ChatGpt Impact on Student Educational Performance: A Conceptual Analysis

Haroon Altarawneh[*]

Al-Balqa Applied University, Salt, Jordan

Abstract

INTRODUCTION: The primary focus of this study is how OpenAI's ChatGPT, a complicated AI language model, affects how well students learn.

OBJECTIVES: The purpose of this research is to study the several ways in which artificial intelligence may be used to address educational difficulties and give equal access to high-quality education.

METHODS: Using a strategy that combines quantitative data on how well the institution is doing with qualitative results from student surveys.

RESULTS: The research suggests that ChatGPT helps students do better in college. Students' grades going up suggests that AI technology is helping them understand and use what they are learning. New technologies make it possible for students to learn at their own pace by quickly sharing information and giving full answers to many questions. The study also showed that ChatGPT can help students who are far away or have trouble with logistics.

CONCLUSION: This study says that using ChatGPT in the classroom helps students do better. The results showed that students learned more when the classroom was interesting and encouraged them to participate and learn more.

[*]Corresponding author. Email: dr.haroon@bau.edu.jo

1. Introduction

Artificial intelligence has advanced since ChatGPT and other complicated language models. OpenAI's GPT-4 framework helps ChatGPT develop complicated language models. It has numerous uses, including teaching. This article describes how ChatGPT improves classroom learning. New research and ChatGPT usage are also discussed. ChatGPT, short for "Chatbot Generative Pre-Trained Transformer," uses machine learning to write genuine dialog. Qureshi [1] states that college s employ technology to help students study and instructors assist them. Mhlanga [2] reports that ChatGPT has been studied as a tutoring, language learning, and educational feedback and evaluation tool. AI model advancements enable new applications that might revolutionize learning. ChatGPT

influences classroom performance. AI is improving, creating complicated language models like ChatGPT that might transform teaching. AI technologies have been successful in numerous domains, but their effects on student growth are unknown. This research investigates how ChatGPT affects students' academic performance and problem-solving. Politicians and educators should weigh the pros and downsides of ChatGPT in the curriculum before deciding. Artificial intelligence lets teachers customise courses for each student, making learning more engaging and successful [3] These variables affect learning results, thus studying them helps us improve education globally. Classrooms are typically overcrowded owing to space constraints in the education system. Funding shortages worsen educational institutions' problems [4]. Holmes [5] observed difficulties with uneven digital resource availability and data security risks. To encourage ethical and successful AI usage in education, ChatGPT's effects on student learning must be

properly assessed. This research examines how ChatGPT affects students' academic learning. Tahiru [6] argues that AI can boost student achievement. His evidence supports this claim. We don't know ChatGPT's full effect. To appreciate its potential benefits, we may examine its educational usage. The third aim is to assess how well ChatGPT addresses these issues and improves methodology transparency [7]. Holmes [5] examine how ChatGPT affects social and morality in college ing. To do this, it is necessary to investigate the discrepancies in data security and technological access. It was revealed by Holmes [5] that there are significant challenges associated with the unequal availability of digital resources and the hazards to data security. Our study investigates the potential for ChatGPT to improve learning and address challenges that arise in the classroom. The purpose of this research is to study the several ways in which artificial intelligence may be used to address educational difficulties and give equal access to high-quality education. Additionally, the impact that ChatGPT has on the academic performance of students is investigated. When artificial intelligence technologies such as ChatGPT are used in education, it raises ethical and social problems concerning the quality of teaching. It is essential to ascertain the extent to which artificial intelligence (AI) technologies such as ChatGPT have the potential to enhance the educational experience of students [7]. Also, this study is to evaluate how ChatGPT can facilitate personalized learning by adjusting to the requirements of individual students. It's possible that ChatGPT and other AI technologies may completely transform the way students' study. According to [3], these strategies have the potential to assist in resolving issues that are prevalent in college s, such as a lack of resources and classrooms that are overcrowded.

Through the use of questions that provoked thinking, the research attempted to accomplish its objectives. the questions that were asked was:

"How does ChatGPT affect the academic performance of students?"

Is ChatGPT able to assist students in improving their study habits?

How can we find solutions to the ethical and social problems that ChatGPT has brought up in the

2. Literature Review

Educational institutions are increasingly using AI. Multiple research projects have proven that AI technology improves student achievement [9]. Its capacity to interpret and analyze human language has made ChatGPT a popular AI technology. Akyuz [3] recommends students have meaningful and valuable learning experiences. There is little data on how ChatGPT influences classroom performance. Chiu and his team investigated how ChatGPT, and other AI technologies may enhance students' education in 2024. AI can tailor learning for each student, increasing interest and involvement. ChatGPT lets teachers customize lessons for each student, improving the classroom. When incorporated into college s, AI can improve individualized learning [10]. ChatGPT tailors communication to students' learning styles

