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Student Satisfaction with The Use of Chat-GPT as A Learning Resource

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Abstract

This study investigates student satisfaction with the use of Chat-GPT as a learning resource in higher education. This study used a mixed methods approach, combining quantitative surveys and qualitative interviews to assess students' experiences and perceptions. A sample of 200 students from various disciplines at the Faculty of Education, Islamic University in Uganda (IUIU) participated in the study. Findings showed that most students expressed a high level of satisfaction with Chat-GPT, citing the availability, responsiveness and quality of information provided as key benefits. However, there were concerns about the accuracy of some responses and the lack of personalized feedback. The study concludes that while Chat-GPT serves as a valuable complementary resource, it must be properly integrated into the broader educational context, to ensure complementary human guidance and verification. These insights are critical for educators and developers looking to improve the effectiveness of AI-based educational tools.

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Introduction

In recent years, the integration of artificial intelligence (AI) in educational settings has gained substantial attention. Among the various AI applications, Chat-GPT, an advanced language model developed by OpenAI, has emerged as a prominent tool for enhancing learning experiences [1]. As educational institutions strive to provide innovative and effective learning resources, understanding student satisfaction with these tools is critical [2]. Chat-GPT offers a unique platform where students can engage in interactive dialogues, seek explanations, and receive instant feedback on a wide range of topics. Its potential to serve as an on-demand learning assistant makes it an attractive supplement to traditional educational resources. However, the efficacy and impact of Chat-GPT on student learning outcomes and satisfaction levels have yet to be thoroughly examined [3].

This study aims to fill this gap by exploring student satisfaction with the use of Chat-GPT as a learning resource in higher education. Specifically, it seeks to understand how students perceive the utility, reliability, and overall effectiveness of Chat-GPT in supporting their academic pursuits[4]. By employing a mixed-methods approach, this research provides a comprehensive analysis of students' experiences, highlighting both the strengths and limitations of using AI-driven tools in educational contexts [5]. The findings of this study are expected to offer valuable

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insights for educators, policymakers, and developers aiming to integrate AI technologies into the educational landscape. Understanding student satisfaction is crucial for optimizing the design and implementation of AI-based learning tools, ensuring they meet the diverse needs of learners and contribute positively to their academic success.

Literature Review

The incorporation of artificial intelligence (AI) in education has opened new avenues for enhancing learning experiences. Among various AI applications, conversational agents like Chat-GPT have gained attention for their potential to support students by providing instant information and interactive engagement. This literature review examines existing research on student satisfaction with AI-based learning tools, focusing on Chat-GPT and similar technologies, to understand their effectiveness and areas for improvement. AI's role in education has been expanding, with applications ranging from adaptive learning systems to automated grading and personalized tutoring. Studies have shown that AI can significantly improve learning outcomes by providing tailored educational experiences [4]. AI-driven tools are designed to adapt to individual student needs, offering personalized feedback and resources that traditional methods often lack [6].

Conversational agents, or chatbots, are one subset of AI that has been widely studied for educational purposes. These agents simulate human-like conversations to assist students with queries and provide educational content. Research by [6] found that conversational agents can enhance student engagement and motivation, particularly in online learning environments. Furthermore, these tools can offer scalable support, addressing the increasing demand for flexible learning resources [7]. Chat-GPT, developed by OpenAI, represents a significant advancement in conversational AI. Its ability to generate human-like text based on user prompts has made it a popular tool for educational support. Studies specific to Chat-GPT's use in education are emerging, highlighting both its potential and limitations [8].

Several studies have reported high levels of student satisfaction with Chat-GPT. For instance, [9] found that students appreciated the tool's ease of use and the immediacy of its responses. The interactive nature of Chat-GPT allows for a more engaging learning experience compared to static resources. Moreover, its availability 24/7 makes it a convenient supplementary resource for students who need assistance outside regular classroom hours [10]. Despite its benefits, Chat-GPT also faces criticism, particularly regarding the accuracy of the information provided. Research by [11] highlighted instances where Chat-GPT generated incorrect or misleading responses, raising concerns about its reliability. Additionally, the lack of personalized feedback has been noted as a limitation, as students often require more tailored guidance to address their specific learning needs [12].

