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The influence of ChatGPT on teachers' teaching skills from the perspective of teachers

By

Dr/ Maryam Ahmed Abdullah Alomair

Department of Curriculum and Instruction, Faculty of Education, King
Faisal University

Email: maaomir@kfu.edu.sa

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المستخلص :

تستكشف هذه الدراسة تأثير ChatGPT ، وهو نموذج لغة كبير مدعوم بالذكاء الاصطناعي، على مهارات المعلمين في التعليم من وجهات نظرهم. إن الوجود المتزايد للذكاء الاصطناعي عبر مختلف القطاعات، بما في ذلك التعليم، يقدم فرصًا وتحديات. تبحث هذه الدراسة في كيفية إدراك المعلمين للتأثير الحالي لـ ChatGPT وتأثيره المحتمل في المستقبل على ممارساتهم التعليمية. تعتبر هذه الدراسة مهمة لأنها ستسلط الضوء على وجهات نظر المعلمين حول كيفية تأثير ChatGPT على مهاراتهم التعليمية، مما يمكن أن يساهم بدوره في تكاملها في الممارسات التعليمية وتطوير الأنظمة التنظيمية المناسبة. تكشف النتائج أن تجارب المعلمين ووجهات نظرهم بشأن ChatGPT تختلف. بينما يحتضن بعض المعلمين هذا النموذج كأداة داعمة، يعبر آخرون عن تشككهم بسبب قضايا مثل الدقة والإفراط في الاعتماد. وقد ظهرت الحاجة لسياسات واضحة وبرامج تدريب مستمرة للمعلمين باعتبارها أمراً حاسماً للتكامل الفعال. ستساهم النتائج في برامج تدريب المعلمين، مما يعزز الفهم الأعمق للإيجابيات والسلبيات المحتملة لاستخدام تشات جي بي تي في التعليم. ستحدد مراجعة الأدبيات الحالية الموضوعات الرئيسية، والنقاشات الحالية، والفجوات البحثية، وستوفر أساساً لإطار العمل النظري للدراسة. الكلمات الرئيسية: المعلمون، الطلاب، مهارات التعليم، تشات جي بي تي.

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Abstract

This study explores the influence of ChatGPT, a large language model (LLM) powered by artificial intelligence (AI), on teachers' teaching skills from their perspectives. AI's growing presence across various sectors, including education, presents both opportunities and challenges. This research investigates how teachers perceive ChatGPT's current impact and its potential future effects on their teaching practices. This study is significant because it will highlight teachers' perspectives on how ChatGPT may affect their teaching skills, which can in turn inform its integration into educational practices and the development of appropriate regulations. Findings reveal that teachers' experiences and perspectives of ChatGPT vary. Whereas some of the teachers embrace it as a supportive tool, others express skepticism due to issues like accuracy and the potential for over-reliance. The need for clear policies and ongoing teacher training emerged as critical for effective integration. The findings will contribute to teacher training programs, fostering a deeper understanding of the potential pros and cons of ChatGPT in education. A review of existing literature will identify key themes, current debates, research gaps, and provide a basis for the study's theoretical framework.

Keywords: teachers, students, teaching skills, ChatGPT

1. Introduction

The field of artificial intelligence (AI) has witnessed significant advancements and proliferation in recent years. This is especially true within the domain of large language models (LLMs) (Surden, 2024) which continues to dominate public discourse and utilization. LLMs could be described as sophisticated AI systems designed to understand and generate human language. These aspects distinguish it from other models like diffusion models and Neural Radiance Fields (NeRFs) which are specialized in other unique tasks such as image creation (Surden, 2024). One of the most popular examples of an LLM is OpenAI's ChatGPT. This is a chat-based AI capable of engaging in dialogue with a human user, answering questions, and producing human-like writing (Surden, 2024).

Since 2022, the progress in LLM capabilities has been particularly notable, with models like ChatGPT demonstrating an enhanced capacity to create and interpret complex written texts, including research papers, fiction, and even legal documents (Surden, 2024; Alberts et al., 2023). This advancement and progression in text processing originates from the use of transformer-based models, allowing for the parallel processing of vast datasets. In turn, this leads to a significant improvement in language comprehension and generation compared to traditional statistical language models (Alberts et al., 2023). Through continued advancements, the model's capabilities now extend to writing code, producing creative content like plays and poetry, and even simulating scientific abstracts (Alberts et al., 2023).

