enhances creativity, personalization, and efficiency, others remain cautious; emphasizing the risks of dependency, reduced critical thinking, and overreliance on machine-generated outputs. This study explores the perceptions of in-service teachers regarding the role of AI tools like ChatGPT in enhancing teaching and learning. Using a qualitative thematic analysis of responses collected from practicing teachers, the study identifies both positive and negative orientations towards AI adoption in education. The findings highlight a dual narrative: on one hand, AI is acknowledged as an enabler for lesson planning, personalized learning, and administrative support; on the other hand, concerns are raised about diminished originality, ethical dilemmas, and potential misuse by students. These insights suggest the need for balanced, informed, and critical integration of AI in classrooms, where teacher agency and human creativity remain central. The study contributes to the growing discourse on responsible AI adoption in Indian classrooms and offers directions for professional development programs that equip teachers with skills for ethical and effective AI use.

Keywords: Artificial Intelligence, ChatGPT, Teaching and Learning, Teacher Perceptions, Educational Technology, Thematic Analysis

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Introduction:

In recent years, Artificial Intelligence (AI) has emerged as one of the most disruptive forces shaping education globally. From automated grading systems and adaptive learning platforms to generative AI models like ChatGPT, AI tools are increasingly being integrated into classrooms, transforming both teaching methodologies and student learning experiences (Luckin et al., 2016; Holmes et al., 2019). Among these, ChatGPT has gained significant attention for its

ability to generate human-like text, assist in lesson preparation, and provide instant responses to student queries. Its rapid adoption has sparked debates among educators, policy makers, and researchers, particularly around questions of effectiveness, ethics, and the long-term implications for pedagogy.

In the Indian context, where digital literacy among teachers is uneven and classroom realities are often marked by infrastructural and resource constraints, the introduction of AI presents both opportunities and

challenges (Kukreja & Arora, 2022). For some educators, ChatGPT and similar tools open new possibilities for creativity, efficiency, and student engagement. For others, they raise critical concerns related to academic integrity, overreliance on technology, and the erosion of human creativity in teaching and learning processes.

Teachers occupy a central position in this discourse. As facilitators of learning, they are responsible for deciding how, when, and to what extent AI tools should be used in classrooms. Their perceptions, therefore, are critical in understanding the trajectory of AI adoption in education. If teachers perceive AI as a supportive, enabling tool, they may actively integrate it into pedagogy. However, if they view it as a threat to originality, ethics, or learning quality, resistance and caution are likely to dominate.

Against this backdrop, this paper examines the perspectives of in-service teachers on the role of AI tools, particularly ChatGPT, in enhancing teaching and learning. Drawing upon qualitative responses from educators, the study seeks to capture both the enthusiasm and apprehensions associated with AI in education. Through thematic analysis, the paper explores how teachers negotiate between the promises and pitfalls of AI, and what these narratives reveal about the future of technology-enhanced education.

This inquiry is not only timely but also essential, as AI becomes an unavoidable component of educational ecosystems worldwide. By foregrounding teachers' voices, the study aims to contribute to ongoing debates on the ethical, pedagogical, and cultural dimensions of AI integration in classrooms, particularly within the Indian educational landscape.

Literature Review:

The integration of Artificial Intelligence (AI) in education has become a defining feature of contemporary pedagogy. Recent scholarship highlights both the promises and challenges of AI tools such as

ChatGPT, which generate human-like responses and can support teachers in planning, assessment, and student engagement.

AI as a Pedagogical Support Tool:

AI is increasingly recognized for its potential to assist educators in designing interactive and personalized learning experiences. AI systems can generate lesson plans, provide instant information, and support differentiated instruction tailored to students' needs (Chen et al., 2020). In particular, large language models like ChatGPT are seen as powerful tools that can reduce teachers' workload by automating routine tasks, generating summaries, and offering diverse teaching materials (Kasneci et al., 2023). Research also suggests that AI fosters student engagement through interactive learning experiences and immediate feedback (Zawacki-Richter et al., 2019). These developments indicate that AI can significantly enhance teaching efficiency while enriching student-centered learning.

