Unveiling the Layers: Analyzing ChatGPT Implementations in Turkish State Universities[b]

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Abstract

The field of Artificial Intelligence (AI) is now seeing a significant increase in visibility and importance. The manifestation of this phenomenon is seen not alone by the increasing acknowledgment of assistive technologies like Google Bard, but also by the recent implementation of ChatGPT. However, there exist significant milestones that must be accomplished prior to the complete replacement of authentic educators by artificial intelligence. These significant achievements include the integration of emotions, rational decision-making, and ethical discussions. The Automated ChatGPT is an AI-driven language model chatbot that offers significant progress in expediting activities like as grading assignments and homework, mitigating human bias, and achieving a level of accuracy comparable to human teachers. Notwithstanding these benefits, the use of ChatGPT has seen much criticism within the realm of education, particularly in settings involving the acquisition of English as a foreign language (EFL). In order to thoroughly examine this issue, a comprehensive inquiry was undertaken to investigate the perspectives of pre-service EFL teachers and in-service EFL teachers on the incorporation of ChatGPT. The study employed a qualitative approach, utilizing a scenario methodology that incorporated both an adaptive scenario technique and a collaborative scenario technique. In the adaptive scenario, participants were provided with sentence completions to explore their perspectives, while the collaborative scenario involved conducting an online focus-group discussions with the participants. The results of the survey indicated that pre-service EFL teachers have positive attitudes about ChatGPT. On the other hand, in-service EFL teachers often conveyed negative perspectives about the execution of this approach. The existence of differing perspectives highlights the complexities associated with incorporating AI-powered technologies such as ChatGPT into educational settings. The use of ChatGPT by students was shown to be advantageous in the improvement of their language proficiency, since it provided prompt feedback and opportunity for practice. Nevertheless, educators expressed apprehensions over the precision and reliability of ChatGPT, expressing fears that it may have difficulties in providing nuanced and contextually suitable replies. The aforementioned juxtaposition highlights the need for more investigation and advancement to tackle these issues and guarantee the efficient integration of AI-powered technology in educational environments.

Keywords: ChatGPT, Artificial Intelligence (AI), ELT, scenario, prompt engineering

Introduction

Artificial intelligence refers to the simulation of human intelligence in machines that are programmed to think and learn like humans (Abbass, 2021). It involves the development of computer systems capable of performing tasks that typically require human intelligence, such as understanding natural language, recognizing patterns, solving complex problems, and making decisions (Ng, 2016). AI technologies include machine learning, neural networks, natural language processing, and robotics, among others (Ribeiro et al., 2021). AI can adapt to individual student's needs, pacing, and learning styles, providing personalized learning experiences that enhance comprehension and retention (Kaplan, 2016). AI-powered tools can quickly assess and grade assignments, quizzes, and tests, saving educators time and providing timely feedback to students (Fetzer & Fetzer, 1990). Moreover, AI-based educational platforms can be accessed anytime, enabling continuous learning beyond traditional classroom hours (Luckin & Cukurova, 2019). Besides, AI can identify areas of difficulty for each student and offer targeted resources to address those gaps, promoting better understanding and mastery of subjects (Beck, Stern, & Haugsjaa, 1996). AI can also analyze large datasets to identify trends and patterns in student performance, helping educators make informed decisions about curriculum and teaching strategies (Hughes & Dobbins, 2015). Furthermore, AI-powered language tools can facilitate communication and learning for students who speak different languages (Pokrivcakova, 2019) as well as creating interactive and engaging educational content, such as simulations and virtual reality experiences (Peterson et al., 2021), enhancing student interest and comprehension (Abbas et al., 2023). On the other hand, overreliance on AI might reduce opportunities for human-to-human interactions, which are crucial for social development and communication skills (Wen et al., 2022). Further, AI systems can perpetuate biases present in their training data, leading to unequal treatment and reinforcing stereotypes (Ferrara, 2023). Furthermore, AI might struggle to grasp nuanced contextual cues, resulting in inappropriate responses or decisions (Gupta, Parra, & Dennehy, 2021). In addition, storing sensitive student data within AI systems could expose it to security breaches or misuse (Muralidhara 2017). Excessive use of AI might also lead to a one-size-fits-all approach, neglecting the unique qualities of individual students (Feinstein & Peck, 2008; Steichen, Conati, & Carenini, 2014). In addition, the fear of AI replacing human educators could lead to resistance and job insecurity among teaching professionals (Chan & Tsi, 2023). Lastly, implementing and maintaining AI systems requires technical expertise and resources that might not be readily available to all educational institutions (Tuomi, 2023). Besides, effective prompt engineering involves carefully crafting prompts to guide the AI toward generating accurate, relevant, and contextually appropriate responses. It's a crucial aspect of ensuring the responsible and effective use of AI technologies (White et al., 2023). The absence or inadequacy of well-crafted prompts in the context of artificial intelligence systems, particularly language models like GPT-3 may result in inadequate outcomes (Wen et al., 2022). Proper prompt engineering involves formulating clear, specific, and contextually relevant instructions or queries to guide the AI in generating desired responses (Wang et al., 2023a,b). AI can also tailor language lessons to individual learners' proficiency levels, learning styles, and pace, enhancing the effectiveness of