Outside the digital realm, advances in software and hardware have driven AI beyond data centers and into everyday devices and machines (Schatsky, Camhi, & Dongre, 2018). Processors designed for efficient machine learning on mobile devices have become increasingly prevalent

as substantial investment continues to fuel the development of next-generation AI chips (Schatsky et al., 2018). To highlight the extent to which this technology is proliferating in various sectors, Schatsky et al., (2018) notes that a significant portion of AI analysis, according to predictions, will soon occur at the on devices themselves rather than in centralized data centers. This indicates the increasing pervasiveness of AI in the world we live in today. This intelligence is expected to reshape various sectors around the globe, including manufacturing, healthcare, and transportation (Schatsky et al., 2018). There are many examples of this today, including AI-powered robots enhancing factory automation, intelligent medical devices transforming healthcare delivery, and autonomous vehicles which promise to revolutionize transportation (Schatsky et al., 2018). The transformative influence of this technology is also evident in sectors like finance and retail (Russell & Norvig, 2018).

Like other sectors, education stands as a promising area for AI application (Guan, Mou, & Jiang, 2020). This is evidenced by the fact that AI in the field has moved beyond theoretical scenarios to real-world learning environments. In this regard, EdTech companies continue to develop personalized adaptive learning systems, AI-aided teaching systems for classroom management and assessment, and administrative systems for student enrollment and inquiries (Guan et al., 2020). Because of its ability to automate tasks, ease of use, improve decision-making, and enhance interactions, ChatGPT is being adopted across sectors, including marketing, customer service, healthcare, finance, importantly, and education (Rane, Kaya, Mallick, & Rane, 2024). In education, the technology continues to offer new avenues for supporting learning, tutoring, and research. In the process, it has impacted how educators and students engage with knowledge (Rane et al., 2024).

Some of the promises it presents include facilitating self-directed learning through personalized learning pathways, adaptive assessments, and intelligent tutoring systems, consequently serving as an interactive collaborator catering to individual needs of the learner (Yu, 2024). Through such capabilities as a collaborative role in content generation and knowledge dissemination (Yu, 2024), ChatGPT's potential in education also lies in its ability to facilitate knowledge acquisition, create content, and promote inclusivity (Yu, 2024). However, As AI, and ChatGPT in particular, become increasingly integrated into education, it is vital to examine their influence on teaching skills from the perspective of teachers themselves. This study aimed to examine this very dynamic with a focus on how ChatGPT is perceived and utilized by educators in their professional practice.

2. The Purpose and The Significance of the study

2.1. The purpose of the study

This research sought to explore how teachers perceive ChatGPT's influence on various facets of their teaching practice, including lesson planning, assessment strategies, student engagement techniques, and overall classroom management. As key stakeholders whose key role is passing knowledge to younger minds, teachers are in a good position to understand the impact that these technologies can have on their skills moving forward. By examining these specific aspects, the study sought to provide a nuanced understanding of how ChatGPT is being integrated (or could be integrated) into educational settings and its perceived effects on the pedagogical approaches employed by teachers.

2.2. Significance of the study

This study held significant importance due to a number of key factors. Firstly, as ChatGPT and similar AI tools continue to rapidly

evolve and become more accessible around the world, it was important to understand how teachers perceive their impact on instruction. Some questions quickly come to mind, including, will these technologies enhance teaching skills by automating certain tasks and providing new avenues for personalized learning? Or might they negatively affect these skills by potentially diminishing critical thinking, creativity, or the crucial human element of teacher-student interaction? Understanding the perspective of teachers was essential to addressing these questions and ensuring that the integration of these technologies in education is implemented thoughtfully and effectively in a manner that will have the best outcomes possible. Secondly, this study contributed valuable insights into the potential impact of ChatGPT on student learning and understanding. By examining how teachers adapt their instruction in response to ChatGPT, it could be possible to gain a better understanding of how these technologies ultimately affect student outcomes.

The study also explored the potential impact of ChatGPT on the teacher-student relationship and classroom dynamics. Understanding how teachers perceive the role of AI in their interactions with students was vital for maintaining a positive and supportive learning environment. This was especially important for understanding what role teachers could play as the technologies continue to be perfected. Fourthly, like existing studies on the subject, the research could be contributed to the ongoing discussion regarding the future of the teaching profession in the age of AI. As mentioned, now is the time to ask important questions like; will the increasing sophistication of AI tools like ChatGPT eventually diminish the need for human teachers? Or will they serve as valuable aids that enhance teachers' abilities and allow them to focus on more complex and nuanced aspects of instruction?

By gathering teachers' perspectives on these important questions, the study provided valuable information and guidance for policymakers, educational leaders, and teacher training programs. The findings had the potential to inform the development of effective strategies for integrating AI into education. This included the creation of appropriate regulations and ethical guidelines and the design of professional development programs that equip teachers with the skills and knowledge they need to effectively utilize these technologies. Ultimately, the research contributed to a deeper understanding of the complex relationship between AI, teachers, and students, and helped promote the responsible and beneficial integration of AI into the educational landscape moving forward.