Concerns and Ethical Dilemmas:

Despite its benefits, educators and researchers caution against overreliance on AI tools. Issues of accuracy, reliability, and academic integrity are widely discussed (Dwivedi et al., 2023). Generative AI often produces outputs that may appear coherent but contain factual inaccuracies, necessitating careful human verification (Weidinger et al., 2022). Moreover, there are concerns that students' dependence on AI for assignments and creative tasks may reduce their critical thinking, originality, and problem-solving skills (Yilmaz & Yilmaz, 2023). The ethical dimension also extends to data privacy, plagiarism, and the biases embedded in AI models, which can reinforce stereotypes and inequities if not critically managed (Floridi & Chiriatti, 2020).

Teachers' Perceptions of AI in Education:

Teachers play a pivotal role in determining the success or failure of AI adoption in classrooms. Studies indicate that teachers' willingness to embrace AI



depends on their digital literacy, training opportunities, and institutional support (Holmes et al., 2021). While some educators perceive AI as an empowering tool that reduces workload and enhances creativity, others are skeptical, fearing that it undermines pedagogical integrity and professional autonomy (König et al., 2023). A growing body of literature emphasizes the need for professional development programs that equip teachers to integrate AI tools responsibly, ensuring that human judgment, creativity, and empathy remain central to the learning process (Luckin, 2018; Popenici & Kerr, 2017).

Within India, AI adoption in education is still at a nascent stage but rapidly expanding. Policy documents such as the *National Education Policy 2020* highlight AI as a transformative force for inclusive and innovative learning (Government of India, 2020). Yet, empirical research shows that teachers often face challenges due to uneven access to digital infrastructure, lack of training, and uncertainty regarding AI's role in maintaining originality and ethics (Kukreja & Arora, 2022). Indian teachers' perspectives are, therefore, crucial for understanding how global debates around AI are contextualized within local realities of resource constraints, cultural expectations, and pedagogical traditions.

The literature establishes that AI tools like ChatGPT hold significant potential for supporting teaching and learning, particularly in fostering personalization, efficiency, and creativity. However, persistent concerns about reliability, ethics, and overdependence underscore the importance of balanced integration. Teachers' perceptions emerge as a key variable in shaping AI's future role in classrooms. This study builds on existing research by foregrounding the voices of in-service Indian teachers, analyzing their reflections on the promises and pitfalls of ChatGPT in education.

Research Objectives:

The present study aims to explore the perceptions of in-service teachers regarding the role of Artificial Intelligence (AI) tools, with specific reference to ChatGPT, in the teaching-learning process. With AI rapidly transforming education worldwide, it is important to examine how teachers interpret its benefits, limitations, and risks within their professional practices. This exploration is essential to provide insights into how such tools are being integrated into classrooms and how educators balance their use with traditional pedagogical methods.

The specific objectives of the study are:

1. To understand how teachers perceive the role of AI tools like ChatGPT in enhancing teaching and learning.
2. To identify the benefits and opportunities that teachers associate with AI in the classroom.
3. To analyze the concerns and limitations expressed by teachers regarding AI usage in education.
4. To interpret the balance teachers propose between AI-based support and human-led pedagogy.

Research Questions:

In line with these objectives, the study is guided by the following research questions:

1. How do in-service teachers perceive the role of AI tools like ChatGPT in enhancing the teaching-learning process?
2. What benefits and opportunities do teachers associate with the integration of AI tools in their professional practice?
3. What concerns and limitations are expressed by teachers regarding AI tools such as ChatGPT?
4. How do teachers propose to balance the use of AI with traditional pedagogical practices in order to maintain creativity, originality, and critical thinking among learners?



Methodology:

1. Research Design

The present study adopted a qualitative research design rooted in the principles of thematic analysis. Since the objective was to explore teachers' perceptions of AI tools such as ChatGPT in teaching and learning, open-ended responses were most suitable for capturing nuanced viewpoints. Thematic analysis allowed the researcher to identify recurring patterns, subthemes, and overarching themes that reflect teachers' experiences, opportunities, and concerns regarding AI integration in education.