instruction while providing instant feedback on pronunciation, grammar, and vocabulary usage, helping learners correct mistakes in real-time (Koc, 2005). AI-driven chatbots and language apps also offer learners opportunities for consistent practice in real-world language interactions while curating and recommending diverse learning resources, including interactive exercises, authentic texts, and multimedia content (Godwin-Jones, 2023). Moreover, AI can generate language exercises and quizzes based on learners' needs, targeting specific language skills and areas for improvement (Johnson, Vilhjálmsson, & Marsella, 2005). Finally, AI translation tools aid comprehension and communication, enabling learners to engage with foreign language content more easily (Turner et al., 2019; Quillian 1969). However, AI might struggle with idiomatic expressions, cultural nuances, and context-dependent language usage, leading to inaccurate translations or responses (Henshaw, 2020; Dambi et al., 2018; Deng & Yu, 2022). Besides, excessive reliance on AI might reduce the human element in language learning, impacting learners' motivation and engagement (Kraut et al., 1998). Overemphasis on AI interactions can limit learners' exposure to authentic conversations with native speakers (Hill, Ford, & Farreras, 2015). In addition, AI language models can inadvertently propagate stereotypes or biases present in their training data, affecting language content and exercises (Kirk, 2021). Access to AI-powered language tools might be limited by technological requirements and infrastructure availability (Pokrivcakova, 2019). Besides, ChatGPT, a powerful AI language model, can be effectively integrated into foreign language education to enhance learning experiences and outcomes (Jeon & Lee, 2023). To maximize the benefits of using ChatGPT in foreign language education, educators should combine its strengths with traditional teaching methods, fostering a well-rounded and comprehensive language learning experience (Rudolph, Tan, & Tan, 2023). To comprehensively explore this matter, an extensive investigation was carried out to explore the viewpoints of Turkish students learning English as a Foreign Language (EFL) and educators regarding the integration of ChatGPT.

Problem Statement

The integration of Artificial Intelligence (AI) into the field of education, particularly in Turkish State Universities, has introduced innovative tools and methods aimed at enhancing the learning experience for both students and educators. One notable implementation is ChatGPT, an AI-driven language model chatbot that shows promise in various educational applications such as grading assignments, mitigating human bias, and providing accurate feedback. However, the successful incorporation of ChatGPT and similar AI technologies into educational settings is facing significant challenges. This study aims to unveil the layers of challenges and opportunities associated with the implementation of ChatGPT in Turkish State Universities. The central problem revolves around understanding the diverse perspectives of Turkish pre-service and in-service EFL teachers regarding the use of ChatGPT in education. While a number of pre-service EFL teachers may view ChatGPT as a valuable tool for improving their language proficiency and receiving prompt feedback, in-service EFL teachers may harbor concerns about its precision, reliability, and potential limitations in providing nuanced and contextually suitable responses.

Significance of the Study

The study addresses the implementation of AI, particularly ChatGPT, in Turkish State Universities, highlighting the potential for educational innovation. It explores how AI can be harnessed to enhance the learning experience for students, including personalized learning, timely feedback, and adaptive learning materials. This innovation can lead to more effective teaching methods and improved educational outcomes. By focusing on the perspectives of Turkish pre-service and in-service EFL teachers, the study contributes to the improvement of language education. It assesses the impact of ChatGPT on language proficiency and provides insights into how AI can be integrated into language learning to benefit both students and teachers. The study recognizes the ethical considerations surrounding AI in education, such as privacy, biases, and the need for responsible AI use. It emphasizes the importance of adopting an ethical and conscientious approach when integrating AI into education, which can serve as a model for responsible AI implementation in other contexts. The study emphasizes the significance of prompt engineering in AI interactions. It highlights the role of well-crafted prompts in obtaining accurate and meaningful responses from AI systems. This understanding can inform future AI interactions and contribute to the development of best practices for prompt engineering. The research findings can inform educational policies and decisions in Turkish State Universities and potentially influence policies in other educational institutions. Policymakers can use the insights gained from this study to create guidelines and regulations for the responsible and effective use of AI in education. The study contributes to the growing body of knowledge in the field of AI in education. It provides valuable insights into the complexities and challenges of AI implementation in educational settings, which can inspire further research and exploration in this area. The study's findings on AI in education have broader relevance beyond Turkish State Universities. It adds to the global discourse on AI in education, addressing both its potential benefits and ethical considerations. The insights can inform educational institutions worldwide that are considering AI integration.