3. Research questions

To achieve its purpose, the study will be guided by the following key questions:

- What are teachers' perspectives on the influence of ChatGPT on their teaching skills in general?
- What are teachers' perspectives on the potential long-term effects of ChatGPT on the teaching profession and the role of teachers in the educational landscape?
- What are the perceived benefits and challenges associated with the integration of ChatGPT into educational practices, from the teachers' perspective?

4. Literature review

4.1. Factors influencing the adoption of AI

The adoption of artificial intelligence (AI) is influenced by a range of factors that span organizational, individual, and contextual dimensions. Research studies across the sectors, including business and education, have identified several key drivers and barriers to this adoption.

4.2. Organizational factors

At the organizational level, top management commitment and organizational readiness are crucial for successful AI integration (Lada et al., 2024). Strong leadership support has been shown to signal the importance of AI initiatives and continues to provide the necessary resources for implementation in key departments. Organizational readiness entails such factors as the availability of technological infrastructure, data quality, and employee skills (Lada et al., 2024). On the other hand, dynamic capabilities, which refer to the ability of organizations to adapt and innovate, and entrepreneurial orientation (EO), which reflects a proactive and risk-taking approach, significantly predict AI adoption in e-commerce among small and medium-sized enterprises (SMEs) (Aljarboa, 2024). These factors contribute to a firm's capacity to identify, assimilate, and utilize AI technologies effectively, ultimately contributing to improved business performance (Aljarboa, 2024).

4.3. Individual factors

Individual perceptions and attitudes play a significant role in the adoption of AI as is the case with many other products and services in the market. Studies have identified performance expectancy (perceived benefits), effort expectancy (perceived ease of use), and personal innovativeness as major influencing factors (Alanzi et al., 2023). Therefore, individuals who believe that AI will enhance their performance, those who find it easy to use, and those who are generally open to new technologies are more likely to adopt these tools. On the other hand, perceived privacy risks and ethical concerns are likely to negatively impact the adoption (Alanzi et al., 2023; Al-Mughairi & Bhaskar, 2024).

4.4. Contextual factors

The specific context in which AI is being implemented also influences adoption. In education, teachers' exposure to credible AI information positively affects their perceptions of AI usefulness. This, in turn, impacts their intention to use these tools (Hazzan-Bishara, Kol, & Levy, 2025). Institutional support, including infrastructure, technical assistance, and professional development opportunities, is crucial for driving AI adoption among teachers (Hazzan-Bishara et al., 2025).

Factors like anxiety towards AI and self-efficacy (confidence in one's ability to use AI) also influence the intention of teachers to use AI-based applications in their teaching (Wang, Liu, & Tu, 2021). This is as simple as selecting other classroom tools that they can effectively and efficiently employ in teaching. Therefore, teachers with the greatest confidence and understanding are more likely to employ the technology in their practice. Similarly, social influence, such as the opinions of colleagues and peers, combined with perceived usefulness of AI tools are also likely to significantly affect teachers' behavioral intention to use educational AI tools (Velli & Zafiroopoulos, 2024; Chocarro, Cortinas, & Matás, 2021). Age has also been shown to be an important determinant, with younger teachers often more likely to adopt AI technologies (Bakhadirov & Alasgarova, 2024). This could be attributed to the fact that younger teachers have grown using different types of technologies.

4.5. Motivators and inhibitors in education

Within the educational sector, research has highlighted several motivating and inhibiting factors related to AI adoption, particularly ChatGPT. Some of the most common motivating factors include the desire to explore innovative educational technologies, the potential for personalized teaching and learning, and the possibility of time-saving

through automation, and opportunities for professional development (Al-Mughairi & Bhaskar, 2024). Inhibiting factors, on the other hand, include concerns about the reliability and accuracy of AI-generated content, the potential for reduced human interaction, privacy and data security issues, lack of institutional support, and the risk of over-reliance on ChatGPT (Al-Mughairi & Bhaskar, 2024).

4.6. Current debate on ChatGPT in teaching

The emergence of ChatGPT has stirred a vigorous debate within the educational community, ranging from discussions about its potential benefits, drawbacks, and the ethical considerations surrounding its use. One of the main concerns is the potential cost of access. While currently available for free, the long-term accessibility of ChatGPT and similar AI tools raises questions about equitable access for all students, particularly those from disadvantaged backgrounds (Magtoto, Bagnol, & Abunda, 2023). The costs associated with developing and maintaining such sophisticated AI systems could lead to a pay-for-access model, potentially exacerbating existing educational inequalities (Magtoto et al., 2023).

