

Diverse Perspectives of ChatGPT in Education: A Research Review

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Abstract: *This study investigates the utilization of Conversational Human-Augmented GPT (CHAT GPT) within educational contexts, analyzing it from various angles. With the ongoing advancements in artificial intelligence, its integration into education presents both prospects and hurdles. To offer a thorough examination, this research delves into the perspectives of educators, students, administrators, and developers, exploring the perceived advantages, reservations, and impacts of integrating CHAT GPT across different educational settings. Secondary data has been gathered to support this investigation.*

Keywords: ChatGPT, Artificial Intelligence, education.

I. INTRODUCTION

ChatGPT (Conversational Generative Pre-trained Transformer) have surfaced as potent instruments poised to transform numerous industries, including education. Leveraging state-of-the-art deep learning algorithms, ChatGPT demonstrates proficiency in comprehending and generating text akin to human language, facilitating seamless interactions between users and AI systems. ChatGPT exhibits potential as a versatile resource for personalized learning, interactive tutoring, and content creation within educational environments. The conventional educational approach, characterized by uniform instruction and minimal student involvement, encounters difficulties in catering to the varied learning requirements of students in today's digital era. With educational establishments progressively embracing technology-enhanced learning platforms, the significance of utilizing AI-powered solutions to tackle the obstacles is increasingly acknowledged. ChatGPT, with its capacity to mimic human-like dialogues and adjust to individual learning preferences, presents a hopeful avenue for reshaping the educational domain.

II. LITERATURE REVIEW

Diverse Viewpoints on ChatGPT within Educational Environments

The incorporation of ChatGPT (Conversational Generative Pre-trained Transformer) into education is examined through diverse viewpoints, gathering insights from different participants within the educational sphere. These participants comprises of educators, students, parents, policymakers, and technology developers, each contributing unique perspectives on the implications of ChatGPT within educational environments.

1. **Perspective of Educators':** In the present scenario, educators adopt ChatGPT as a prospective instrument for improving teaching methodologies and fostering student advancement. They value its capacity to deliver personalized feedback, address student queries, and furnish customized supplementary materials. Nonetheless, educators also voice apprehensions about retaining authority over the learning journey, verifying the accuracy of ChatGPT-provided information, and safeguarding the human aspect of education.
2. **Students' Viewpoint:** For almost any student, innovative and captivating method for engaging with educational material is ChatGPT. They appreciate its conversational platform, enabling them to pose questions, receive instant feedback, and delve into subjects at their preferred speed. Today, students consider ChatGPT as a beneficial study companion, helping them in their homework completion, exam readiness, and comprehension of complex concepts. However, students may encounter difficulties discerning between ChatGPT responses and authentic human input, potentially fostering dependence on AI-driven solutions and diminishing critical thinking abilities.

3. **Parental Perspective:** Parents perceive ChatGPT as an additional tool complementing traditional educational approaches, offering supplementary support and resources for their children's learning journeys. They value its potential to provide tailored tutoring, address learning gaps, and cultivate self-directed learning abilities. However, parents may harbor reservations regarding the accuracy and reliability of information delivered by ChatGPT, along with concerns about its potential effects on their children's social and emotional development.
4. **Policy-Making Role:** Policymakers play an important role in shaping the regulatory landscape governing the integration of ChatGPT within education. Their responsibilities encompass formulating guidelines and standards to protect AI technologies' ethical and prudent utilization in educational contexts. Policymakers also address data privacy, security, and inclusivity issues to safeguard the rights and welfare of students and educators.
5. **Technology Developers' Role:** Technology developers are responsible for crafting, enhancing, and fine-tuning ChatGPT algorithms to align with the distinct requirements of educators and students. They engage in partnerships with educational entities to discern practical applications, tackle technical obstacles, and enrich the capabilities of educational tools rooted in ChatGPT. Moreover, technology developers prioritize user input, refine product designs iteratively, and integrate protective measures to mitigate the potential hazards linked with algorithmic biases and data privacy issues.