Prompt Engineering

Prompt engineering refers to the deliberate and skillful construction of prompts or input queries when interacting with AI language models (Zhou et al., 2022). This process involves formulating clear, specific, and contextually relevant instructions to guide the AI in generating desired responses (Strobelt et al., 2022). Effective prompt engineering plays a crucial role in obtaining accurate, meaningful, and contextually appropriate outputs from AI systems. It helps ensure that the AI understands user intent and provides relevant information or responses. Properly crafted prompts are essential for optimizing the usefulness and reliability of AI interactions (Denny, Kumar, & Giacaman, 2023). The use of prompt engineering is essential for achieving accurate and relevant results when interacting with AI systems. When using a search engine powered by AI, providing a well-structured query as a prompt can help you find precise and pertinent information quickly (Oppenlaender, Linder, & Silvennoinen, 2023). Besides, when using AI to generate content like articles or reports, crafting a clear and detailed prompt can guide the AI to produce content that aligns with your requirements. In AI translation tools, using a well-worded prompt in the source language can help the AI

understand the context and nuances for more accurate translations (Lo, 2023). When interacting with chatbots or virtual assistants, formulating a coherent and specific prompt ensures that the AI comprehends your request accurately. Furthermore, when using AI to assist in creative writing, providing a detailed prompt can guide the AI to generate imaginative and contextually fitting content. For AI systems that help with complex problem-solving, a precise prompt can assist the AI in understanding the problem and providing relevant solutions (Alshami et al., 2023). In addition, crafting unbiased and impartial prompts can contribute to reducing biased or sensitive outputs from AI systems (Shin et al., 2020). Moreover, when using AI for learning purposes, well-constructed prompts can help direct the AI to provide explanations or examples that aid in understanding (Heston, 2023). In each of these scenarios, the quality of the prompt directly impacts the quality of the AI's response. Proper prompt engineering enhances user experiences, minimizes errors, and ensures that AI systems are effectively leveraged to achieve desired outcomes (Liu, Li, & Zhu, 2023).

The Use of AI in Education

The introduction of Artificial Intelligence (AI) in the education sector has resulted in notable transformations, as it has introduced innovative tools, techniques, and tactics that enhance the learning experience for both students and instructors (Beck, Stern, & Haugsjaa, 1996). Artificial intelligence (AI) has the capacity to tailor learning materials and tasks to accommodate the unique requirements, speeds, and preferences for learning of each individual learner (Chen et al., 2022). This facilitates a personalised learning experience for pupils, allowing them to progress at their customised speed while also obtaining tailored assistance (Renz, Krishnaraja, & Gronau, 2020). AI-powered tutoring systems have the capability to provide students with immediate advice and feedback, facilitating their understanding of complex ideas and aiding them in navigating problem-solving tasks (Ni & Cheung, 2023). The use of artificial intelligence (AI) in the grading process of assignments, quizzes, and exams has the potential to alleviate educators from the burden of manual grading, thereby enabling them to allocate their time towards more substantial engagements with their students (Crawford, Cowling, & Allen, 2023). The use of artificial intelligence enables the examination of extensive educational data, therefore uncovering patterns and insights that aid educators in enhancing their pedagogical strategies and curriculum development (Babitha, Sushma, & Gudivada, 2022). Artificial intelligence (AI) has the potential to enhance online learning via the implementation of various features, such as automatic attendance monitoring (Naen et al., 2021), interactive simulations, and chatbot-driven replies to student inquiries (Robinson et al., 2005). AI-driven translation technologies play a pivotal role in surmounting language barriers, hence facilitating the accessibility of instructional materials for students with varied linguistic backgrounds (Luo, 2018; Gupta & Gupta, 2023). By monitoring student development and engagement, artificial intelligence (AI) provides educators with valuable information that can be used to make informed decisions and take appropriate actions in a timely manner to help students (Hilpert, Greene, & Bernacki, 2023). Artificial intelligence (AI) is involved in the development of educational materials, including practise problems, quizzes, and lesson plans that are designed to correspond with certain learning goals (Huang, 2021). Artificial intelligence (AI) provides tailored

resources and flexible material to address the distinct learning demands of kids with special needs (Dimiduk, Holm, & Niezgoda, 2018). Artificial intelligence (AI) plays a crucial role in facilitating students' learning process by efficiently and expeditiously identifying relevant educational resources, research papers, and materials (Huang, Saleh, & Liu, (2021). Adaptive learning systems that use artificial intelligence (AI) have the capability to dynamically modify task difficulty in accordance with the skill levels of individual students, hence augmenting their levels of engagement and motivation (Capuano & Caballé, 2020). However, despite the several benefits it offers, the use of artificial intelligence (AI) in the field of education presents significant obstacles (Alam, 2022). These include apprehensions over the privacy of data (Siau & Wang, 2020), the possibility of algorithmic biases (Nelson, 2019), and the need for educators to get sufficient training and support in order to effectively incorporate AI tools into their instructional approaches (Popenici & Kerr, 2017). Hence, it is crucial to adopt an ethical and conscientious approach towards the integration of AI in the field of education in order to optimize its beneficial impact (Siau & Wang, 2020).