Another point of discussion revolves around the balance between AI assistance and human interaction in education. Although ChatGPT can enhance the learning experience, it should not replace the crucial role of personal interaction between teachers and students (Magtoto et al., 2023). Over-reliance on AI for assessment and teaching could also lead to educational gaps, especially in the development of empathy, personalized feedback, and strong teacher-student relationships (Magtoto et al., 2023).

Despite these concerns, the potential advantages of ChatGPT in education are significant per the proponents. It can make learning more engaging and accessible, especially for students with disabilities (Ali et al., 2024). ChatGPT can assist teachers with various tasks, including lesson planning, student assessment, providing personalized feedback, and communicating with students and parents (Hsu & Ching, 2023; Ruiz et al., 2023; Karabacak et al., 2023). It can also be a valuable tool for students, offering instant feedback, explaining complex concepts, and providing a safe space for students to ask questions before they approach their teachers for further guidance and clarification (Ali et al., 2024). To counter the limitations of these technologies, such as accuracy and bias within the models themselves (Ali et al., 2024; Rawas, 2023), proponents holds that teachers, like students, must be aware of these limitations and verify information from credible sources (Ali et al., 2024; Houston & Corrado, 2023).

The potential risks to learners if educators employ ineffective practices with ChatGPT highlights the need for careful integration and training (Mai, 2024). This integration into teaching practices requires a thoughtful and ethical approach. It should complement, not replace, traditional teaching methods, focusing on enhancing student engagement and providing supplementary learning support (Ali et al., 2024). As AI technologies advance, educators will need training on the technical use of models like ChatGPT, its limitations, and potential biases (Ali et al., 2024). Institutions should establish guidelines for the ethical use of AI tools with an emphasis on academic integrity and the prevention of plagiarism (Ali et al., 2024).

5. Method and procedure

This study aimed to understand how teachers perceive the impact of ChatGPT on their teaching practices, specifically, how it could be, or

will, affect their skills. A qualitative research approach was ideal for the study because the rich amount of data collected helped to get a deeper understanding of teachers' perspective on the topic. A phenomenological approach was the primary method for the study. Phenomenology was ideal for exploring the lived experiences of participants. As such, it was the ideal approach to understand teachers' perspectives and experiences regarding ChatGPT's influence (Donalek, 2004). The method largely focused on understanding the meaning participants ascribe to their experiences, allowing for rich descriptions and insights into their perspectives. As Parse, Coyne, and Smith (1985) points out, the researcher must "dwell with the subjects' descriptions in quiet contemplation" to uncover the essence of their lived experience. This aligned perfectly with the research questions of this study, which sought to understand teachers' perspectives on the general influence, long-term effects, and perceived benefits and challenges of ChatGPT integration.

6. Sample collection

The study comprised of fifteen (15) participants who are currently working as educators across various levels of the educational system. To maintain anonymity, each participant was assigned a numerical identifier (Teacher 1, Teacher 2, ..., Teacher 15). The participants represented a range of teaching experience and educational levels, including elementary school, high school, and even a college educator. This diversity in teaching contexts was considered valuable for gaining a broad understanding of how ChatGPT's influence is perceived across different educational settings and age groups. Although demographic details such as age and gender are not provided here to further ensure anonymity, the group encompassed a variety of backgrounds and tenures within the teaching profession. All participants were actively engaged in teaching at the time of data collection, providing current insights into the integration and potential impact of AI technologies like ChatGPT on their daily practices.

Purposive sampling was used as the sampling strategy for this study. This technique was chosen due to the limited number of teachers readily accessible to the researcher, time limitations, and the desire to ensure that all participants could offer valuable perspectives and experiences relevant to the research topic (Palinkas et al., 2016). The primary criterion for inclusion was that participants were actively working as teachers and therefore possessed some knowledge of the challenges and opportunities presented by emerging technologies in education. This approach allowed for the selection of information-rich cases that could provide in-depth insights into the research questions.

After getting the ethical approval from research ethical committee at King Faisal University (ETHICS3385), the recruitment process involved approaching various educational institutions (schools and a college) with a brief overview of the study's purpose and a request for participation from their teaching staff. Teachers who expressed interest in the study and voluntarily accepted the invitation to participate were then selected. While the initial outreach involved approaching schools, the final selection of participating teachers from those who volunteered was conducted in a manner that introduced an element of randomness within the purposively selected group. This approach served to mitigate potential bias that might arise from solely selecting individuals known to hold specific views on the topic. By recruiting volunteers from different educational levels and then including all those who accepted the invitation, the study aimed to gather a range of perspectives from teachers actively engaged in the profession. Participants were informed about the study's aims, the voluntary nature of their participation, and the measures taken to ensure their anonymity and the confidentiality of their responses prior to their inclusion in the study.

