

Business Student's Perception of the use of Artificial Intelligence in Higher Education with a focus on ChatGPT

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ABSTRACT

Artificial Intelligence (AI) is taking the world by storm. Higher education is not immune to this phenomenon and has many challenges in embracing AI. Much has been written lately concerning the typical application of AI in higher education, as well as in the classroom itself. The purpose of this paper is to gather information from students to examine their perspectives on AI, as well as to examine their current usage. Surveys were administered in business classes at a small public university located in the Southeastern region of the United States. Students were asked specifically about their familiarity with ChatGPT. The results of the study will be used to help faculty better understand exactly what students currently know about the use of AI and how, and if, they are currently using AI in their coursework, as well as their leisure life.

Key Words: Artificial Intelligence, ChatGPT, Business Schools, Higher Education

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INTRODUCTION

The technical definition of artificial intelligence is that it “is a rapidly growing field of computer science that focuses on creating intelligent machines that can think and act like humans (“What is artificial intelligence? A simple explanation,” 2023).

Some examples of artificial intelligence are Alexa, Amazon’s voice-activated virtual assistant, Siri, Apple’s voice-controlled personal assistant, and Google Assistant, a voice-activated helper similar to Siri and Alexa. These devices have various functions such as playing music on command, controlling home devices, shopping on Amazon, searching the internet, and giving directions. (Bizzaco, Rawes, & Wetzel, 2023, Mixon & Steele, nd., Jansen, 2023) A question to consider is: Are students even aware that these devices are artificial intelligence tools?

Other artificial intelligence generators found in different media are ChatGPT, used for writing; Lensa from Prisma labs, used for photo editing, Sounddraw used for music, and Wolframalpha, used for math problem-solving. (Rubin, Z., 2023). The development of these AI tools is incredible and can make life easier; however, as Dr. Zach Rubin, Assistant Professor of Sociology at Lander University indicates in his White Paper presentation:

- ▶ “The point of this discussion should not be about whether we accept or reject A.I. Rather, how do we coexist with tools that make our lives easier and also make the work we ask our students to do so easy they may no longer actually have to do it?”

Since ChatGPT is currently one of the most popular tools in AI, this paper will focus on this application. After downloading the app, these authors asked “What is ChatGPT?” and received the following response: ChatGPT is a conversational artificial intelligence (AI) system developed by OpenAI. “Generative Pre-trained Transformer”...trained on a massive amount of text data from the internet.. generates human-like responses to prompts and questions” (*Introducing ChatGPT*. 2022).

Marr (2023) in his article, *A short history of ChatGPT: How we got to where we are today*, indicates it is a “chatbot” proving that machines can “learn” human language and interaction. It was founded in December 2015 by Sam Altman, Greg Brockman, Elon Musk, Ilya Sutskever, Wojciech Zaremba, and John Schulman. The team initially wanted to advance AI to benefit humanity. Elon Musk left OpenAI in 2018 indicating it was a conflict of interest with his work at Tesla; however, Musk also had concerns regarding the purpose of OpenAI. He believed the company was choosing to gain financially rather than help humanity.

Sam Altman is the current CEO; however, he was “ousted” on November 17, 2023, with a no-confidence vote regarding his leadership because of safety concerns and manipulative behavior. On November 29, 2023, Altman was reinstated as CEO after employees and investors pressured the board, which was replaced by a new board of directors for OpenAI (Marr, 2023).

In less than ten months, OpenAI tripled its valuation from \$29 billion in 2023 to almost \$80 billion. The release of GPT 3.5, free to the public, drew attention to the firm, and there was a funding boom where Microsoft invested around \$13 billion (Marr, 2023; Metz & Mickle, 2024). This investment gives Microsoft a 49% share of the company with other stakeholders owning 49% (Cooling, 2024).

However, the free version of ChatGPT which was released in November 2022, was not the first version of the chatbot. Below is a timeline of the AI application which actually began in June 2018.