and academic levels. This is done using advanced language processing techniques. Chiu [4] examined AI's function in education. They found that AI can considerably enhance instructional materials, improving student success. This research illustrates how AI might assist college s overcome congestion and resource shortages. AI-based learning systems like TChatGPT have raised ethical and societal issues as their usage grows. Sam [11] address numerous major issues, these issues include declining classroom engagement, data privacy, and overuse of digital technology in education. People have various ideas about tool strengths and weaknesses. ChatGPT may help solve problems and respond quickly, especially in STEM professions, according to Xu [12] we need further study to evaluate its efficacy in different conditions. Active student participation is essential for good teaching. Amazing AI technology like GPT is transforming how we educate and evaluate kids. It enhances learning with dynamic chats. Chiu [4] found that a new technology improved students' attention, engagement, and academic performance. Zawacki [8] explain how AI is changing education. ChatGPT might ease classroom instruction. More study is needed in this area. Successfully employing learning analytics in education requires integrating AI. Data analysis may be done using ChatGPT. Instructors and students benefit from this technology because it lets them utilize data to make choices and customize their instruction. Data analysis may assist assess progress, identify difficulties, and generate personalised training [13]. Advanced AI skills may enhance academic research, but privacy and security must be prioritized. First. Lampropoulos [14] examined how ChatGPT may enhance life expectancy by fostering learning. ChatGPT employs AI to create mobile-friendly, customizable learning environments. Modern classrooms encourage ongoing learning, which explains this result. More research is required to determine ChatGPT's efficacy in the present study. AI can enhance special education for special needs youngsters.AI may increase learning tool accessibility and customisation by taking into consideration individual preferences and learning speeds, according to Lo [15]. Research is needed to determine the merits and downsides of incorporating ChatGPT into regular teaching. To understand better, increase the sample size. AI technology like ChatGPT might transform education. New instructional resources must be carefully considered for ethical and social consequences. Research and analysis are needed to fully understand and maximize ChatGPT in teaching.

2. Research Methodology

The researchers used a descriptive-analytic methodology to collect and analyze the data. This approach relies on traditional methods of analysis and description in research. It assists researchers in gaining a deeper understanding of their study topics. According to Gates [16] researchers can improve their understanding of a topic by combining both quantitative and qualitative data. We used the data we

collected to find patterns, make assessments, and help us make decisions. It was really important to categorize and understand the main parts of the data in order to analyze it effectively. We used descriptive analysis to efficiently analyse the data.

Web-based questionnaires were used to collect data for this investigation. The survey's questions were tailored to the investigation's key themes. These questions were prepared in plain English to ensure clarity. Fair questions were posed to the kids. Every inquiry was brief and simple. A five-point Likert scale with several alternatives was used in the survey. 300 students from Jordan's Karak University College levels 1 and 2 took part in the study. 250 of the surveys were finished and ready to be processed.

3. Results

AI tools like ChatGPT have made modern college s better. A lot of research has been done on how ChatGPT and other similar technologies affect how well students (Figure 1, Figure 2) do in college . Some of the evidence is discussed in this section.
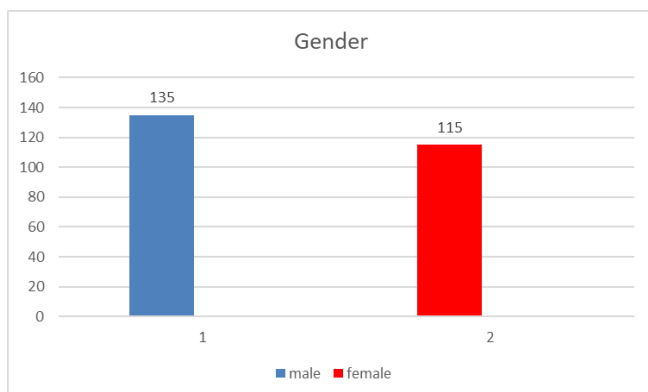

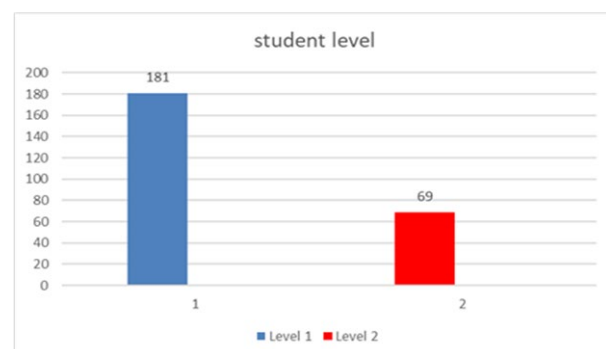**Figure 1.** Students Gender

Figure 2. Students Level

A lot of the students surveyed used ChatGPT to learn. Respondents used ChatGPT every day (73%), every week (12%), every month (10%), and never (5%). 77% of those who answered ChatGPT said it helped them learn more. 66% of those who answered strongly agreed that ChatGPT helped them finish their work faster. 73% of students say that ChatGPT helps them study more than other apps. 77% of the students who used ChatGPT as a learning tool were happy with it. 71% of those who answered strongly agree that ChatGPT's ability to tailor content to each learner and adapt to their speed is helpful. 79% of participants agreed that ChatGPT can tailor learning to each person's strengths and weaknesses, proving that personalized education is effective. 73% of participants said ChatGPT's educational resource recommendations can help them study better. 67% of participants said ChatGPT is a safe and inclusive place to learn. This shows the importance of giving students a place where they can make mistakes and learn from them. 82% of survey respondents believe what ChatGPT says based on data. This shows they know how useful it is to use AI to monitor student progress and adjust their lessons. Concerns have been raised about privacy, data security, content bias and digital inequality when AI models like ChatGPT are used in education. To address these issues, designers and users of educational AI systems must take responsibility for how they create and use AI. 95% of those who answered did not know about these worries. To protect students' privacy, colleges need to set strict rules for data protection, use encryption, and make AI training data anonymous. Students used ChatGPT for research 77% of the time and for writing or proofreading 43% of the time. 23% of people also used ChatGPT to learn and come up with ideas.

