

Chapter 13

The Robot Wrote My College Papers: Integrating Chatbots to Assist Higher Education

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ABSTRACT

As chatbot technology has advanced significantly over the past few years, it has become more and more prevalent in higher education. Chatbots can simulate human communication and engage in natural conversations. Universities and colleges use chatbots to streamline enrollment and create a virtual “one-stop-shop” for queries. In the meantime, students discovered with excitement that chatbots can help them complete homework assignments. Academic integrity has become a growing concern with students’ increasing reliance on chatbots. This chapter summarizes the history of chatbots, discusses the current state of the technology, examines their limitations, and investigates how chatbots can be applied as useful administrative, academic, and pedagogical tools in higher education.

1. INTRODUCTION

Artificial intelligence (AI) is a branch of computer science concerned with building programs capable of performing problem-solving tasks. The language recognition capabilities of AI systems have developed rapidly. Powered by AI programs, chatbots can simulate human behavior by conversing and interacting with users using natural language. Chatbots have been gaining popularity in various industries, given their ability to mimic human conversations. To save costs and reduce labor, industries with consumers demanding around-the-clock services deploy chatbots to provide customer service. During the COVID-19 pandemic, communication and chatbot technologies accelerated to address public needs. Government organizations employed chatbots to answer high volumes of citizen questions related to the coronavirus

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and disseminate pandemic-related updates. The battle against the pandemic is over, but the technology and the prevalent use of chatbots remain.

In recent years chatbots have been widely used in higher education. Universities and colleges employ chatbots to interact with current and incoming students, creating a virtual “one-stop-shop” for student queries. A university chatbot can provide students with information ranging from campus and facilities to academic advising and financial aid. Some universities have developed emotional support chatbots to help freshmen transition to college life. To some students, their university chatbot is like an all-knowing expert and caring friend. Some large universities even use chatbots to provide parking navigation on campus to staff and faculty.

Not only can chatbots be used as administrative tools, but they have academic values as well. Newer chatbots can write emails, generate texts, write computer code, solve math problems, interpret questions, and provide accurate and thorough answers. In November 2022, OpenAI, an American AI research laboratory, launched ChatGPT, a chatbot known for producing natural and fluent essays. College students discovered with excitement that ChatGPT can help them complete assignments. Before the arrival of chatbots, a complicated assignment may require careful data gathering, diligent research, and hours of hard work. With the advent of ChatGPT, students can watch their papers being written in just a few moments. A recent survey reveals that many college students rely heavily on ChatGPT to complete their homework assignments. Since ChatGPT creates an original work each time, its responses are not in the databases of plagiarism detectors. Although some educators use AI detectors to spot plagiarism, these tools can be unreliable and falsely flag original human-written content. Higher education is confronted with unprecedented academic and ethical challenges.

Recognizing that chatbots potentially hinder student learning and promote laziness, universities and colleges began to take preventive measures to address these challenges. Some common strategies are outright banning chatbots on their networks and computers to eliminate plagiarized work, implementing strict policies and consequences for misusing chatbots, altering the learning outcomes assessment, and communicating the importance of college learning and the ethical use of chatbots to students. Despite the challenges and downfalls, chatbots hold great promise for higher education. Recognizing that chatbot technology will not likely disappear, more and more educators have begun to incorporate chatbots into their pedagogical practices. Incorporating chatbots in teaching potentially creates an inclusive learning environment, improves student critical thinking skills, prepares students for an increasingly tech-centric world, and conducts academic assessment. Intending to contribute to the expansion of the current literature on chatbots in higher education, this chapter summarizes the history of chatbots, discusses the current state of the technology, examines their limitations, and investigates how chatbots can be applied as useful administrative, academic, and pedagogical tools. The chapter begins by tracing the history and evolution of chatbots. Ever since its inception, chatbots have become increasingly advanced and sophisticated in meeting user demands and generating coherent information. Given chatbots’ relative success in industries where customer services are heavily demanded, postsecondary institutions began to adopt them as well to streamline their enrollment processes and distribute campus information to students, faculty, and staff. The chapter further discusses how students’ reliance on chatbots to write their assignments can compromise academic integrity. Recognizing the faults of chatbots, this chapter explores the potential benefits of chatbots in assisting higher education. Specifically, chatbots can facilitate critical thinking, assist with academic assessment, support personalized and inclusive learning, and improve digital literacy.

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