- ▶ **GPT1**...June 2018...117 million parameters “demonstrated the power of unsupervised learning in language understanding tasks, using books as training data to predict the next word in a sentence.”
- ▶ **GPT2**...February 2019, 1.5 billion parameters. “produced coherent, multi-paragraph text. But due to its potential misuse, GPT-2 wasn’t initially released to the public.” Launched in November 2019 after further study of the risks.
- ▶ **GPT3**...June 2020, 175 billion parameters. It had advanced “text generation capabilities” ...leading to...”drafting emails and writing articles to creating poetry and even generating programming code.” It could also “answer factual questions and translate between languages”.
- ▶ **GPT 3.5**...Nov. 30, 2022...free version that writes emails, does resumes and creates six-figure businesses... later had 1 million users in 5 days and 1.7 billion users a year
- ▶ **GPT4**...March 14, 2023...latest iteration. The paid version... has a lower likelihood of generating offensive or dangerous output, increased factual accuracy and has the ability to search the internet in real-time. Can “see, hear and speak” (cnbc.com)

So, what are the advantages and disadvantages of using ChatGPT? By asking the app itself, the condensed version of those items is listed below:

- ▶ Advantages of ChatGPT? (*Introducing ChatGPT, 2022*)
- ▶ **Language Understanding**: generate human-like responses in natural language.
- ▶ **Versatility**: wide range of topics and questions.
- ▶ **Availability and Accessibility**: accessible 24/7 and can assist users across different time zones and locations.
- ▶ **Continuous Learning**: a massive dataset, available until September 2021.
- ▶ **Multilingual Support**: primarily operates in English, it can also understand and generate responses in other languages.
- ▶ **Language Understanding**: generate human-like responses in natural language.
- ▶ **Versatility**: wide range of topics and questions.
- ▶ **Availability and Accessibility**: accessible 24/7.. assists users across different time zones and locations.
- ▶ **Continuous Learning**: a massive dataset, available until September 2021.....with GPT4.. Internet access available
- ▶ **Multilingual Support**: primarily operates in English, it can also understand and generate responses in other languages.

What are the disadvantages of ChatGPT? (*Introducing ChatGPT, 2022*)

- ▶ **Lack of Contextual Understanding**: generates responses based on patterns ...may sometimes provide irrelevant or nonsensical responses.
- ▶ **Overconfidence and Invented Information**: high level of confidence...hard to distinguish between accurate and inaccurate responses.
- ▶ **Bias and Offensive Content**: produce inappropriate or prejudiced outputs, which can be a concern in sensitive or delicate conversations.
- ▶ **Lack of Real-Time Updates**: static dataset and does not have access to real-time information or events beyond its September 2021
- ▶ **Ethical Concerns and Misuse**: potential misuse of ChatGPT for spreading misinformation, generating harmful content, or deceiving users.

The purpose of this paper is to gather information from students to examine their perspectives on AI, as well as their current usage. The results of this study will be used to help faculty better understand what students currently know about the use of AI tools. Additionally, the results will be used to discover if the students are currently using artificial intelligence tools in their coursework to give suggestions to faculty for its use. Also, it will be interesting to identify how the students are using AI tools in their leisure lives.

METHODOLOGY

Surveys were administered in business classes at a small public university located in the southeastern region of the United States. The surveys were optional, and students signed a waiver before taking the survey. Students were asked specifically about their familiarity with ChatGPT.

There were 147 usable surveys. The demographics appear in Table 1. This table identifies 57% of the students as male with 43% female. The majority of the students were upperclassmen with 40% being juniors and 30% seniors. The emphases were in five specific areas: Accounting, Financial Services, Health Care Management, Management/Marketing, and Sports Management. An “other” category was developed for those who may have majored in other areas. The majority of the students were in Management/Marketing (36%) with the second largest emphasis percentage being Accounting (27%).

Students were asked the following questions:

1. Do you know what Artificial Intelligence is?
2. Do you use any Artificial Intelligence tools?
3. Are you familiar with ChatGPT?
4. Have you used ChatGPT?
5. Have you used ChatGPT in any of your classes?
6. Have you used ChatGPT to write a research paper?
7. Would you use ChatGPT to write a research paper?
8. Is it unethical to use ChatGPT without the teacher’s permission?
9. Should ChatGPT be cited as a reference in research papers?