4. Discussions

The survey suggests that ChatGPT helps students do better in school. Students' grades going up suggests that AI technology is helping them understand and use what they are learning. New technologies make it possible for students to learn at their own pace by quickly sharing information and giving full answers to many questions. Students had a better understanding of the course ideas. ChatGPT adds to textbooks by making difficult ideas easier to understand by giving detailed explanations and visual examples. This shows how AI could help people understand and get better at many jobs. ChatGPT's better tools for writing, editing, brainstorming, and research may explain why it's said to be faster at finishing projects. This shows how useful the tool is and how much time it saves students. The survey results look good, but they don't provide enough evidence that ChatGPT helps students do better in school. Changes may be due to new study habits, greater motivation, or help with schoolwork. We need more research to find out how ChatGPT affects student performance in school. Survey results show that ChatGPT has great potential for personalizing learning. Many students are already using AI to develop study plans, course materials, and personalized

feedback on their assignments. ChatGPT's ability to answer personalized questions shows how versatile it is when it comes to personalized learning. ChatGPT's ability to explain and answer many types of questions makes it easier for you to understand and participate in the course. The addition makes writing and research tools better, which helps students do better in school. The survey results were positive, but they don't prove that ChatGPT helps students do better in school. These improvements might be due to changes in how you study, your motivation, or the help you get in school. Different students may have very different experiences depending on how they learn, their major, and other factors. ChatGPT might help a lot of students, but how well it works for each person depends on the person.

Some people might have moral and social concerns about using an AI language model like ChatGPT in the classroom. Data privacy and security, bias in AI, the digital divide, and human educators are all problems that need to be solved. When students use artificial intelligence, they might share private information without meaning to, especially in places where they are being watched closely, like schools. This problem needs to be fixed by using anonymization and strict data privacy laws. It is possible to set up ChatGPT AI so that it doesn't save or collect information about users. When a tool that uses artificial intelligence wants to use personal information for a certain reason, it needs to get clear permission and set strict access limits. In the data they use to train themselves, artificial intelligence algorithms might unintentionally reinforce societal stereotypes. Several academic papers say that AI models should be checked for biases often and changes should be made to fix this problem. When making and using AI models, there needs to be openness. The dataset that the AI is trained on should have a wide range of student backgrounds. If only rich people can afford it, AI-enhanced education may make the education gap bigger. Studies suggest that the government and schools might benefit from making sure that all students have fair and equal access to the technology they need. People who are struggling financially may be able to get technology. Concerns have been raised about job security and change because AI could change the roles of teachers and the way they teach. According to the research, AI is meant to help teachers, not take their place. It's possible that teachers spend more time managing and analysing AI systems' work than teaching. If AI isn't precise, it might come up with wrong results. It is important to learn how to research and evaluate the results of AI systems. A thorough control system is needed to make sure that all duties are carried out correctly.

5. Practical and Theoretical Implications

Using AI in education, especially chatbots like ChatGPT, has big effects on how well students do in school, both in theory and in practice. According to constructivist learning theories, feedback from AI chatbots may be useful because learning works best when it is personalised and given at the right time. Teachers might act more like guides and mentors than like people who give out information. Managing students' cognitive needs well is important for getting the most out of their learning. ChatGPT's ability to look at complicated information and make it easier to understand leads to useful discoveries in this field. There may be examples from real life that show how AI could help students do better by giving them quick, personalised feedback. Artificial intelligence can make the best use of human resources by freeing up teachers to work on more difficult and understanding tasks. The effects of AI on education might be much better understood if more research is done on the topic. The layout of the classroom, the duties of the teacher, and the effect on the students' academic performance are all things that could be debated. When thinking about using AI for education, there are some moral issues that need to be thought about. In the future, it will be interesting to look into the digital divide in education, data privacy, and AI bias.

6. Conclusions

This study says that using ChatGPT in the classroom helps students do better. The results showed that students learned more when the classroom was interesting and encouraged them to participate and learn more. This setting was made possible by the interactive AI features. Students in many different subjects found ChatGPT useful because it helped them understand difficult ideas and give immediate feedback. The study also showed that ChatGPT can help students who are far away or have trouble with logistics. There were more chances to learn, even for students who lived in rural areas or didn't have teachers. Because people are an important part of learning, it is suggested that artificial intelligence tools like ChatGPT be used along with more traditional ways of teaching.

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