The literature concerning this subject indicates

Author, Year	Title of the Paper	Keywords involved	Objectives
(Hosseini et al., 2023)	An exploratory survey about using ChatGPT in education, healthcare, and research	ChatGPT, education, research, and healthcare.	To know different viewpoints about using ChatGPT in education, research, and healthcare.
(Garrel & Mayer, 2023)	Artificial Intelligence in studies—use of ChatGPT and AI-based tools among students in Germany	AI tools, ChatGPT, Students	This study seeks to derive conclusions regarding how students employ such AI tools.
(Rahman & Watanobe, 2023)	ChatGPT for Education and Research: Opportunities, Threats, and Strategies	ChatGPT; educational technology; research; programming education; large language model; GPT-3; ChatGPT survey; GPT-4; artificial intelligence; AI for code	The study investigates the prospects, obstacles, and tactics associated with the use of ChatGPT in education and research.
(Kasneji et al., 2023)	ChatGPT for good? On opportunities and challenges of large language models for education	Language model, AI applications, education	Addressing the responsible and ethical utilization of language models in education serves as a method to tackle these challenges.
(Ray, 2023)	ChatGPT: A comprehensive review of background, applications, key challenges, bias, ethics, limitations, and future scope	ChatGPT Language model GPT-3.5 Generative AI Conversational AI Context understanding Natural language processing	The paper discusses the possible challenges and ethical considerations of using ChatGPT in research. It emphasizes the importance of finding a balance between AI-supported innovation and human expertise.

(Zirar, 2023)	Exploring the impact of language models, such as ChatGPT on student learning and assessment	Language models, Chatgpt Student learning	The paper provides valuable insights into the impact of language models on student learning and assessment within higher education.
(Dwivedi et al., 2023)	Opinion Paper: “So what if ChatGPT wrote it?” Multidisciplinary perspectives on opportunities, challenges, and implications of generative conversational AI for research, practice, and policy	Conversational Agent, Generative artificial intelligence, Generative AI, Chat GPT, Large language models	The study delves into the diverse ways in which ChatGPT has transformed scientific research, spanning activities such as data processing, hypothesis generation, collaboration, and public outreach.
(Lo, 2023)	What Is the Impact of ChatGPT on Education? A Rapid Review of the Literature	ChatGPT; OpenAI; artificial intelligence; natural language processing; chatbot	The study aims to deepen comprehension of ChatGPT's capabilities across various subject domains, its potential applications in education, and the concerns voiced by researchers during the initial three months following its release.

III. VIEWPOINTS LINKED WITH INTEGRATING CHATGPT IN EDUCATIONAL ENVIRONMENTS

The varied viewpoints offer insights into the potential advantages, hurdles, and ethical dilemmas related to ChatGPT in educational environments.

1. **Facilitating Personalized Learning:** Numerous studies have delved into ChatGPT's capacity to enhance personalized learning environments for students. Through functionalities such as adaptive feedback, tailored learning content generation, and individualized tutoring, ChatGPT stands poised to address the distinct learning preferences and requirements of students. Evidence suggests that personalized interactions with ChatGPT can elevate student engagement, motivation, and academic performance.
2. **Addressing Equity and Inclusion:** Scholars have examined how ChatGPT can contribute to equity and inclusion in education. Educational tools powered by ChatGPT are tailored to assist students with diverse learning needs, including those with disabilities or language barriers. Nonetheless, the research underscores the importance of mitigating biases in ChatGPT algorithms to ensure fair access and outcomes for all learners.
3. **Fostering Collaboration and Communication:** Literature highlights ChatGPT's role in promoting collaboration and communication among students, educators, and other stakeholders. ChatGPT-based platforms facilitate real-time interactions, collaborative problem-solving, and peer support, enriching social learning experiences. However, scholars caution against excessive dependence on ChatGPT for communication, as it may diminish opportunities for genuine human interactions.
4. **Ethical framework:** Ethical considerations are a prominent theme in the literature on ChatGPT in education. Researchers highlight the concern areas of privacy of data, security, and algorithmic biases.
5. **Teacher Outlooks and Professional Development:** Studies have examined educators' perspectives on the adoption and utilization of ChatGPT in their teaching practices. While some educators view ChatGPT as a valuable generative AI tool for instruction and student support, others express skepticism about its

effectiveness and appropriateness in educational contexts. Research also examines the role of professional development programs in equipping educators to effectively utilize ChatGPT in their classrooms.

6. Future directions and Research Implications: The literature underscores the necessity for additional research to enquire about the continuing effects of ChatGPT on teaching and learning outcomes. Subsequent studies could examine the efficacy of varied instructional strategies reliant on ChatGPT, the ideal roles for educators and students within ChatGPT-mediated learning ecosystems, and the feasibility of scaling and perpetuating ChatGPT implementations across various educational settings.

IV. CONCLUSION

In conclusion, the viewpoint highlights crucial ethical, fairness, and efficacy considerations that warrant attention. By fostering collaborative discussions and engaging in interdisciplinary research involving educators and policymakers, we can harness the potential benefits of ChatGPT while effectively addressing the challenges it poses. This approach will facilitate the creation of inclusive and innovative educational environments that prioritize both technological advancement and ethical responsibility.

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