7. Data collection

Semi-structured interviews served as the primary data collection method for this study. This approach was chosen because it offers a valuable balance between structure and flexibility, thus allowing for the exploration of pre-determined topics while also providing the opportunity for participants to elaborate on their experiences and raise unforeseen issues relevant to the research questions. This is achieved because the open-ended nature of the questions encourages participants to express their perspectives in their own words, capturing the diversity of their experiences and interpretations. This is important in an emerging area like AI in education, where teachers may have varied levels of exposure and understanding.

8. Data collection Process and Data Analysis Process

8.1. Data collection Process

Data was primarily collected in-person through semi-structured interviews. The interview process was carefully designed to derive rich and detailed perspectives from the participant regarding the influence of ChatGPT on their teaching practices. The interview guide was developed before commencing data collection, and served as a flexible framework to ensure that key areas related to the research questions were explored with each participant. The guide comprised open-ended questions designed to encourage detailed responses and personal reflections on the following areas:

Perceptions of ChatGPT's Influence on Teaching Skills

Questions in this section aimed to understand how teachers perceived ChatGPT impacting various aspects of their teaching, including as lesson planning, curriculum development, assessment design, student engagement, and classroom management.

Potential Long-Term Effects on the Teaching Profession

This section focused on teachers' perspectives on the future role of AI in education and its potential impact on the teaching profession. Questions explored their thoughts on how ChatGPT might change the role of teachers, the skills that will be most important for educators in the future, and the potential for AI to either augment or diminish the need for human teachers.

Perceived Benefits and Challenges of ChatGPT Integration

This section aimed to understand teachers' views on the advantages and disadvantages of incorporating ChatGPT and similar AI tools into educational practices. Questions explored potential benefits such as time-saving, personalized learning opportunities, and access to information, as well as potential challenges like over-reliance on technology, ethical concerns, and the impact on critical thinking. The interviews were conducted in person at a location convenient for the participating teachers to ensure a comfortable setting for the discussion. Before starting, the purpose of the study was reiterated, addressing any questions the participant had. Verbal consent was also obtained to not only participate but also to have the interview audio-recorded. Audio recording was utilized to ensure accurate capture of the participants' responses, allowing for a more effective and thorough transcription process. The transcriptions served as the primary data for thematic analysis.

8.2. Data Analysis Process

The data collected through the semi-structured interviews were analyzed using thematic analysis. This process involved the identification, organization, and interpretation of patterns of meaning (themes) in the data. The analysis was conducted manually, without the use of specialized qualitative data analysis software, and followed a structured process to ensure coherence.

Steps for thematic analysis:

Familiarization with the Data

The initial stage involved a thorough reading and re-reading of each transcript to gain a comprehensive understanding of the content and to become familiar with the participants' perspectives. This allowed for the development of initial impressions and a preliminary sense of potential patterns.

Generating Initial Codes

Following the familiarization stage, the transcripts were closely examined to identify initial codes. These codes were descriptive labels assigned to segments of text that captured a specific idea, concept, or observation related to the research questions. Here, the codes emerged directly from the data rather than being pre-determined.

Generating Themes

Once a substantial number of initial codes were generated across the transcripts, patterns and connections between these codes were identified. Related or similar codes were grouped together. This step organized the codes into potential overarching themes that captured a broader meaning within the data.

Reviewing and Refining Themes

Potential themes were then reviewed in relation to the coded data extracts and the entire dataset. This stage involved two key steps. Firstly, the internal coherence of each theme was examined to ensure that the data extracts within a theme meaningfully related to each other. Second, the uniqueness of each theme was considered to ensure it captured a unique aspect of the data and was not overly overlapping with other themes. Whereas some of the themes merged during this process and others split, some were discarded as the analysis progressed.

Defining and Naming Themes

Once the refining process was completed, the final set of themes was clearly defined and named. The researcher ensured that the names of the themes were descriptive and accurately reflected the content within them. This stage resulted in the identification of the following key themes:

- Experience with ChatGPT
- Influence on Teaching Skills
- Impact on Lesson Planning and Curriculum
- Potential Benefits
- Challenges and Concerns
- Training and Support Needs
- Producing the Report

The final stage involved selecting the most relevant data extracts to illustrate each theme and writing a narrative that presented the findings in a clear and coherent manner. This served to link the themes back to the research questions and the overall purpose of the study.

