**Analysis On The Use Of ChatGPT Towards Education**

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CPS 412

April 1st, 2023

**Introduction**

ChatGPT is an artificial intelligence(AI) technology developed by the American research laboratory *OpenAI*. In 2020 OpenAI launched GPT-3, a language model which was developed under vast internet datasets. Based on GPT-3, OpenAI proposed the preview of its new chatbot named ChatGPT, late 2022. It provides users with a conversational interface, implementing natural language in answering questions. The Reinforcement Learning with Human Feedback (RLHF) trains the model towards desired behavior using human examples and critiques. ChatGPT is dialogue-optimized, and has attracted 5 million users within the first 5 days of its launch. In this report we will be analyzing real time data gathered from individuals of academia world-wide and whether this powerful tool should be allowed to be used in universities.
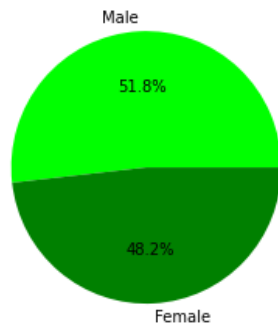
**Methodology**

We piloted a set of questions to gather student feedback on their experience with ChatGPT with the goal of assessing its impact on their education. This was done through an online survey sent out to individuals in academia worldwide. We asked a number of independent and dependent questions to see whether ChatGPT use should be allowed by students in university. After collecting and filtering the data using an excel sheet, we created appropriate charts, figures and tables to analyze it. This was done using the python programming language.
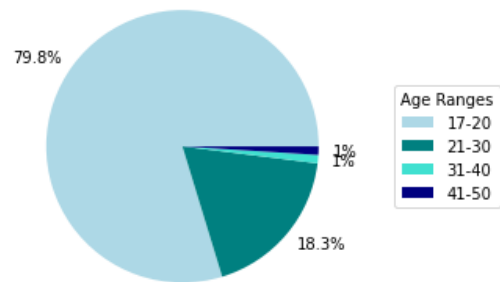
**Results and Findings**

According to our survey data, a sample of 104 individuals, 48.2% of females and 51.8% of males are reported to have used ChatGPT. The age group between 17-20 constitutes the majority of ChatGPT users. Thus, to estimate usage patterns, we will focus on analyzing this particular group.

Gender demographic for those who have tried ChatGPT



*Pie Chart showcasing gender distribution*

*for ChatGPT use*
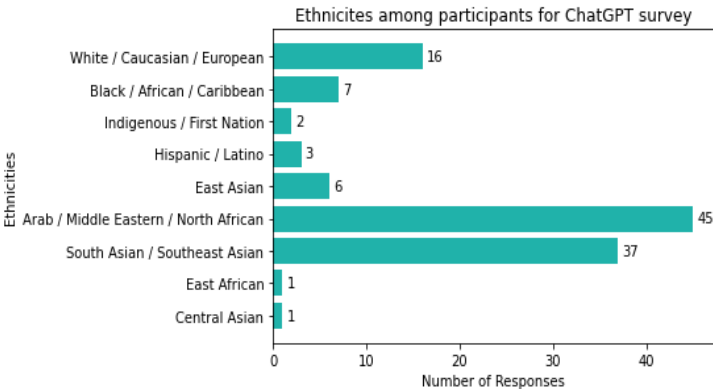
Pie chart showing age ranges for Chatgpt survey



*Pie Chart showcasing age distribution for*

*ChatGPT use*

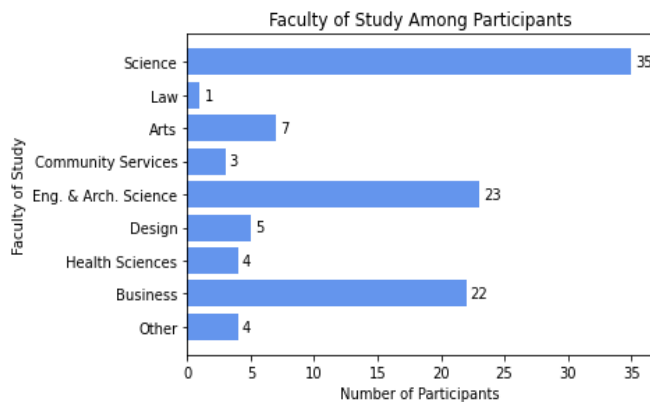Survey Responses on ChatGPT usage based on Ages

| Ages | Have tried ChatGPT | Haven't Tried ChatGPT |
|-------|--------------------|------------------------|
| 17-20 | 43 | 40 |
| 21-30 | 12 | 7 |
| 31-40 | 0 | 1 |
| 41-50 | 1 | 0 |