Of the 147 students who completed surveys (see figures 1 and 2), 90% knew what artificial intelligence was; however, only 30% said they used artificial intelligence. The authors believe this low percentage is indicative of the fact that some students are not aware of tools such as Siri, Alexa, and Google’s voice-activated assistant being AI tools.

As indicated in figures 3, 4 and 5, 80% of the students surveyed are familiar with ChatGPT. However, only 39% of the students indicate they have used ChatGPT and only 22% say they have used it in their classes. We believe this low percentage is because faculty have not found ways to use ChatGPT constructively in their classes. Currently, most faculty regard the use of ChatGPT as a hindrance due to the plagiarism factor.

Concerning using ChatGPT to write research papers, figure 6 indicates only 4% of the 147 students indicated they had used it to write papers. However, figure 7 indicates that 19% would use ChatGPT to write research papers. The low percentage of those using the tool to write research papers could be because not all emphases require research papers, especially those

courses such as accounting. Perhaps a better question would have been: “Do you use ChatGPT to write short papers or discussion answers?”. As for the 19% who indicated they would use the tool, this question did not elaborate on whether the tool was used with the permission of the teacher. This clarification may have changed the answer to the question.

Regarding the ethics of using ChatGPT, figure 8 shows that 60% of the students surveyed indicated it was unethical to use ChatGPT without the teacher’s permission. Further clarification may be needed as to what they would be using the AI tool to write. ChatGPT can be useful for research purposes as long as plagiarism is not involved.

As for citing the ChatGPT source in research papers, figure 9 indicates that 64% of the students surveyed believe that it should be cited. This may indicate that more instruction on the definition of plagiarism is needed within the department.

Some popular plagiarism detection tools include Turnitin, Grammarly, Copyscape, and Plagscan (Rubin, Z., 2023). It’s worth noting that the effectiveness of plagiarism detection tools can vary, and no tool can guarantee 100% accuracy. Therefore, manual review and critical evaluation of the generated text are still recommended to ensure the quality and originality of the content. Unfortunately, this procedure can be time-consuming for faculty.

A plagiarism detection tool often used and found free of charge is GPTzero. The tool works in the following manner:

- ▶ 1. Put in the essay, and it will tell you the probability it is written by humans or AI.
- ▶ 2. It highlights sentences written by AI and gives a percentage written by AI.
- ▶ Example:
- ▶ I inserted the following answer to “What is ChatGPT?” from the ChatGPT application.
- ▶ Answer: “ChatGPT is an advanced conversational artificial intelligence (AI) system developed by OpenAI. It is based on the GPT-3.5 architecture, which stands for Generative Pre-trained Transformer 3.5.” GPT-3.5 is a powerful language model that has been trained on a massive amount of text data from the internet, allowing it to generate human-like responses to a wide range of prompts and questions.” (*Introducing ChatGPT*, 2022).
- ▶ The entire answer was highlighted and a percentage of 98% was given, indicating that it was written by AI (*GPTZero*, 2023-24).

Of note is that the free version of GPTzero only allows for 5,000 words inserted into the program per month before an upgrade to a paid version is requested. Additionally, inconsistencies between applications occur making the free versions of these plagiarism detection tools not overly reliable. This inconsistency made public attention when a college professor falsely accused half of his class of using ChatGPT. He even went to the extent of holding their graduation diplomas. Some were later exonerated (Ankel, 2023).