9. Ethical Considerations

Before each interview, participants were fully informed about the purpose of the study, the interview process, the estimated time commitment, their right to withdraw at any point without penalty, and how their data would be stored and used. Verbal consent was obtained before the interview began and before the audio recording commenced. As mentioned, participants were assigned numerical identifiers (Teacher 1 to Teacher 15) in the reporting of the findings to ensure their anonymity. All identifying information was removed from the interview

transcripts. Audio recordings and transcripts were stored securely on a password-protected computer accessible only to the researcher. The interviewer maintained a respectful and non-judgmental attitude throughout the interviews, and the participants' time and insights acknowledged. To avoid leading any of the participants towards leaning on any side in their responses, interview questions were framed in a neutral manner. All the data collected, including audio recordings and transcripts, were stored securely for the duration of the research process and will be appropriately destroyed after the completion of the study, in accordance with ethical research practices.

10. Validity

To enhance validity of the thematic analysis, the following measures were employed:

10.1. Thorough Data Immersion

A significant amount of time was spent reading and re-reading the transcripts to develop a deep understanding of the data. This served to minimize the risk of superficial interpretations.

10.2. Member Checking

Identified themes and supporting data extracts were shared with the participants to gather their feedback on the accuracy and resonance of the findings. This is a valuable step that serves to enhance the credibility of the analysis. It allows participants to confirm whether the researchers' interpretations align with their own experiences and perspectives.

11. Results

11.1. Themes

11.1.1. Understanding and Experience with ChatGPT

- Despite the popularity of the technology, some teachers (4 teachers) have limited experience with ChatGPT and are still in the process of exploring its applications.
- The majority of teachers (8 teachers) actively use it for various purposes, ranging from planning lessons and brainstorming to generating assessments.

11.1.2. Influence on Teaching Skills

- The majority of teachers (8) feel that the technology has the potential to enhance creativity, help in generating content, and save a significant amount of time.
- A few teachers (4) are hesitant and view it as a novelty rather than a core tool. One teacher believes it has no influence on teaching skills.

11.1.3. Impact on Lesson Planning and Curriculum

- Majority of teachers (9) view ChatGPT as a valuable brainstorming tool for lesson ideas, interactive activities, and writing prompts.
- Some of the teachers (6) believe its value largely depends on the subject (e.g., whereas STEM teachers see potential in simulations, literature teachers worry about losing nuance). A few teachers worry about over-reliance.

11.1.4. Impact on Assessment and Feedback

- About half of the teachers (7) have used ChatGPT for creating quizzes, rubrics, or automated feedback.
- Other teachers (6) have concerns about plagiarism, Over-reliance, and the accuracy of assessments.
- All teachers agree that AI cannot replace human judgment when it comes to complex grading.

11.1.5. Student Engagement and Interaction

- Some teachers (6) view AI-generated activities as a strategy for enhancing engagement (e.g., interactive simulations).
- Most teachers (8) worry about over-reliance on the part of students, a reduction of critical thinking and human discussion. All teachers emphasize on the importance of balancing technology with human interactions

11.1.6. Evolving Role of Teachers

- Most teachers (9) believe their roles will gradually shift toward being facilitators rather than sole knowledge providers.
- Some teachers (6) insist that AI should serve to complement teaching and not replace them.

11.1.7. Potential Benefits

- Most teachers (9) agreed that AI helps save time especially when it comes to lesson planning and administrative tasks.
- 7 teachers reported that they see the potential for personalized learning and differentiated instruction.
- 6 teachers spoke positively about the technology's ability to provide additional resources and examples which is beneficial for meeting diverse learning needs.

11.1.8. Challenges and Concerns

- Seven of the teachers expressed ethical concerns particularly with respect to bias, misinformation, and plagiarism.
- Most teachers worry about over-reliance by both teachers and students.

11.1.9. Training and Support Needs

- Most teachers (9) believe that professional development is essential for effective AI integration.
- About half of the teachers (7) advocate for ethical guidelines and best practices for AI implementation and use in education.

Table1: Key themes

Themes	Insights	Supporting literature
Experience with ChatGPT	Some teachers actively use it (lesson planning, brainstorming), others remain skeptical. Concerns about over-reliance and lack of policies.	Knight (2024)
Influence on Teaching Skills	Seen as a creative, supportive tool by some. Others see limited transformative impact. Perspectives may shift with familiarity.	Bateman (2024); Busuttil & Calleja (2025); Hojeij et al. (2024)
Impact on Lesson Planning and Curriculum	Widely used for simulations, activity ideas, and assessments. Concerns about AI limitations, accuracy, and diminishing human insight.	Cardona et al. (2023); Knight (2024)
Potential Benefits	Time-saving, enhanced student engagement, and personalized learning. Allows teachers to focus on interaction.	Bateman (2024); Busuttil & Calleja (2025)
Challenges and Concerns	Issues include misinformation, plagiarism, bias, and over-reliance. Emphasis on need for clear guidelines and ethical use.	Knight (2024); Hojeij et al. (2024); Cardona et al. (2023)
Training and Support Needs	Strong need for structured professional development, ongoing support, and institutional policies.	Busuttil & Calleja (2025); Hojeij et al. (2024)

12. Discussion

The results of this study offer valuable insights into teacher's perspective of the impact of technologies like ChatGPT on their skills as teachers. This section discusses the key themes that emerged from the data analysis process, and sheds light on the main benefits and concerns associated with the integration of artificial intelligence in education. The findings of the study are also examined in light of existing literature on the subject.