2. Sample

The study was conducted with **in-service school teachers** drawn from diverse subject backgrounds, age groups, and teaching experiences. From a larger dataset of responses, a purposive sampling technique was employed to select 20 responses that provided rich, relevant, and varied insights into the role of ChatGPT in education. Care was taken to ensure that both positive and critical perspectives were included, thus offering a balanced understanding of the phenomenon.

3. Data Analysis and Interpretation

The data was collected through a structured qualitative questionnaire administered to in-service teachers. Among the 14 open-ended questions, one specifically focused on AI adoption:

- “How do you perceive the role of AI tools like ChatGPT in enhancing teaching and learning?” Teachers' responses ranged from brief remarks (e.g., “Helpful,” “Excellent,” “Not supportive”) to more elaborate narratives highlighting opportunities, risks, and conditions for effective AI use.

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The collected responses were subjected to thematic analysis as outlined by Braun and Clarke (2006). The process involved:

1. **Familiarization:** Reading and re-reading responses to immerse in the data.
2. **Generating Codes:** Extracting meaningful units of text (e.g., *saves time, fosters creativity, reduces originality, hampers critical thinking*).
3. **Searching for Subthemes:** Grouping codes into categories (e.g., *Efficiency & Time-saving, Pedagogical Support, Risks of Overdependence*).
4. **Reviewing Themes:** Clustering subthemes into broader themes to capture the essence of teachers' perceptions.
5. **Defining Themes:** Finalizing three major themes representing the findings:
 - *Pedagogical Enhancement*
 - *Challenges and Cautions*
 - *Human - AI Balance*
6. **Representation:** The findings were presented through thematic tables, word clouds, and interpretive narratives to strengthen transparency and clarity of analysis.

The following table presents the codes, subthemes, and broader themes derived from 20 selected teacher responses:

Table 1.

Thematic analysis of textual responses on the role of AI tools like ChatGPT in enhancing teaching and learning

Sl.	Codes	Subthemes	Themes
1	Providing quick teaching content & ideas	Resource support	Pedagogical Enhancement
2	Preparing notes, presentations, lesson plans	Content creation aid	Pedagogical Enhancement
3	Personalized assistance for students	Differentiated learning support	Pedagogical Enhancement
4	Helping in brainstorming & critical thinking	Creativity & critical engagement	Pedagogical Enhancement
5	Supporting research and assignments	Academic assistance	Pedagogical Enhancement
6	Saves teachers' time in admin tasks	Task simplification	Pedagogical Enhancement
7	Provides innovative ideas via prompts	Prompt engineering for creativity	Pedagogical Enhancement
8	Facilitating interactive learning experiences	Student engagement	Pedagogical Enhancement
9	Risk of dependency and reduced originality	Overreliance concern	Challenges & Cautions
10	AI hampers creativity & imagination	Creativity risk	Challenges & Cautions
11	Promotes laziness among students	Behavioral risks	Challenges & Cautions
12	Misinformation or inaccuracies	Reliability issues	Challenges & Cautions
13	Bias in AI responses	Ethical concern	Challenges & Cautions
14	AI cannot replace teacher's role	Importance of human element	Human - AI Balance
15	Teachers must critically evaluate outputs	Responsible use	Human-AI Balance
16	Use requires digital literacy & etiquette	Digital responsibility	Human - AI Balance
17	Helps only when used judiciously	Conditional benefit	Human - AI Balance
18	Educators should guide students in AI use	Pedagogical responsibility	Human - AI Balance
19	Enhances teaching when blended with traditional methods	Hybrid pedagogy	Human - AI Balance
20	Can widen access to resources but needs caution	Balanced perspective	Human - AI Balance

Note. N = 20 (Selected responses from in-service teachers).