SUMMARY AND CONCLUSION

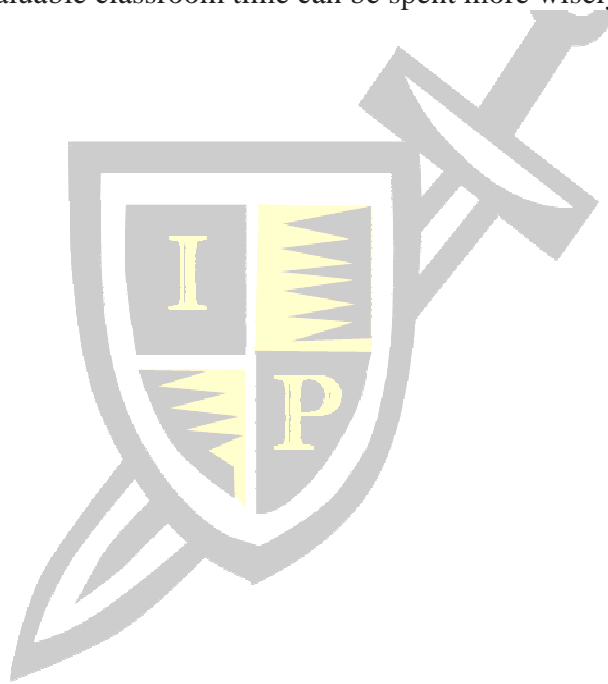
Artificial Intelligence began to be discussed more with the emergence of ChatGPT 3.5 in November 2022. The paid version was released in the spring of 2023, which is when students at this small Southeastern university were surveyed. At that time, 90% of the 147 students surveyed were aware of artificial intelligence, and 80% knew of ChatGPT; however, only 22% were using it, especially in their classes, and even fewer had used the application to write research papers.

The main concern of faculty at that time was that students could use it to write papers, long or short, making plagiarism detection more difficult. New detection tools are being developed; however, there are limitations, and the way has been “paved” for new revenue-generating applications of plagiarism detection tools to be developed.

A California English teacher asked the ChatGPT application for suggestions for using it positively in the classroom. The response given was that it could:

1. Provide suggestions for grammar, vocabulary, and sentence structure
2. Give feedback on essays
3. Generate ideas
4. Generate a debate or discussion with the app
5. Generate quizzes for reading check

“Now, I’m not saying that analysis, interpretation, and developing academic writing skills are no longer relevant. Rather, I’m suggesting ChatGPT can streamline the thinking and writing process so valuable classroom time can be spent more wisely” (Ferlazzo, 2023).



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APPENDIX

Table 1

Description	Gender	Classification	Emphasis
Male	57%		
Female	43%		
Freshmen		8%	
Sophomore		22%	
Junior		40%	
Senior		30%	
Accounting			27%
Financial Services			9%
Health Care Management			12%
Management/Marketing			36%
Sports Management			13%
Other			3%

Figure 1

Do you know what Artificial Intelligence is?