*Table chart showcasing survey results on the age ranges who use ChatGPT*

From the data collected, the majority of students appear to be from the Faculty of Science, Engineering and Architecture, and Business. In addition the ethnicities of participants are predominantly Arab / Middle Eastern / North African, and South/Southeast Asian.



*Horizontal bar chart showcasing ethnicities who*
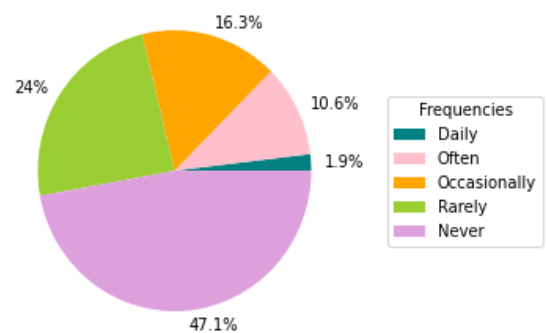
*have participated in the survey*

Bar chart showcasing the Faculty of Study of students who have participated in the survey

24% of women were in the faculty of Business, and 64% were in the faculty of Science. On the other hand, 27.5% of men were in the faculty of Business, 24% in the faculty of Science, and 44.8% in the faculty of Engineering.
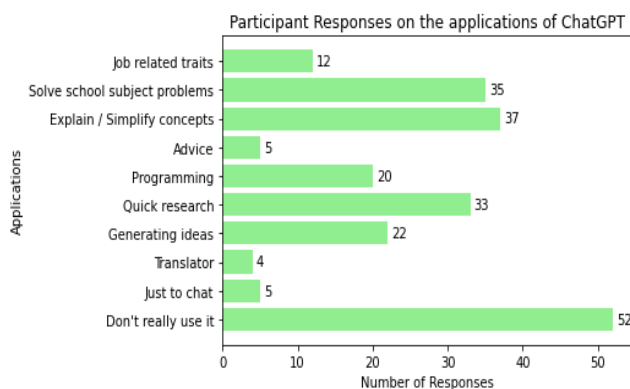
Among women ages 17-20, 60% reported rarely using ChatGPT, while only 8% reported using it often. Among men ages 17-20, 17.5% reported using ChatGPT often, while 27.5% reported rarely using it. Out of the 53.8% of participants who tried ChatGPT, most rarely use it.
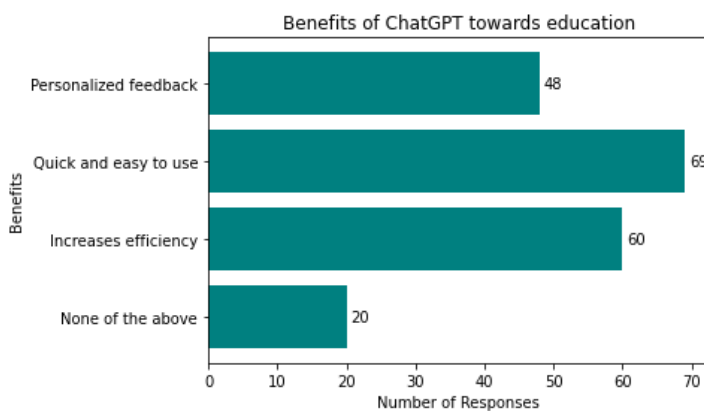