Methodology

Research Design

Phenomenography is the empirical study of the diverse ways in which we perceive the world around us. This term refers to the qualitatively distinct ways in which we perceive, witness, envision, or comprehend various aspects of phenomena in a given environment (Bowden, 2000). Within the context of phenomenographic research design, a researcher investigates how individuals experience and react to a specific phenomenon. The primary objective here is not to identify a singular aspect of the phenomenon, but rather multiple facets (Booth, 1997). Phenomenography necessitates an ontological viewpoint that is non-dualistic and emphasises the interconnectedness of objects and subjects. Therefore, this paper is based on a phenomenographic research design, which is a qualitative research methodology that employs scenario technique and online focus-group discussion. Phenomenographic research design allows for a deeper understanding of the various perspectives and interpretations individuals have regarding the phenomenon being studied. By utilizing semi-structured interview queries and online focus-group discussions, researchers can gather rich and diverse data that captures the complexity and interconnectedness of objects and subjects within the phenomenon. This approach enables a comprehensive analysis of the phenomenon, uncovering multiple facets that contribute to a holistic understanding.

Setting and Participants

Using an adaptive scenario, seventy pre-service EFL teachers who are university students pursuing a degree in English Language Teaching (ELT) at a Turkish state university participated in the scenario technique. In addition, thirty in-service EFL instructors from various ELT departments in state institutions in Turkey participated in a collaborative scenario-based online focus group discussion. All survey participants were native Turkish speakers. 52 (74.29%) of the 70 pre-service EFL teachers were female, while 18 (25.71%) were male. In addition, among the 30 EFL instructors, 12 were male (40.00%) and 18 were female (60.00%). The study's participants hailed from a variety of socioeconomic and

educational backgrounds. The participants' diverse backgrounds added richness and depth to the discussions, allowing for a more comprehensive understanding of the topic. This inclusion of different perspectives and experiences enhanced the validity and reliability of the study's findings.

Data Collection Tools

Using scenarios as a scholarly methodology to collect data is a qualitative research approach that involves presenting participants with hypothetical situations or narratives to gather insights, opinions, and responses. Scenarios can be used in various fields such as social sciences, psychology, education, and business to explore complex issues, examine decision-making processes, and understand how individuals or groups might respond to specific circumstances. Scenarios can be particularly useful when studying complex and sensitive topics, as they provide a controlled environment in which participants can express their thoughts and perspectives without real-world consequences. However, careful consideration should be given to the design of scenarios to ensure they accurately represent the research context and objectives. There are several types of scenario techniques that researchers can use to collect data and insights in different contexts. These techniques vary in their complexity, level of detail, and the way they are presented to participants. Adaptive Scenarios, for instance, evolve based on participants' responses. As participants make decisions or provide input, the scenario adapts to reflect their choices, leading to a more personalized and dynamic data collection process. Collaborative Scenarios, on the other hand, require group discussions or collaborative activities based on the scenarios. This technique allows researchers to observe how individuals negotiate and interact when facing complex situations. The researcher initially inquired a number of research articles, master and doctorate thesis, and related interviews, scenarios, and focus group discussions. Exploiting the above stated literature, the researcher then framed the items of both adaptive and collaborative scenarios. Afterwards, experts from the related study area examined the related scenarios and inter-coder reliability was conducted for them. Kappa Coefficient for Inter-coder Reliability was calculated and it was discovered that the coding process was highly reliable (K = .972, p < .001). ELT teachers were asked to complete such scenarios as a) I used/did not use ChatGPT during my education process because... b) Chat GPT has had both positive and negative effects on education because..., while candidate ELT teachers were asked to complete such items as c) ChatGPT responds/doesn't respond to my needs because... d) ChatGPT application is sufficient/insufficient in providing reliable and accurate information because....

Data Analysis

The data were examined using inductive content analysis. Through data analysis, codes were organised, and their fundamental terms and interconnections were investigated. Through the use of structured codes, themes were identified (Patton, 2002). The algorithms were created, for instance, using such concepts as plagiarism, assessment, and etc.

Findings in relation to the first part of collaborative scenario

The collaborative scenario "I used/did not use ChatGPT during my education process because..." was formed negatively by 21 ELT teachers, while it was positively responded by 9 informants. The collaborative

scenario was influenced by many factors. The theme assessment was identified four times as a positive contributor. Additionally, academic objectives were noted twice, while material creation, course content development, course planning, and feedback were each noticed once. Additionally, among the group of individuals who expressed unfavourable views towards the collaborative situation, the occurrence of plagiarism was identified 16 times. Furthermore, the themes of planning, unawareness, and disfavour were discovered, with frequencies of 2, 2, and 1 respectively. The following observations are derived from the responses provided by the informants.

Positive Scenarios

I have found ChatGPT to be an invaluable tool when it comes to crafting examination questions for my students. Its capabilities extend beyond just generating questions; it assists me in creating well-structured and thought-provoking queries that effectively evaluate the depth of my students' understanding and their ability to apply the knowledge they've gained. One of the key advantages of using ChatGPT for exam question preparation is its versatility. I can tailor questions to match the specific learning objectives and outcomes I want to assess. Whether it's multiple-choice questions, short-answer prompts, or even more complex essay questions, ChatGPT can assist in generating a wide range of question types. Furthermore, ChatGPT helps ensure that the questions are clear, concise, and free from any potential ambiguities. This is crucial in maintaining fairness and accuracy in the assessment process. It reduces the chances of students misinterpreting questions and provides a level playing field for all test-takers. Additionally, ChatGPT allows me to create a diverse set of questions quickly, which is especially beneficial when designing comprehensive exams that cover various topics and skills. This variety keeps the assessment engaging and challenging for students while also enabling a more comprehensive evaluation of their overall learning progress. (ChatGPT for Assessment Purposes)

