



Research Paper

Impact of ChatGPT on Student Learning Outcomes

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Abstract	Manuscript Information
<p>The growing use of generative artificial intelligence in education has introduced new dimensions to student learning. This study investigates the influence of ChatGPT on student learning outcomes in higher education. Using a qualitative review of recent academic literature, the paper analyses how ChatGPT affects comprehension, academic performance, engagement, and independent learning. The findings indicate that ChatGPT supports deeper understanding by offering instant explanations, adaptive responses, and continuous learning assistance. It also contributes to improved writing quality and increased learner confidence. However, challenges such as excessive dependence, reduced critical thinking, and ethical concerns related to academic honesty are also identified. The study concludes that ChatGPT has the potential to enhance learning outcomes when used as a supplementary educational tool rather than a replacement for active learning. The paper recommends structured guidelines and AI literacy programs to ensure responsible and effective integration of ChatGPT in education systems.</p>	<ul style="list-style-type: none"> ▪ ISSN No: 2583-7397 ▪ Received: 08-06-2024 ▪ Accepted: 29-07-2024 ▪ Published: 30-08-2024 ▪ IJCRM:3(4); 2024: 237-238 ▪ ©2024, All Rights Reserved ▪ Plagiarism Checked: Yes ▪ Peer Review Process: Yes
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1. INTRODUCTION

Technological advancements have continuously reshaped educational practices, and the emergence of generative artificial intelligence marks a significant shift in learning environments. Among such innovations, ChatGPT has become widely used by students for academic support, including understanding complex topics, completing assignments, and improving writing skills. The increasing reliance on AI tools raises important questions regarding their actual impact on student learning outcomes. While these tools offer convenience and efficiency, concerns exist about their influence on independent thinking and academic integrity. This study aims to critically examine how ChatGPT affects different dimensions of student learning and whether it enhances or hinders educational development.

2. OBJECTIVES OF THE STUDY

The key objectives are:

- To analyse the role of ChatGPT in student learning

- To evaluate its impact on academic performance and understanding
- To examine its influence on student engagement and independence
- To identify the benefits and limitations of its use
- To propose strategies for effective academic integration

3. RESEARCH METHODOLOGY

This study follows a qualitative research design, relying on secondary data sources such as scholarly articles, educational reports, and recent studies published between 2022 and 2026.

Data Sources

- Academic journals
- Research publications
- Policy documents
- Analytical Approach
- Thematic analysis

Comparative interpretation

4. Conceptual Perspective

4.1 AI in Education

Artificial intelligence in education refers to intelligent digital systems capable of supporting learning processes through automation, adaptation, and data analysis. These systems assist in providing personalised and efficient learning experiences.

4.2 Role of ChatGPT in Learning

ChatGPT functions as an interactive learning assistant that responds to queries, explains academic concepts, and helps refine written work. Its conversational nature makes learning more accessible and flexible.

5. Influence of ChatGPT on Learning Outcomes

5.1 Conceptual Understanding

Students often use ChatGPT to clarify complex ideas. The simplified explanations provided by the tool contribute to improved comprehension and retention of knowledge.

5.2 Academic Achievement

Access to instant assistance enables students to complete tasks more efficiently, which may positively influence academic performance when used appropriately.

5.3 Learner Engagement

The interactive design of ChatGPT encourages students to ask questions without hesitation, thereby increasing participation and curiosity.

5.4 Development of Writing Ability

ChatGPT assists in structuring content, correcting grammar, and improving clarity, which is especially beneficial for students facing language barriers.

5.5 Self-Directed Learning

The availability of AI support at any time promotes independent study habits and allows learners to progress at their own pace.

6. Positive Contributions

Promotes deeper understanding of subjects
Enhances writing and communication skills
Encourages active engagement in learning
Supports individualized learning paths
Increases accessibility to knowledge

7. Challenges and Risks

Possibility of overreliance on AI tools
Decline in analytical and problem-solving skills
Ethical issues related to originality
Risk of inaccurate or misleading information
Reduced effort in independent work

8. DISCUSSION

The findings suggest that ChatGPT plays a dual role in education. On one hand, it serves as a powerful tool that improves efficiency, accessibility, and understanding. On the other hand, it presents challenges that may negatively affect cognitive development if misused.

It is essential to recognise that learning is not only about acquiring information but also about developing critical thinking and problem-solving abilities. Therefore, ChatGPT should be used to support learning rather than replace traditional educational practices.

9. Key Findings

ChatGPT enhances comprehension and learning efficiency
It improves student engagement and confidence
It supports independent and flexible learning
Misuse may reduce critical thinking ability
Balanced usage is necessary for optimal outcomes

10. CONCLUSION

The study concludes that ChatGPT has a significant impact on student learning outcomes by offering personalized and accessible learning support. While it contributes positively to academic performance and engagement, it also raises concerns regarding dependency and academic integrity.

A balanced approach that combines AI tools with traditional teaching methods is essential for achieving meaningful learning outcomes. Responsible use, guided by ethical standards and proper training, will ensure that ChatGPT enhances education without compromising its core values.

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