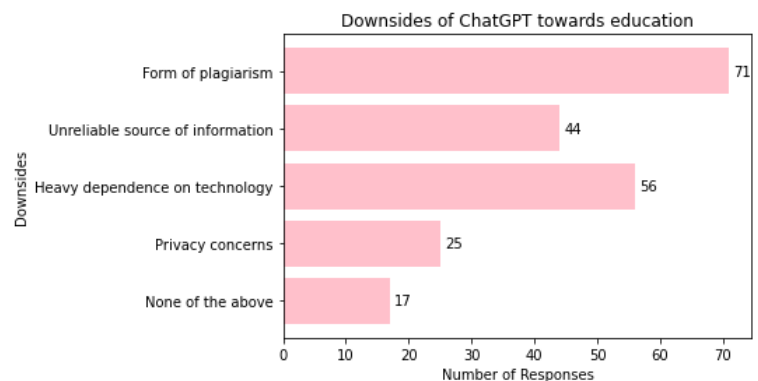Pie chart depicting how frequently participants use ChatGPT



Bar chart showcasing the applications of ChatGPT for users

Most respondents reported using ChatGPT for explanation of difficult concepts, research and solving school related problems. Very few chose it for translation, chatting, and advice, indicating ChatGPT is mostly used as academic assistance.

The benefits of ChatGPT towards education is mostly reported as being quick and easy to use, along with increasing efficiency in educational settings. The most frequent downsides have been plagiarism and dependence of students on technology. 71 out of 104 students believe that using ChatGPT for work is considered plagiarism, implying that users prioritize other learning tools that don't bear the problem of plagiarism. It allows them to develop their problem-solving abilities rather than being reliant on technology.
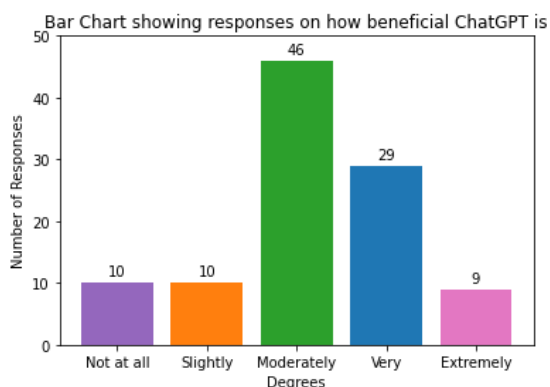


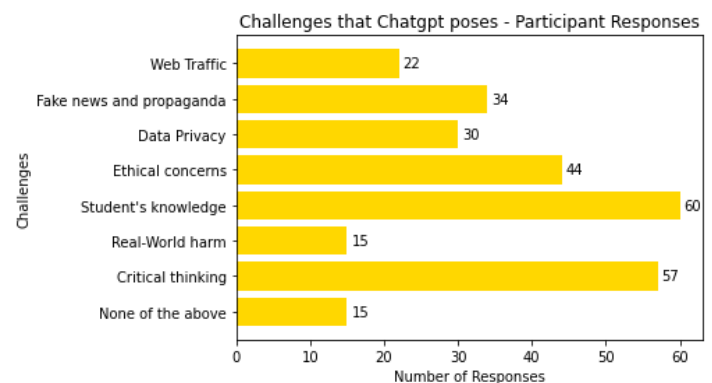*Bar chart showcasing participants' opinion on the benefits of ChatGPT towards education*



*Bar chart depicting participants' opinion on the downsides of ChatGPT towards education*

Most participants responded that ChatGPT poses a challenge towards students' knowledge and critical thinking. It limits the student's ability to think critically or creatively in answering questions. 46 participants voted for ChatGPT as a moderately beneficial tool and 29 have voted to be a very beneficial tool.
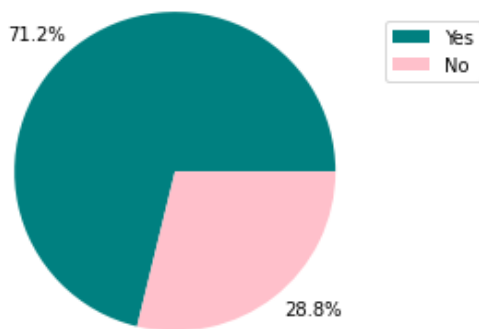