12.1. Experience with ChatGPT

Despite the growing popularity of Artificial Intelligence technologies, teachers' familiarity and usage of ChatGPT varied significantly. Although some educators reported that they actively incorporate the tool into their teaching practices, others still have limited knowledge of the technology while a few some remain hesitant or skeptical. For instance, whereas Teacher 2 said that she has been experimenting and exploring the capabilities of the model, Teacher 1 had limited knowledge and remains very skeptical, noting, 'Based on current discussions, however, I'll need more convincing evidence of its effectiveness.' . For those who actively use it, the majority of reported utilizing ChatGPT for such purposes as lesson planning, brainstorming, or generating assessments. This highlights its utility as a supportive tool rather than a replacement for human teacher insight. While a good number of teachers find it useful for various roles, a small subset of expressed concerns about over-reliance on AI and emphasized on the importance of maintaining traditional teaching methods. Teacher 6 stated, 'While accuracy issues may decrease over time, I think the later will be a real challenge to deal with.' These findings align with those of Knight (2024), who found that for many teachers, their first exposure to AI was through ChatGPT and that initial concerns often revolved around student

cheating and fair assessment. The research goes on to show that a lack of clear institutional policies has significantly contributed to uncertainty about the role of the technology in teaching (Knight, 2024).

12.2. Influence on Teaching Skills

The impact of ChatGPT on teacher's teaching skills elicited a range of reactions. To some of the teachers, the technology has the potential to enhance creativity and efficiency in addition to its capacity for content generation. Other teachers, however, perceive it as a supplementary tool rather than a transformative one. On the other hand, a small number of teachers are skeptical about the impact of this AI, noting that it does not, and is not likely, to have a significant impact on their teaching approach. Teacher 4, for instance, described it as nothing much than a novelty as it stands. According to Bateman (2024), as teachers become more familiar with ChatGPT, their perception of it as a useful pedagogical tool is likely to increase, and their concerns about its drawbacks to decrease. Therefore, it is possible that perspectives may change as teachers become more acquainted with the technology over time. Nevertheless, the need for professional development remains crucial in ensuring effective implementation and use (Busuttil & Calleja, 2025; Hojeij, Kuhail, & ElSayary, 2024).

12.3. Impact on Lesson Planning and Curriculum

The majority of teachers recognized ChatGPT's usefulness when it comes to such aspects as generating lesson plans, prompts, and educational activities. For instance, in STEM subjects, the teachers reported the technology as beneficial for creating useful simulations and interactive learning experiences. These were presented as beneficial to the teachers in performing their duties. Teacher 6 said, 'it is already serving to generate such things as interactive simulations and

visualizations of biological processes. So, it is already making an impact by making abstract concepts more accessible to students.’ At the same time, concerns arose with respect to limitations of the technology in providing nuanced insights comparable to those of human teachers. For such reasons, teachers warned against over-relying, noting that it might end up eroding the valuable role that teachers play in this regard. These findings are consistent with findings by Cardona, Rodríguez, and Ishmael (2023), who noted that as much as educators are exploring AI for lesson planning and resource curation, they remain cautious about potential biases and inaccuracies in AI-generated content. This highlights the importance of balance in the utilization of the technology.

Many of the teachers also reported leveraging ChatGPT for creating quizzes, rubrics, and providing automated feedback. These aspects further highlight its valuable role in enhancing assessment-related tasks. Although this also presents a benefit, it also presents a challenge. Specifically, there are significant concerns about plagiarism, inaccuracies, and the importance of human judgment in grading, which most teachers feel is cannot and should never be underestimated. This concern is also reported by Knight (2024) and Busuttil & Calleja (2025), who highlight challenges in AI-generated assessments, particularly in ensuring the accuracy of content and interpreting visual mathematical representations.

