Enhancing Education through Chatbots and GenAI

Jayabrota Banerjee

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Abstract

This paper explores the integration of chatbots and generative AI (genAI) in educational settings, focusing on their potential to enhance interactivity in school and college department websites. The study investigates the impact of these technologies on student engagement and learning outcomes.

1 Introduction

In the 21st century, educational institutions are increasingly leveraging technology to create dynamic and personalized learning environments. This paper examines the utilization of chatbots and generative AI in the development of educational websites, aiming to provide tailored and engaging experiences for students. As traditional teaching methods evolve, the role of technology becomes pivotal in fostering effective communication, instant support, and interactive learning.

2 Related Work

Previous research has underscored the transformative impact of technology in education [3]. Chatbots have been successfully implemented in various sectors to streamline communication and provide real-time assistance [1]. However, the specific application of these technologies in educational contexts requires further exploration.

The conference paper by Sinha et al. [2] presents an Educational Chatbot designed for answering queries. The authors detail their approach and discuss the impact of the chatbot on education.

3 Methodology

To investigate the effectiveness of chatbots and genAI in educational settings, a mixed-methods approach was employed. Chatbots were integrated into school

and college department websites to address common queries and provide support. Additionally, generative AI was utilized to create interactive learning materials tailored to the curriculum. The implementation involved the use of specific tools or platforms, such as Dialogflow and OpenAI GPT.

4 Results

Preliminary results indicate a positive impact on student engagement. Chatbots effectively addressed frequently asked questions, providing instant and accurate information. GenAI-generated interactive learning materials were well-received, with students reporting increased interest and comprehension. Metrics such as click-through rates and completion rates demonstrated improved interaction with the educational content.

5 Discussion

The findings suggest that integrating chatbots and genAI in educational websites has the potential to enhance student interactivity and learning experiences. The personalized assistance provided by chatbots contributes to a supportive learning environment. However, challenges such as ethical considerations and data privacy need to be addressed for successful and responsible implementation. Future research should delve deeper into long-term impacts on student performance and adaptive learning experiences.

6 Conclusion

In conclusion, this study demonstrates the promising role of chatbots and genAI in enriching educational websites with interactive elements. The evidence suggests that these technologies can positively impact student engagement and contribute to more effective learning experiences. As technology continues to advance, the integration of chatbots and genAI in education represents an exciting avenue for innovation and improvement.

References

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