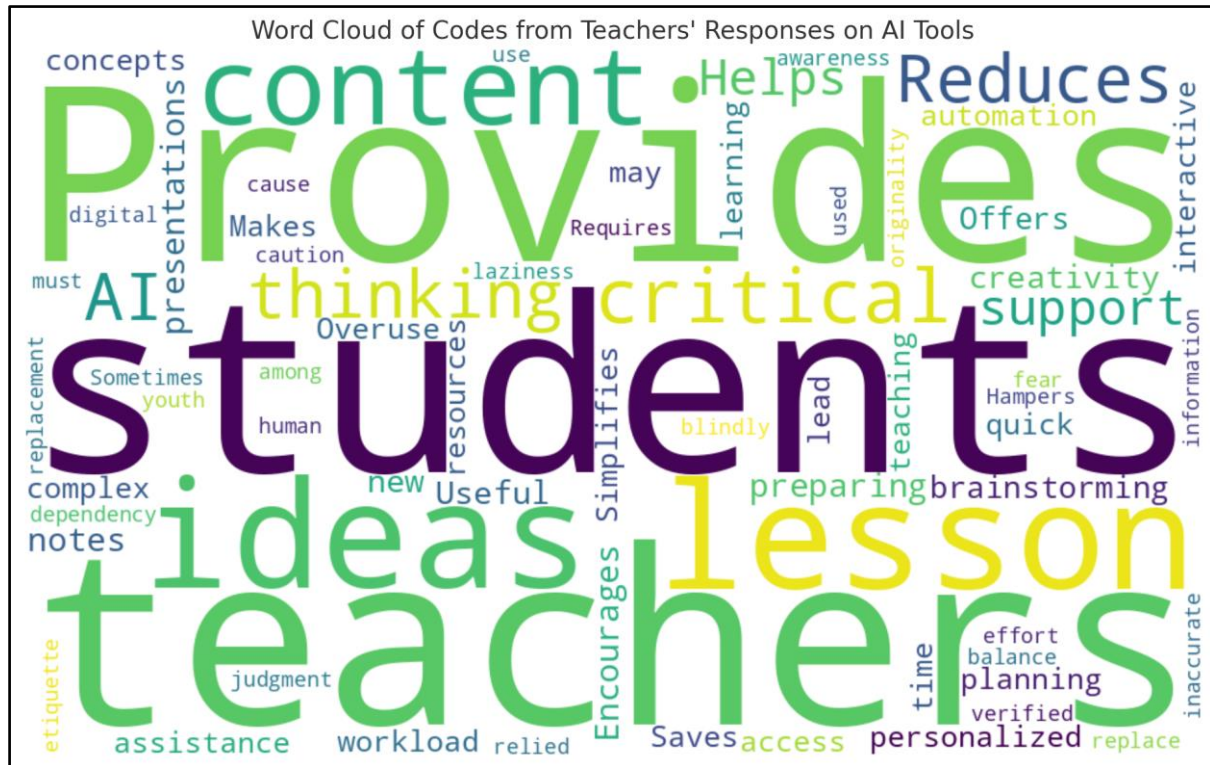


Fig 4.6.1 Wordcloud of Code from Teacher responses

Interpretation of Thematic Analysis:

Discussion of Teachers' Responses:

The thematic analysis of in-service teachers' responses on the role of AI tools such as ChatGPT in education reveals a nuanced stance. Teachers simultaneously recognized the pedagogical promise of AI while also articulating critical concerns regarding its risks, limitations, and ethical use. The discussion of these results is organized around the three major themes: *Pedagogical Enhancement, Challenges and Cautions*, and *Human - AI Balance*.

Pedagogical Enhancement:

A strong pattern within the responses emphasized how AI tools support teachers in lesson preparation, note-making, creating presentations, and generating teaching content quickly. Many educators described AI as a “time-saver” and “assistant,” allowing them to dedicate more energy to student interaction rather than routine administrative tasks. Beyond efficiency, some

highlighted AI's ability to spark creativity by providing innovative prompts or brainstorming ideas that could enhance lesson delivery. These perspectives align with studies by Zawacki-Richter et al. (2019) and Holmes et al. (2022), which highlight AI's capacity to personalize learning, provide adaptive feedback, and act as an intellectual partner in education.

Teachers also noted that AI fosters student engagement, making learning experiences interactive and accessible. Several respondents perceived AI tools as especially useful for differentiation offering tailored content to students at different levels. This mirrors recent findings in the AI-in-education literature, which suggest that intelligent tutoring systems can effectively complement teachers by scaffolding personalized instruction (Luckin, 2017). Thus, in the teachers' view, ChatGPT and similar tools are valuable not as replacements, but as enhancers of pedagogy.