12.4. Potential Benefits

The study identifies a number of benefits associated with the use of ChatGPT in education. For many of the teachers AI could be beneficial for saving time on lesson planning and administrative work, allowing them to focus more on interactive teaching. This is a big advantage in that it can help the teachers cover more of what they are essential for,

leaving some of the other tasks that do not require their input to the technology. This becomes even more important when considering the AI's potential for personalized learning. According to teacher 5, for instance, 'Personalized learning is without doubt one of the biggest advantages.' In this case, it offers students tailored resources based on their individual needs, allowing them to learn from different perspectives that AI can provide and pace. This aligns with the findings of Bateman (2024), who notes that teachers appreciate ChatGPT for expediting access to resources, helping create lessons, and supporting student learning. However, as Busuttil & Calleja (2025) insists, it is important to continually ensure accuracy and reliability, which remain a key challenge.

Another advantage identified is the capacity for AI-generated activities to serve as an innovative way to enhance interaction. As the technology continues to improve, these activities can help students thinking differently and gain a better understanding from these new perspectives that meet their individual needs.

12.5. Challenges and Concerns

While ChatGPT presents various benefits, its integration also presents notable challenges that cannot be ignored. Key ethical biases as well as misinformation and plagiarism, were frequently mentioned by teachers. Misinformation is associated with questionable accuracy as noted by some of the teachers whereas plagiarism is related to information generated being directly used without proper referencing or even proper understanding of the content. Regarding accuracy, Teacher 13 said, 'Accuracy is a concern given that AI has been shown present biased or inaccurate information if not fact-checked properly.' The other

key issue frequently identified on the part of both the teachers and students is on the potential for both to overly rely on the technology. This could result in both parties gradually failing to employ critical thinking as they increasingly rely on the technology for everything related to the teaching and learning process. To counter such issues, many of the educators emphasized the importance of establishing clear guidelines and institutional oversight to ensure responsible AI use. This position is echoed by Knight (2024), who not only highlights the reluctance among teachers to discuss AI use openly, but also the need for institutional policies to provide direction. For good balance, Hojeij et al. (2024) emphasize on ensuring that AI supports, rather than replaces teachers and student-centered approaches. To maximize its benefits, particularly in personalizing learning experiences for diverse student needs, and minimize the challenges, the U.S. Department of Education (Cardona et al., 2023) also emphasizes on the importance of caution and balance in the implementation process.

12.6. Training and Support Needs

Due to the benefits and challenges that ChatGPT presents, one of the main themes from the study is the need for professional development in AI literacy. The majority of the teachers expressed a great need for structured training programs as well as support that will help them effectively integrate these technologies into their teaching practices. Teacher 2 noted that 'It would be great to get some training on how to effectively integrate it into teaching by experts in the field.' This was echoed by Teacher 5, who said, 'Training, training, and more ongoing training. Teachers will be in need of workshops on integrating AI into math pedagogy, best practices for using AI-generated content, and strategies for addressing biases in AI.' Aside from the programs, the teachers also emphasized on ethical guidelines and best practices, which

indicates a broader need for institutional policies that support proper AI usage in education. Likewise, Busuttil & Calleja (2025) and Hojeij et al. (2024) hold that it is necessity to ensure ongoing professional development so as to equip teachers with the proper skills to be able to navigate AI-enhanced teaching effectively and productively.

13. Implications and Recommendations Based on Study Findings

The following recommendations are proposed based on the key findings and themes that emerged from the study. These recommendations are aimed at support the effective and responsible integration of tools like ChatGPT in education, be it for teaching or learning.

1. Investment in professional development and AI literacy by offering discipline-specific workshops (e.g., STEM, humanities) that demonstrate how AI can be effectively used in each context.
2. Schools and institutions must establish clear policies on the use of AI tools in teaching and learning. This will guide and boost professional development and AI literacy, addressing acceptable use, data privacy, plagiarism, intellectual property, and boundaries of AI integration.
3. Balancing human and AI roles in education by encouraging teachers to use ChatGPT as a complementary tool, rather than a replacement. This will help preserve the critical human elements of teaching

AI is a relatively new technology in education. For this reason, there is a need for continue research in educational settings. Specifically, there is a need for longitudinal studies that will explore the long-term impact of AI on teaching effectiveness and student learning. This will require close collaboration between educators, AI developers, and researchers if future AI tools are better align with pedagogical needs and ethical standards.

14. Conclusion

Overall, the study's findings highlight that although technologies like ChatGPT have the potential to significantly enhance teaching skills as supportive educational tools; its integration is also met with caution. For the most part, teachers acknowledge that AI technologies like ChatGPT can be very beneficial in such aspects as lesson planning, assessment, and engagement. However, there are important concerns regarding ethical considerations, dependency, and the evolving role of educators. As the technology continues to improve and shape the educational landscape, it is crucial to develop and establish well-defined guidelines, provide professional development opportunities, and ensure that technology complements rather than tries to replace the human aspect of teaching.

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