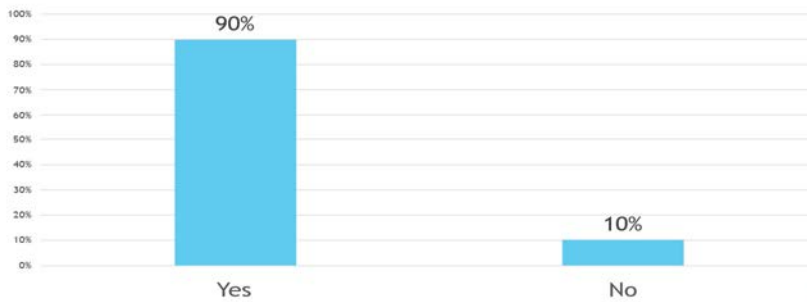


Figure 2

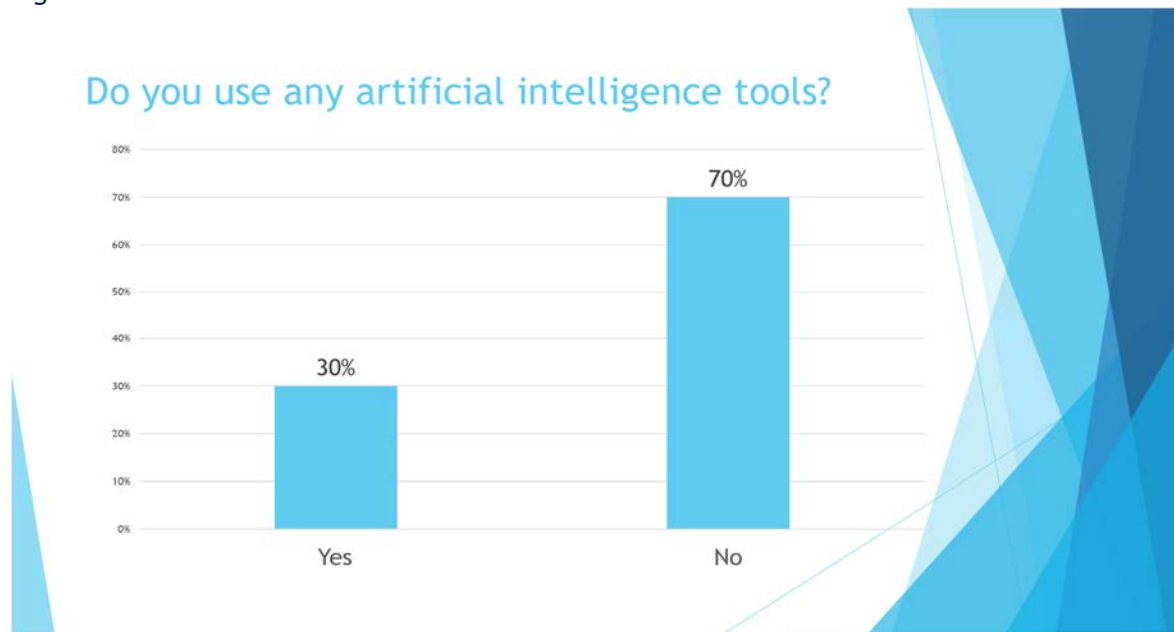


Figure 3