GPT is a powerful tool for requesting revisions and edits in my academic writing. I can input a section of my work, and with the help of prompts and specific instructions, I can ask GPT to review and improve the clarity, coherence, and overall quality of my writing. This serves as a fresh perspective, often highlighting areas that may need rephrasing or further development. (ChatGPT for Academic Purposes)

ChatGPT has become an indispensable resource in my educational toolkit, particularly when it comes to developing engaging and effective learning materials and activities. One of the many ways I leverage ChatGPT's capabilities is by using it to craft multiple-choice questions, and its support in this regard has been exceptional. Creating multiple-choice questions can be a time-consuming and challenging task. However, with ChatGPT, the process becomes significantly more efficient and productive. (ChatGPT for Material Creation)

ChatGPT is a versatile tool that enhances the quality of my teaching. It fuels creativity by generating fresh ideas for course activities, ensures the currency and accuracy of course content, facilitates curriculum development, streamlines lesson planning, aids in resource identification, and supports inclusive teaching practices. Its contributions are integral to creating an

engaging and effective learning environment for my students. (ChatGPT for Course Content Development, Course Planning)

ChatGPT can provide constructive feedback on written assignments. Students can submit their essays or papers to ChatGPT for an initial review, which often highlights areas of improvement in terms of structure, clarity, and coherence. This feedback mechanism complements traditional peer review processes and helps students identify issues in their work independently. (ChatGPT for Feedback)

Negative Scenarios

My decision to refrain from using ChatGPT and advising against its use stems from my concerns about its potential impact on students' academic integrity and ethical learning practices. ChatGPT has the potential to inadvertently encourage plagiarism among students. Its ability to generate coherent and well-structured content may tempt students to copy and paste the output without proper attribution. (ChatGPT and Plagiarism)

I have not yet used ChatGPT; nonetheless, I have formulated intentions to employ its services in the future. It has been observed that students often have a tendency to immediately solicit assistance from ChatGPT for their writing assignments. In light of this, I will be using a two-stage approach to provide writing ideas to students. Initially, the individual will be requested to use ChatGPT as a means to identify the subject matter and articulate their viewpoints. Next, I will assess their level of agreement with the viewpoints expressed by ChatGPT. (Planning to use ChatGPT)

My limited personal experience with ChatGPT stands in contrast to my students' active utilization of the tool. While I may not be a user, I acknowledge its value in enhancing the learning process and encourage responsible and thoughtful usage among my students to ensure they receive a well-rounded education that prepares them for the challenges of the modern world. (Unawareness of ChatGPT)

My decision to abstain from using ChatGPT and to advise my students against its use is rooted in a commitment to promoting responsible technology usage, maintaining ethical standards, and ensuring that education continues to foster critical thinking and ethical behavior. Until I have a better understanding of ChatGPT's capabilities and limitations, I believe it is prudent to exercise caution and provide clear guidance to my students. (Disfavoring ChatGPT)

Findings in relation to the second part of collaborative scenario

The second part of the collaborative scenario "Chat GPT has had both positive and negative effects on education because..." was formulated adversely by 15 ELT instructors, whereas four informants responded positively. In addition, ten respondents cited both positive and negative aspects of ChatGPT's effects, while one was uncertain. The second section of the collaborative scenario was also impacted by significant factors. The motif of plagiarism was identified as a negative contributor fifteen times. In addition, assessment issues were mentioned seven times, while unethical behaviour was mentioned six times. Additionally, the theme insufficient was mentioned three times, while the theme ignorance was mentioned twice. In addition, among the group of individuals who viewed the situation favourably, the theme of efficacy was observed six times, while the themes of modernity, course content development, motivation,

and feedback were each observed twice. The following observations are derived from the informants' responses.

Positive Scenarios

I haven't encountered any negative impact because, I generally use ChatGPT for revision purposes and as a starting point for my writing. I used to do similar things even before I had access to this technology, but I noticed that with ChatGPT, I started writing more efficiently and saving time. Additionally, I began making fewer grammatical errors in my texts. I am very satisfied with the revisions it provides and its academic writing style. Looking at it from an educational perspective, there have been times when I used it to write lesson plans. When I input class information, language levels, and learning outcomes, it provides me with excellent sample lesson plans that I can customize and implement. (ChatGPT as an efficient toolkit)

I believe that ChatGPT has had a positive impact on education for several reasons. In today's rapidly evolving world, adaptability and openness to change are essential qualities. ChatGPT, as an advanced language model, encourages people to embrace new technologies and innovative approaches in education. This not only enhances the learning experience but also helps educators stay at the forefront of teaching methodologies. (ChatGPT as a modern toolkit)