Comparative studies have shown that while Chat-GPT performs well in terms of interaction quality, other AI tools might offer better accuracy and personalization. For example, intelligent tutoring systems (ITS) like ALEKS and Carnegie Learning provide more structured and curriculum-aligned support, which can lead to better learning outcomes [9]. However, these systems often lack the conversational flexibility of Chat-GPT, suggesting a potential for integrating

different AI tools to complement each other's strengths. The use of AI in education, including Chat-GPT, can be analysed through various theoretical frameworks. Constructivist theories suggest that AI tools facilitate active learning by allowing students to explore and construct knowledge interactively (Bruner, 1966). Vygotsky's (1978) concept of the Zone of Proximal Development (ZPD) is also relevant, as AI tools can provide scaffolding that helps students achieve tasks they might not accomplish independently.

The existing literature underscores the promising role of Chat-GPT and similar conversational agents in enhancing student satisfaction and learning experiences. While students generally appreciate the accessibility, ease of use, and interactive nature of these tools, challenges related to accuracy and personalization remain. Future research should focus on addressing these limitations and exploring integrated approaches that combine the strengths of various AI tools. By doing so, educators can better harness the potential of AI to create more effective and satisfying learning environments.

Research Methods

A. Research Design

This study used a mixed methods approach to investigate student satisfaction with the use of Chat-GPT as a learning resource. The research design integrates quantitative surveys and qualitative interviews to provide a comprehensive understanding of students' experiences and perceptions.

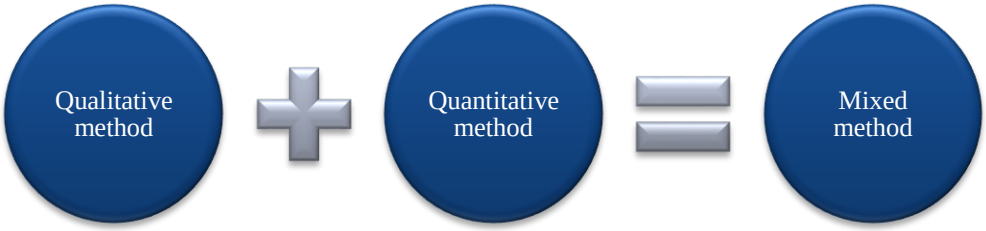

Figure 1. Research Design

B. Participants

The participants in this study consisted of 200 undergraduate students from various disciplines at the Faculty of Education, Islamic University in Uganda (IUIU), Uganda. Participants were selected using stratified random sampling to ensure representation from different fields of study, academic years, and demographic backgrounds.

C. Data Collection

1. Quantitative Data
   A structured questionnaire was developed to assess student satisfaction with Chat-GPT. The questionnaire included items on various dimensions of satisfaction, such as ease of use, perceived usefulness, quality of information, response accuracy, and overall satisfaction. A 5-point Likert scale ranging from "strongly disagree" to "strongly agree" was used to measure responses. The survey was administered online to all participants.
2. Qualitative Data
   In-depth semi-structured interviews were conducted with a subset of 20 students who participated in the survey. The interview questions aimed

to explore students' detailed experiences with Chat-GPT, including specific instances of use, perceived benefits, challenges faced, and suggestions for improvement. Interviews were conducted either in person or via video conferencing, depending on participant preference.

D. Data Analysis

The survey data were analysed using descriptive and inferential statistical techniques. Descriptive statistics, including mean scores and standard deviations, were calculated for each survey item.

Research Results

A. Research Results

The results section presents the findings from the quantitative survey and qualitative interviews, highlighting key aspects of student satisfaction with the use of Chat-GPT as a learning resource.

1. Quantitative Findings

Table 1 summarizes descriptive statistics for survey items relating to Faculty of Education, Islamic University in Uganda (IUIU) students' satisfaction with Chat-GPT.

Table 1. Descriptive Statistics of Student Satisfaction with Chat-GPT

Dimension	Mean (M)	Standard Deviation (SD)
Ease of Use	4.32	0.68
Perceived Usefulness	4.15	0.74
Quality of Information	4.08	0.81
Response Accuracy	3.95	0.89
Overall Satisfaction	4.22	0.71

The results indicate that students generally have high satisfaction levels with Chat-GPT. The highest satisfaction was reported for ease of use (M = 4.32, SD = 0.68), followed by overall satisfaction (M = 4.22, SD = 0.71). Perceived usefulness (M = 4.15, SD = 0.74) and quality of information (M = 4.08, SD = 0.81) also received favourable ratings, while response accuracy had the lowest mean score (M = 3.95, SD = 0.89). Inferential statistical analysis showed no significant differences in satisfaction levels based on demographic variables such as age, gender, or academic discipline, indicating that positive acceptance of Chat-GPT was consistent across different student groups of the Faculty of Education, Islamic University in Uganda (IUIU).