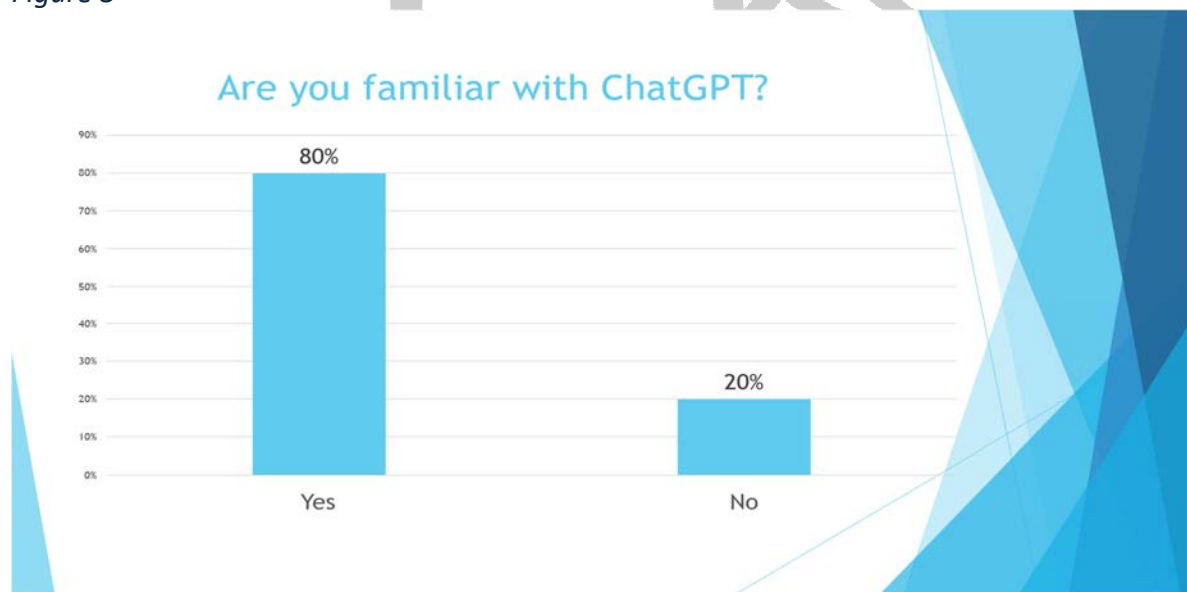


Figure 4

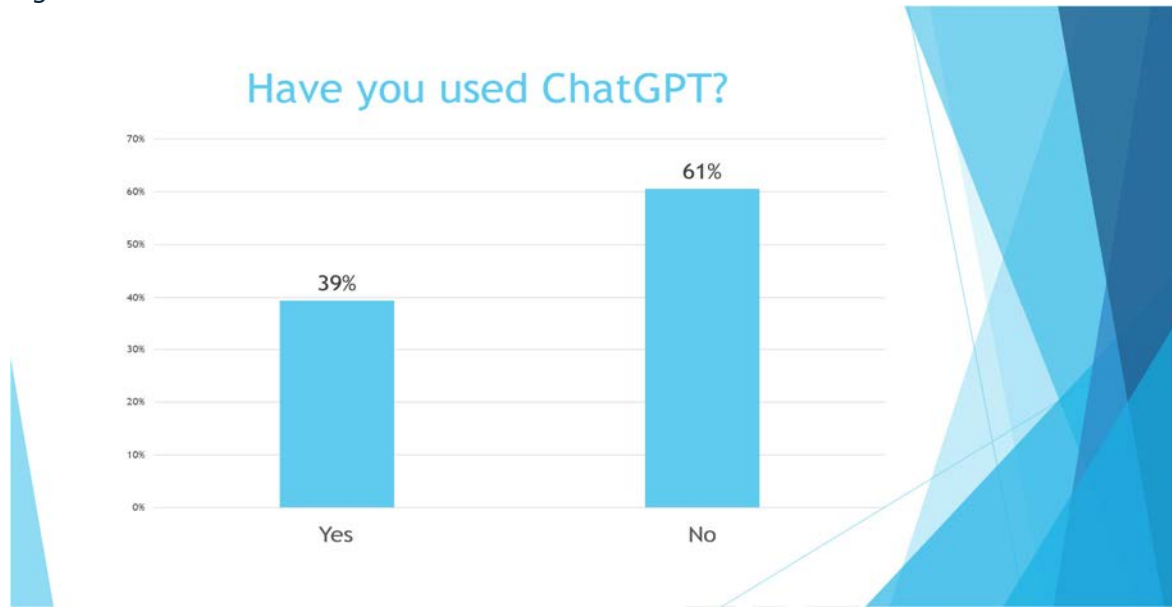


Figure 5