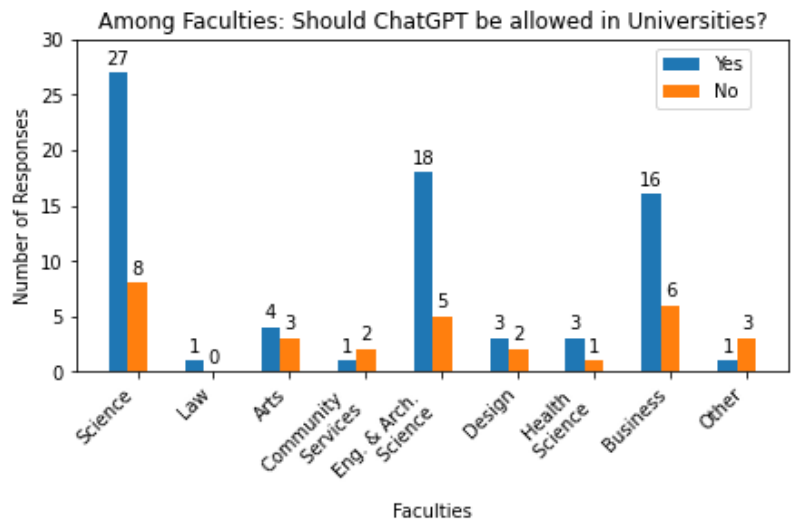*Bar chart showcasing participants' opinion on the level of beneficial of ChatGPT*



*Bar chart showcasing participants' opinion on the challenges ChatGPT poses*

All in all, 71.2% of participants agreed for ChatGPT to be used in universities. Undergraduate students in the science faculty, business faculty and engineering faculty mostly voted for the implementing ChatGPT use in university.



Pie chart depicting participants' opinion on if ChatGPT should be allowed in universities



Grouped bar chart depicting participants' opinion based on faculties if ChatGPT should be allowed in universities

**Discussion**

As part of the total grand scheme there are a variety of benefits and limitations when using ChatGPT towards education. Participants have expressed their experiences in using the source, where one student has said,

> I mainly know about its function of simplifying text. So In regards to that, I can see why it's beneficial and time efficient but it takes away from the whole idea of learning and being able to critically examine texts. As for someone who has to read a lot of texts and write many papers I would not solely rely on this program to do the job for me ("The Use Of ChatGPT Towards Education").

The feature can be used when wanting to clearly understand complex texts such as Shakespearean old English, which are usually difficult to understand for many students. Even though students have the opportunity to ask friends and professors, not everyone is available all day long to help, while ChatGPT is easily accessible anytime and anywhere. Another student

has expressed that "The use of open AI is a great tool for improving on forgotten high school information and a very great way to check for feedback" ("The Use Of ChatGPT Towards Education"). This feature is beneficial towards students as they receive customized critiques for assignments and projects. Many argue over whether this is considered plagiarism or not. Although, plagiarism would be considered when students use ChatGPT to do the work for them. Sources have reported that "[ChatGPT] remembers the interactions that it had previously with the user in the same prompt tree and utilizes it to provide information surrounding those responses" ("Advantages of ChatGPT"). Nonetheless, ChatGPT is not fully developed and "not all information is reliable [...] and it can often make mistakes while coding or solving a mathematical equation" ("The Use Of ChatGPT Towards Education"), a student claims. There are many benefits and limitations to this open AI source and yet many improvements to be made.

**Conclusion**

On verdict for the future of ChatGPT and its presence in education, it can be determined the AI-powered chatbot has made an impact for many since its launch back in December of 2022. It can be established that ChatGPT has features that can be used to make everyday tasks easier, including writing emails and generating ideas. However, it takes away the value of personal critical thinking and putting effort into completing tasks that can deepen our knowledge in areas of education. Over the analysis of our report and the survey we have conducted, we can conclude the majority claims it shall be allowed in universities, under certain conditions, such as limited use for important assignments and restrictions to solely relying on it to do all the work, although can be used for inspiration. Nonetheless, it is available for students to use it as a research tool rather than a shortcut for assignments. ChatGPT shouldn't interfere with the process of learning as it's crucial for students to undergo a certain amount of academic difficulties in order to develop their knowledge and understanding.

Works Cited

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