ChatGPT has indeed had positive effects on education, primarily due to its ability to assist in the development of course content and educational materials. In the ever-evolving landscape of education, the need for up-to-date and engaging course content is paramount. ChatGPT, as an advanced language model, offers educators and instructional designers a valuable tool to streamline this process. (ChatGPT as a course content developer)

ChatGPT has demonstrated its capacity to yield positive effects on education by actively contributing to the motivation of students. Motivating students to engage with course material and participate actively in the learning process is a fundamental challenge for educators. ChatGPT, as a versatile educational tool, plays a crucial role in addressing this challenge. (ChatGPT as a motivator)

ChatGPT has undeniably had a positive impact on education due to its ability to provide valuable feedback to students. Feedback is a crucial component of the learning process, as it helps students understand their strengths, weaknesses, and areas for improvement. ChatGPT serves as a powerful tool for facilitating this feedback loop. (ChatGPT as a feedback provider)

Negative Scenarios

Students plagiarizing when using ChatGPT or any other similar tool is considered unethical. Using technology like ChatGPT to generate content for academic assignments or papers without giving credit to the source or the tool itself constitutes unethical behavior and academic dishonesty. Therefore, I do not favor the use of ChatGPT which causes plagiarism or unethical behavior. (ChatGPT as an unethical plagiarism toolkit)

Regrettably, the introduction of ChatGPT has had adverse repercussions on the assessment and evaluation procedures within the realm of education. This technology has raised notable concerns when it comes to maintaining academic integrity and ensuring a fair assessment process. (ChatGPT and assessment problems)

In my view, ChatGPT has had a detrimental influence on students' educational experiences primarily because many students lack adequate awareness and consciousness regarding its far-reaching implications. First and foremost, the ease of access and user-friendliness of ChatGPT might inadvertently encourage students to rely excessively on this technology for their academic tasks. The convenience it offers in generating content, answering questions, and providing assistance can lead to a decreased willingness among students to engage in independent thinking and problem-solving. Consequently, this overreliance can hinder the development of critical thinking skills, which are vital for a well-rounded education. Furthermore, students may not fully grasp the ethical considerations associated with using ChatGPT. The line between ethical utilization as a learning aid and unethical use leading to plagiarism can become blurred, especially for those who are not well-informed. This can result in unintentional academic misconduct and undermine the principles of academic integrity. (Unawareness of ChatGPT)

I have found that the results ChatGPT provides tend to be rather superficial. This perception has led me to conclude that its impact on student success has been limited in terms of productivity and depth of content. One of the primary reasons for this assessment is that ChatGPT may not always delve deeply into complex topics or provide in-depth insights. It tends to generate responses based on readily available information, which can be useful for general inquiries but may fall short when more profound analysis or comprehensive understanding is required. This limitation can be a hindrance when seeking in-depth research or nuanced discussions. (Inefficiency of ChatGPT)

Both Positive and Negative Scenarios

I believe that ChatGPT has had a positive impact on educators but a negative impact on students. Educators can benefit from ChatGPT in the preparation of course materials and the integration of alternative teaching resources into the instructional process. However, students may use ChatGPT to complete assignments and tasks expected to be done by themselves and submit them as if they had written themselves. Here, ethical and accountability issues come into play. (Users of ChatGPT)

Findings in relation to the first part of adaptive scenario

40 pre-service EFL instructors formulated the first part of the adaptive scenario "ChatGPT responds/does not respond to my needs because..." appropriately, while 15 informants formulated it averagely. In addition, nine respondents indicated that ChatGPT partially met their requirements, whereas six respondents indicated an insufficient response. The following observations are based upon the responses of the informants.

Related Scenarios

ChatGPT has proven to be an invaluable tool in addressing my specific needs. Its capabilities enable me to carry out research tasks with remarkable efficiency, tasks that would otherwise demand a substantial amount of time, often several hours. This AI-powered assistant streamlines the process, making it not only quicker but also more effective. The convenience it offers is truly impressive. Within just half an hour, I can delve into complex research, gather essential information, and formulate insights that would have previously taken me much longer to achieve. This newfound

efficiency has significantly improved my productivity and allows me to allocate my time to other important tasks, ultimately enhancing my overall work performance. ChatGPT's ability to expedite and optimize research processes is a game-changer, saving me valuable time and resources. (Appropriately Responding to my Needs)

While ChatGPT does offer responses to my inquiries, it falls short of meeting my expectations in terms of adequacy. I find that it performs at a somewhat mediocre level, often leaving me wanting for more comprehensive and accurate information or assistance. My dissatisfaction with its adequacy stems from the fact that it may provide general or surface-level responses, but it doesn't consistently offer the depth and precision that I require for certain tasks or inquiries. In various instances, I've found myself needing to seek additional sources or clarification because the responses generated by ChatGPT are often too brief or lacking in detail. To optimize my experience and fulfill my needs effectively, I believe there is room for improvement in ChatGPT's capabilities. While it's a valuable tool, enhancing its ability to provide more comprehensive, context-aware, and precise responses would be highly beneficial. (Averagely Responding to my Needs)