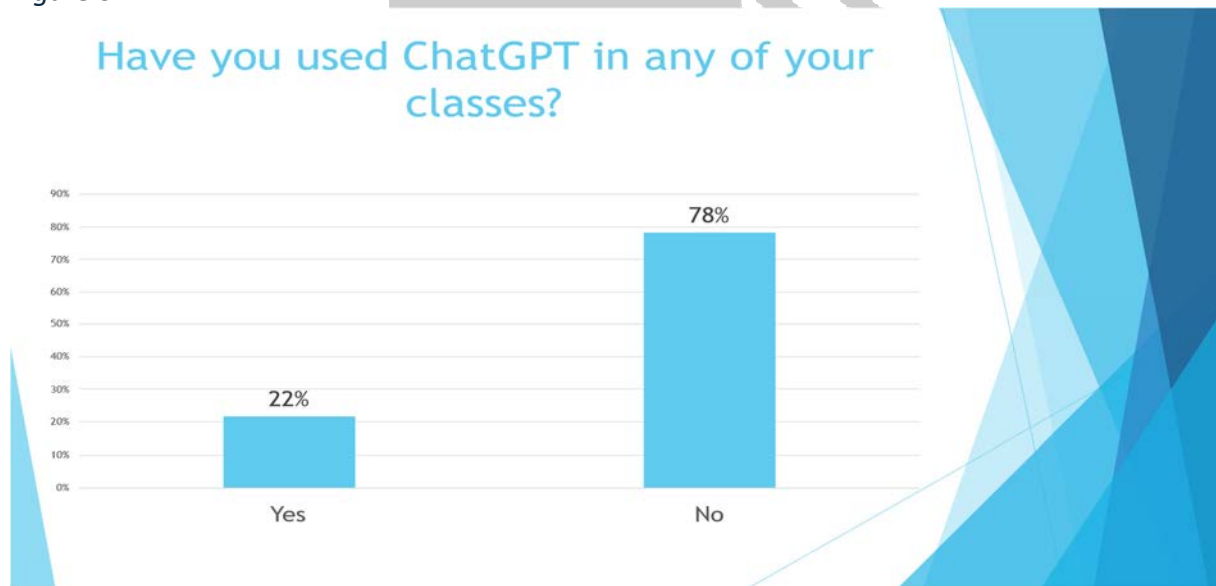


Figure 6

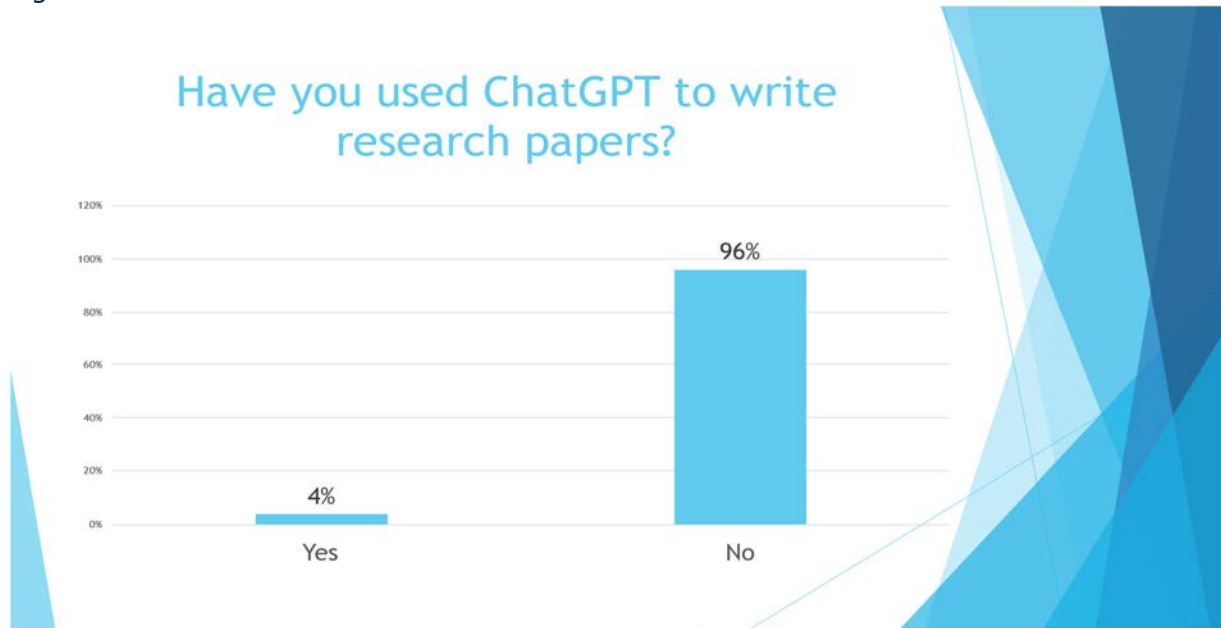


Figure 7