Challenge and Cautions:

Despite these benefits, teachers expressed notable reservations. Concerns centered on students becoming overly dependent on AI, leading to reduced originality, critical thinking, and effort in problem-solving. Some teachers even labeled AI as “hazardous” if used uncritically, echoing global debates about academic integrity and the “outsourcing of thinking” to generative AI (Kasneci et al., 2023).

Further, respondents mentioned the risk of misinformation, noting that AI-generated responses may be inaccurate or misleading. This aligns with broader critiques that large language models can produce “hallucinations” and biased content (Weidinger et al., 2022). Teachers therefore warned that students could be misinformed if they fail to critically assess outputs. A smaller group raised ethical concerns, particularly regarding bias in responses or potential misuse by students.

Human AI Balance:

Perhaps the most significant theme was the recognition that AI must remain supplementary, not substitutive. Teachers consistently emphasized the irreplaceable value of human interaction in teaching. They highlighted the importance of teacher mediation, where educators guide students on responsible use of AI, foster digital literacy, and encourage critical evaluation of AI-generated content. These insights resonate with Holmes et al. (2021), who caution that while AI can enhance learning environments, it cannot replicate the relational and emotional dimensions of teaching.

Respondents also called for judicious and balanced integration of AI. Rather than adopting AI uncritically, they advocated for hybrid approaches that combine traditional teaching strategies with AI-enhanced practices. This perspective reflects the emergent consensus in research that the future of AI in education lies not in replacement but in human - AI collaboration (Selwyn, 2019).

Overall Synthesis:

The findings highlight teachers’ pragmatic and cautious optimism toward AI. While acknowledging its pedagogical value, they stressed the importance of maintaining human agency and creativity in the classroom. This dual perspective illustrates the evolving role of teachers in the digital age not only as knowledge providers but as ethical guides and mediators who model responsible use of technology.

In sum, the responses reveal that teachers perceive AI tools as a double-edged innovation, capable of enhancing pedagogy when applied responsibly, but potentially detrimental if allowed dominating or replacing human-led educational processes. This nuanced perspective underscores the need for teacher training in AI literacy and institutional policies that encourage ethical, balanced integration of AI into teaching and learning.

From the data, three overarching themes emerged:

1. Pedagogical Enhancement

- Teachers acknowledged the significant potential of AI tools like ChatGPT to support lesson preparation, provide teaching materials, personalize learning, and save time in administrative work. Subthemes highlighted include resource support, creativity stimulation, and facilitating student engagement.
- Many teachers perceived AI as a supportive assistant that enriches the teaching-learning experience rather than replacing traditional methods.

2. Challenges & Cautions

- Alongside benefits, teachers raised concerns about overreliance, which could weaken creativity and originality among both students and educators.
- Risks mentioned included misinformation, inaccuracies in AI outputs, and the possibility of

students misusing the tools, leading to laziness or diminished problem-solving skills.

- A few respondents voiced stronger opposition, highlighting AI as a potential hazard to authentic learning.