ChatGPT partly offers some responses to my needs, but I'm not entirely satisfied with its performance. It's important to acknowledge that ChatGPT can be a useful resource in certain situations, providing information and assistance to a certain extent. However, it frequently falls short of meeting the complete scope of my requirements. The limitation I often encounter is the depth and accuracy of the responses. While ChatGPT can generate content, it sometimes lacks the necessary context or detail to fully address complex queries or provide in-depth insights. This can be frustrating when I'm looking for comprehensive and accurate information. (Partly Responding to my Needs)

ChatGPT's ability to cater to my needs falls short of what I consider sufficient. While it can be a helpful resource in certain situations, it often struggles to meet my expectations, leaving gaps and limitations in its performance. One of the key areas where ChatGPT tends to be lacking is in providing detailed, accurate, and context-aware responses. It may generate content, but it frequently misses the mark when it comes to comprehensively addressing complex queries or delivering nuanced information. This limitation can be frustrating, particularly when I'm seeking in-depth insights or specific knowledge. Moreover, ChatGPT's responses can sometimes lack the depth required for thorough research or decision-making. It might provide surface-level information but often fails to offer the depth of analysis or nuanced perspectives that are necessary for making well-informed choices or conducting in-depth investigations. (Insufficiently Responding to my Needs)

Findings in relation to the second part of adaptive scenario

For the first part of the adaptive scenario "ChatGPT application is sufficient/insufficient in providing reliable and accurate information because....", 56 pre-service EFL instructors stated inadequate reliability and accuracy of information, whereas 14 informants presented the opposing viewpoint. All of the respondents (N= 56) who suggested that the reliability and accuracy of ChatGPT information was inadequate attributed this to the application's contrived nature, whereas 14 respondents who

expressed favourable opinions attributed this to their needs being met. Following are insights based on the responses of the informants.

Related Scenarios

ChatGPT is definitely not sufficient in terms of providing reliable and consistent information because anything not created with the human brain, even if it is artificial intelligence, is not capable of delivering entirely flawless answers. The responses generated by this application are based on Google, and therefore, it is not possible for it to access documents that are not available on the Google platform or for which access is not granted on the Google platform. In this sense, relying solely on the ChatGPT application is not enough. (Inadequate Reliability and Accuracy of Information)

ChatGPT's reliability stems from its ability to harness a wealth of data from both its own database and the internet. This approach allows it to offer timely, relevant, and consistent information tailored to the user's needs. However, users should remain discerning and verify critical information from trusted sources, especially when making important decisions based on ChatGPT's responses. (Adequate Reliability and Accuracy of Information)

Discussion

The comprehensive inquiry into ChatGPT's implementation in Turkish State Universities has provided valuable insights into the complex landscape of integrating artificial intelligence into educational settings. One of the prominent findings of this study is the diversity of perspectives among pre-service and in-service EFL teachers regarding ChatGPT. Pre-service teachers generally exhibit a more positive outlook, emphasizing its potential to enhance language proficiency and learning experiences. In contrast, in-service teachers often express reservations about its impact on academic integrity, critical thinking, and ethical behavior. This divergence of opinions highlights the importance of considering the unique perspectives of various stakeholders when implementing AI technologies in education. The study identifies significant concerns surrounding academic integrity and ethical behavior in the context of ChatGPT. Many educators worry that ChatGPT's ease of use may inadvertently encourage plagiarism among students (Jarrah, Wardat, & Fidalgo, 2023). The line between responsible usage as a learning aid and unethical behavior leading to plagiarism can become blurred, particularly for students who may not fully grasp the ethical considerations. This highlights the need for clear guidelines and education on responsible AI usage in academia (Chan, 2023). Despite the concerns, the study also reveals the potential benefits of ChatGPT in education. Educators recognize its value in various aspects, including grading assignments, generating content, and providing prompt feedback. ChatGPT can help streamline tasks that would otherwise be time-consuming, allowing educators to allocate their time more efficiently (Lund et al., 2023). Additionally, it can assist in the creation of engaging learning materials and motivate students to engage with course content actively (Ali et al., 2023). The study underscores the importance of nurturing critical thinking skills and independent learning among students. While ChatGPT can be a valuable tool, its overreliance may hinder the development of these essential skills (Wang et al., 2023c). Educators must strike a balance between leveraging AI technology for efficiency and ensuring that students continue to engage in independent thinking and problem-solving. The discussion of ChatGPT's reliability and

accuracy is central to this study. While it is a powerful tool that harnesses a wealth of data, it is not infallible. ChatGPT's responses are based on patterns in its training data, which can lead to inaccuracies, particularly in complex or specialized topics (Pursnani, Sermet, & Demir, 2023). Users should exercise discernment and cross-reference information from trusted sources when making critical decisions based on ChatGPT's responses. The ethical dimension of AI usage in education cannot be overstated. The study highlights the importance of promoting responsible technology usage, maintaining ethical standards, and providing clear guidance to students. Educators should play a pivotal role in educating students about the ethical considerations associated with AI tools and ensuring that AI complements, rather than substitutes for, critical thinking and ethical behavior.