2. Qualitative Findings

Qualitative interviews provided deeper insights into the specific aspects of Chat-GPT that contribute to student satisfaction of the Faculty of Education, Islamic University in Uganda (IUIU). Key themes that emerged from the interviews include:

a. Accessibility and Convenience: Students appreciated the 24/7 availability of Chat-GPT, allowing them to access information and assistance at any time.
b. Interactive Learning: Many students valued the interactive nature of Chat-GPT, which allowed for a more engaging learning experience compared to static resources.

c. Immediate Feedback: The instant feedback provided by Chat-GPT was highlighted as a major advantage, helping students clarify doubts quickly.
d. Supplementary Resource: Students viewed Chat-GPT as a valuable supplementary resource that complemented their primary learning materials.

However, some challenges were also identified, in examining the satisfaction of students of the Faculty of Education, Islamic University in Uganda (IUIU) with the Use of Chat-GPT as a Learning Resource:

a. Accuracy Concerns: A few students reported instances where Chat-GPT provided inaccurate or misleading information, underscoring the need for careful verification.
b. Lack of Personalization: Some students felt that Chat-GPT lacked the personalized feedback that a human instructor could provide, limiting its effectiveness in addressing individual learning needs.

B. Discussion

The findings from this study underscore the potential of Chat-GPT as a supplementary learning resource in higher education. The high levels of student satisfaction reported in the survey suggest that Chat-GPT is well-received by students, particularly for its ease of use, accessibility, and interactive capabilities. These attributes align with the growing demand for flexible and engaging learning tools in modern educational environments [9]. However, the study also highlights important areas for improvement. The concerns about accuracy and personalization suggest that while Chat-GPT is a valuable tool, it should be used in conjunction with traditional educational resources and human oversight. Educators and developers should focus on enhancing the accuracy of Chat-GPT's responses and exploring ways to incorporate more personalized feedback mechanisms [4]. The positive reception of Chat-GPT across diverse student groups indicates its broad applicability, but further research is needed to explore its impact on learning outcomes and its integration into different educational contexts. Future studies could also examine the long-term effects of using AI-driven tools on student engagement and academic performance. In conclusion, Chat-GPT holds significant promise as an innovative educational tool, offering numerous benefits that align with students' needs for accessible, interactive, and immediate learning resources. By addressing the identified challenges, educators can maximize the potential of AI technologies to enhance the learning experience and support student success.

Conclusion

This study explored student satisfaction with the use of Chat-GPT as a learning resource in higher education. Through a mixed-methods approach, combining quantitative surveys and qualitative interviews, the research provided a comprehensive understanding of students' experiences and perceptions. The findings indicate that students generally express high levels of satisfaction with Chat-GPT, particularly valuing its ease of use, accessibility, and the quality of

information provided [6]. The tool's interactive nature and the immediacy of feedback were highlighted as key benefits, enhancing the overall learning experience. These positive attributes suggest that Chat-GPT can effectively complement traditional educational resources, providing students with a flexible and engaging learning aid [3]. However, the study also identified areas for improvement. Concerns regarding the accuracy of some responses and the lack of personalized feedback were notable. These findings underscore the importance of integrating Chat-GPT thoughtfully within the broader educational framework, ensuring that its use is supported by human oversight and verification to address its limitations. The study's results have important implications for educators, policymakers, and developers. By understanding the factors that contribute to student satisfaction, stakeholders can better design and implement AI-based learning tools that meet diverse student needs and enhance educational outcomes. Future research should continue to investigate the long-term impact of AI-driven tools on learning, exploring ways to optimize their effectiveness and integration in various educational contexts [4]. In conclusion, Chat-GPT demonstrates significant potential as a supplementary learning resource in higher education. While it offers numerous benefits that align with modern educational demands, addressing its challenges through thoughtful integration and ongoing development will be crucial to maximizing its impact on student learning and satisfaction.

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Author Contributions

Abdulnassir Yassin: conceptualization; formal analysis; data curation; methodology; writing- review and editing. Ashadi Bashir: methodology; writing- original draft; writing- review and editing.

Availability of data and materials

All data are available from the authors.

Competing interests

The authors declare no competing interest.

Additional information

No additional information from the authors.

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