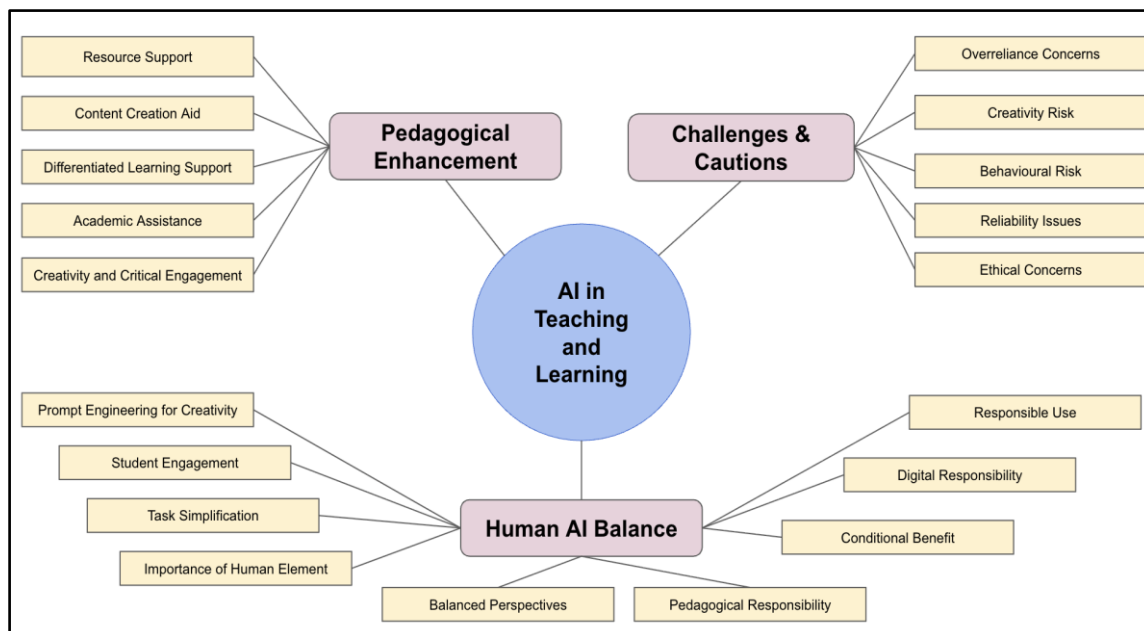
3. Human - AI Balance

- A dominant theme was the need for balance: teachers emphasized that AI must remain a

complementary tool under the teacher's guidance.

- Responsible and judicious use, digital literacy, and critical evaluation of AI outputs were frequently mentioned.
- Teachers highlighted their role in mediating AI use, ensuring that students engage critically and creatively rather than passively relying on technology.

Thematic Map of How Teachers See AI in the Classroom:



This

thematic map brings together what teachers had to say about using AI tools like ChatGPT in their teaching. It shows three big ideas how AI can help, the worries teachers have, and the importance of keeping a balance between tech and human touch. Each branch highlights real concerns and opportunities shared by educators, capturing both their excitement and caution about the role of AI in today's classrooms.

Interpretive Summary:

The findings indicate that in-service teachers perceive AI tools like ChatGPT as a double-edged sword in education. On one hand, it enhances pedagogical practices by providing efficient resource support, personalization, and interactive learning opportunities. On the other hand, teachers expressed concerns about dependency, accuracy, and potential harm to creativity

and originality. Most educators, therefore, positioned AI as a support system that should augment but never replace the human element in teaching.

Conclusion and finding

The present study explored in-service teachers' perceptions of the role of AI tools, particularly ChatGPT, in enhancing teaching and learning. The thematic analysis of 20 carefully selected responses

revealed a dual perspective: while many teachers acknowledged the immense potential of AI in supporting pedagogy, lesson preparation, and personalized learning, they also voiced significant cautions and concerns regarding overreliance, reduced originality, misinformation, and ethical risks.

Three broad themes encapsulated the findings:

1. **Pedagogical Enhancement:** Teachers identified AI as a supportive assistant that facilitates quick access to resources, assists with note-making and lesson planning, and fosters interactive and engaging learning experiences. AI was seen as augmenting teachers' creativity and efficiency.
2. **Challenges and Cautions:** Concerns were raised around students' dependence on AI, the risk of academic laziness, and the possibility of diminished creativity and imagination. Issues of misinformation, bias, and ethical responsibility were also emphasized.
3. **Human - AI Balance:** Teachers highlighted the irreplaceable human element in education, stressing that AI must serve as a complementary tool rather than a substitute. Responsible, judicious use of AI, supported by digital literacy, was underscored as crucial.

Taken together, these findings reflect teachers' pragmatic optimism toward AI: a recognition of its potential benefits tempered by calls for careful, guided, and ethical application. AI is perceived as a double-edged innovation, one that enriches pedagogy when used wisely but risks undermining learning when applied uncritically.

In conclusion, while AI tools like ChatGPT hold transformative potential for education, their effectiveness depends on how educators engage with them. Teachers must remain the ethical and intellectual anchors of the classroom, guiding students not only in harnessing the benefits of AI but also in navigating its risks. This study highlights the urgent need for a

balanced, human-centered approach where AI enriches pedagogy without displacing the irreplaceable role of teachers.