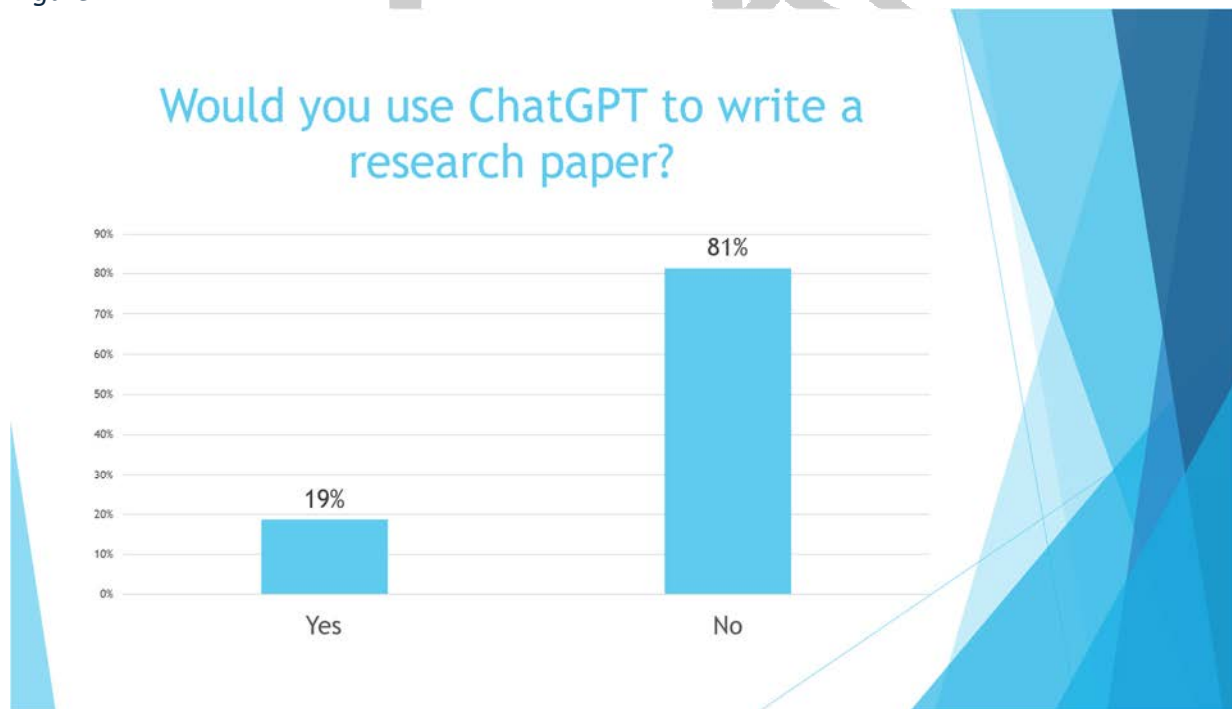


Figure 8

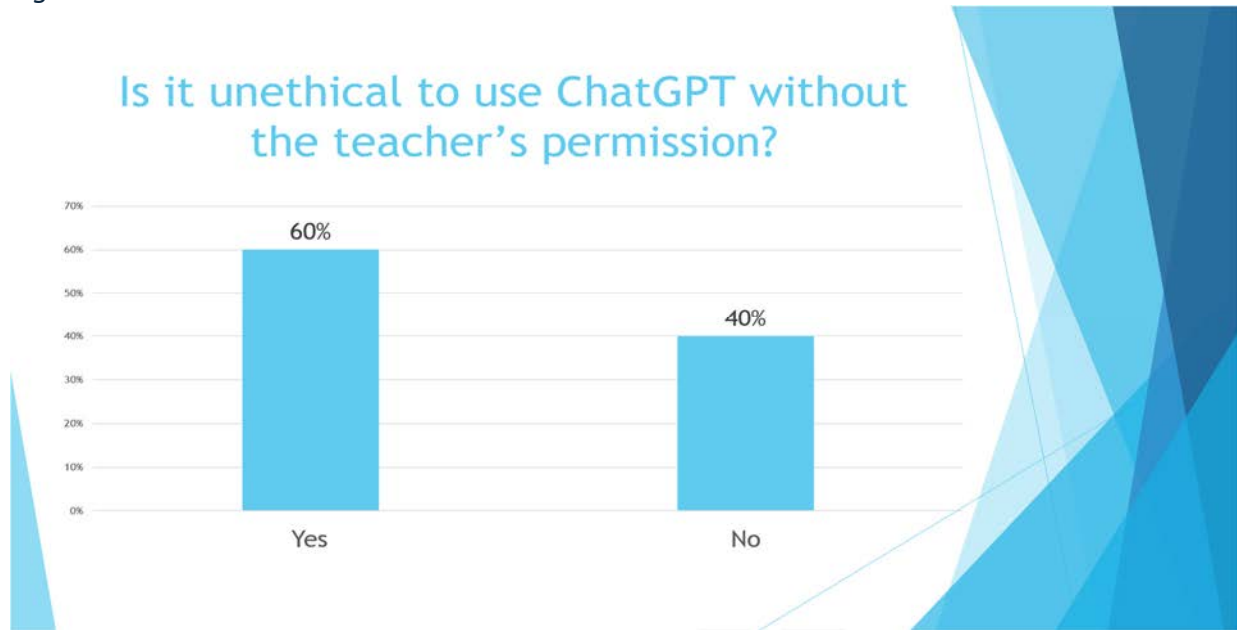


Figure 9