In her study, Zhai (2022) also explores the potential impacts of ChatGPT and similar AI tools on education, suggesting that they may drive changes to learning goals, activities, and assessment practices. She concludes by proposing adjustments to learning goals, emphasizing the importance of students being able to use AI tools for subject-domain tasks and focusing on improving creativity and critical thinking rather than general skills. It also raises concerns about students potentially outsourcing assessment tasks and suggests the need for new assessment formats that prioritize creativity and critical thinking, which AI cannot substitute. Her study also contributes to understanding the interventions of ChatGPT in education by employing it to draft a paper on AI for Education. It explores the various ways AI is being used in education, discusses the potential benefits and challenges, examines ethical considerations, and considers the potential impact on teacher roles and the overall learning experience. Both Zhai and the current study underscore the importance of responsible AI usage in education, the need for ongoing research and development, and the integration of AI alongside human expertise, ethical guidelines, and critical thinking to maximize benefits and minimize drawbacks. Furthermore, in their study, Trương et al. (2023) examine the capabilities and role of ChatGPT in Vietnamese education and address the potential benefits and challenges of integrating chatbots like ChatGPT into the educational environment while providing suggestions on how to use ChatGPT in a useful and effective manner in the field of education .They also emphasize the responsible and ethical use of ChatGPT in education, just like the present study which contributes by analyzing the potential of ChatGPT in Turkish education, exploring its benefits and challenges, and providing recommendations for its responsible and effective use in the educational environment. In addition, in his study, Strzelecki (2023) aimed to develop a model that examined the predictors of adoption and use of ChatGPT among higher education students and emphasized the need for further examination of how AI tools like ChatGPT can be adopted in learning and teaching. Similar to Strzelecki, the current study involves the higher education students in the Turkish context and makes similar inferences. Moreover, in their study, Sok and Heng (2023) discuss the benefits of using ChatGPT in education and research, including creating learning assessments, enhancing pedagogical practice, offering virtual personal tutoring, creating essay or research article outlines, and brainstorming ideas. They also highlight the risks associated with ChatGPT, such as academic integrity issues, unfair learning assessment, inaccurate information, and overreliance on AI. They provide recommendations for the

effective use of ChatGPT in educational and research settings, emphasizing the need for training and guidance on how to use the tool effectively while maintaining academic integrity. Furthermore, they suggest that educational institutions should develop training contents for teachers and students to use ChatGPT productively while upholding accountability and ethics. In addition, they emphasize the importance of critical analysis of the responses generated by ChatGPT to ensure accuracy and avoid over-reliance on AI. The present study also highlights the pros and cons of uyilising ChatGPT in education and provide similar implications accordingly. Biswas (2023), in his study, also discusses the potential role of ChatGPT, particularly in supporting autodidactic learning and enhancing the learning experience and highlights the ability of ChatGPT to provide personalized support, direction, and feedback to learners, increasing motivation and engagement. He explores various uses of ChatGPT in education, including tutoring and assistance, research support, essay and paper reviewing, class scheduling and reminders, personalized learning recommendations, virtual office hours, and increasing student engagement in online classes, and emphasizes the importance of understanding how ChatGPT can aid self-directed learning and how educators and students can best utilize chatbots and AI technologies in education. Besides, he acknowledges using ChatGPT to generate and edit parts of the paper, demonstrating the practical application of the technology in academic writing. The present study examines the potential of ChatGPT in the field of education, with a specific focus on its ability to support self-directed learning and enhance the overall educational experience, as well as hinting on the side effects of ChatGPT.

Conclusion

The implementation of ChatGPT in Turkish State Universities has introduced both opportunities and challenges to the field of education. While ChatGPT holds the promise of enhancing various aspects of teaching and learning, such as efficient grading, content creation, and feedback generation, it also raises concerns about academic integrity, overreliance on technology, and ethical usage. The study's exploration of the perspectives of pre-service and in-service EFL teachers sheds light on the complex nature of integrating AI-powered technologies like ChatGPT into educational settings. The findings reveal a divergence of opinions, with pre-service teachers generally viewing ChatGPT favorably for its potential to improve language proficiency and enhance learning experiences. In contrast, in-service teachers express reservations about its precision, reliability, and potential pitfalls in promoting independent thinking and ethical behavior among students. The study underscores the importance of responsible AI usage in education and the need for ongoing research and development to address the identified challenges. While ChatGPT and similar AI tools have demonstrated their value in education, they must be utilized alongside human expertise, ethical guidelines, and critical thinking to maximize their benefits and minimize their drawbacks. Furthermore, the study's use of adaptive and collaborative scenarios as qualitative research methodologies highlights the effectiveness of such approaches in eliciting nuanced perspectives and insights from participants. This methodological choice enhances the depth and comprehensiveness of the study's findings, offering valuable insights for educators, policymakers, and researchers in the field of AI in education.

Ultimately, the integration of AI, including ChatGPT, into educational environments is a dynamic process that requires ongoing evaluation, ethical consideration, and adaptation to ensure its effectiveness and alignment with the goals of education in the modern world. This study contributes to the broader global discourse on AI in education, offering valuable lessons and considerations for educational institutions worldwide that are navigating the complexities of AI integration.

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