References:

1. Chen, L., Chen, P., & Lin, Z. (2020). *Artificial intelligence in education: A review*. *IEEE Access*, 8, 75264–75278.
<https://doi.org/10.1109/ACCESS.2020.2988510>
2. Dwivedi, Y. K., et al. (2023). *So what if ChatGPT wrote it? Multidisciplinary perspectives on opportunities, challenges and implications of generative conversational AI for research, practice and policy*. *International Journal of Information Management*, 71, 102642.
<https://doi.org/10.1016/j.ijinfomgt.2023.102642>
3. Floridi, L., & Chiriatti, M. (2020). *GPT-3: Its nature, scope, limits, and consequences*. *Minds and Machines*, 30(4), 681–694.
<https://doi.org/10.1007/s11023-020-09548-1>
4. Government of India. (2020). *National Education Policy 2020*. Ministry of Education.
<https://www.education.gov.in/nep2020/>
5. Holmes, W., Bialik, M., & Fadel, C. (2021). *Artificial intelligence in education: Promises and implications for teaching and learning*. Boston, MA: Center for Curriculum Redesign.
6. Holmes, W., Porayska-Pomsta, K., Holstein, K., Sutherland, E., Baker, T., Shum, S. B., Santos, O. C., & Koedinger, K. R. (2021). *Ethics of AI in education: Towards a community-wide framework*. *British Journal of Educational Technology*, 52(4), 1645–1667. <https://doi.org/10.1111/bjet.13091>
7. Kasneci, E., Sessler, K., Küchemann, S., Bannert, M., Dementieva, D., Fischer, F., Gasser, U., & Kasneci, G. (2023). *ChatGPT for good? On opportunities and challenges of large language models for education*. *Learning and Individual Differences*, 103, 102274.
<https://doi.org/10.1016/j.lindif.2023.102274>



8. König, J., Bremerich-Vos, A., Buchholtz, N., & Glutsch, N. (2023). *Teachers' professional knowledge and attitudes towards AI in education. Computers and Education: Artificial Intelligence*, 4, 100152.
<https://doi.org/10.1016/j.caeai.2022.100152>
9. Kukreja, R., & Arora, P. (2022). Integrating AI in Indian classrooms: Challenges and opportunities. *Journal of Education and Practice*, 13(9), 23–31.
10. Luckin, R. (2017). Towards artificial intelligence-based assessment systems. *Nature Human Behaviour*, 1(3), 1–3.
<https://doi.org/10.1038/s41562-017-0055>
11. Luckin, R. (2018). *Machine learning and human intelligence: The future of education for the 21st century*. London: UCL Institute of Education Press.
12. Popenici, S. A. D., & Kerr, S. (2017). Exploring the impact of artificial intelligence on teaching and learning in higher education. *Research and Practice in Technology Enhanced Learning*, 12(1), 22. <https://doi.org/10.1186/s41039-017-0062-8>
13. Selwyn, N. (2019). *Should robots replace teachers? AI and the future of education*. Cambridge, UK: Polity Press.
14. Weidinger, L., Mellor, J., Rauh, M., Griffin, C., Uesato, J., Huang, P. S., ... & Gabriel, I. (2022). Ethical and social risks of large language models. In *Proceedings of the 2022 ACM Conference on Fairness, Accountability, and Transparency (FAccT)* (pp. 214–229). ACM.
<https://doi.org/10.1145/3531146.3533229>
15. Yilmaz, R., & Yilmaz, F. G. K. (2023). The impact of ChatGPT on students' academic writing: Opportunities and threats. *Computers and Education: Artificial Intelligence*, 4, 100138.
<https://doi.org/10.1016/j.caeai.2023.100138>
16. Zawacki-Richter, O., Marín, V. I., Bond, M., & Gouverneur, F. (2019). Systematic review of research on artificial intelligence applications in higher education – Where are the educators? *International Journal of Educational Technology in Higher Education*, 16(1), 39.
<https://doi.org/10.1186/s41239-019-0171-0>

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