

Pre-Service Teachers' Perception of ChatGPT

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Abstract

ChatGPT is an artificial intelligence capable of giving feedback in human-like chatting. There have been mixed reactions among the public and scholars about the handling of ChatGPT. Many institutions fear cheating, and misuse by students that might harm academic integrity. This study was a descriptive survey among higher education students who are studying pre-service teacher's courses. A total number of 67 students pursuing a Bachelor's Degree in Education and a Master's Degree in Education took part in the survey. The study found that 99% of the respondents were aware of ChatGPT, and 87% of pre-service teachers use ChatGPT. Despite the majority of respondents using ChatGPT, 54% of the respondents feel that ChatGPT should not be allowed to be used for learning purposes. The finding would benefit understanding higher education students' perception of ChatGPT in India.

Keywords: ChatGPT, University, Higher Education, Pre-service teacher

Introduction

In the past recent years, there has been growing interest in artificial intelligence in technology. The tech community was in a sudden storm with the launch of ChatGPT. ChatGPT is a large language model-based chatbot developed by OpenAI that was launched on November 30, 2022. It is artificial intelligence that can write answers by collecting information from the Internet. It is capable of interacting with users in conversation style, answering follow-up questions, admitting its mistakes, challenging incorrect premises, and rejecting inappropriate requests (OpenAI, 2022). ChatGPT can generate human-like text responses to a given prompt, answer questions, converse on a variety of topics, and generate creative writing pieces (Chatgpt.org ©, 2023). The introduction of such capable Artificial intelligence software brings excitement and at the same time, many institutions are against the usage of ChatGPT.

Soon after ChatGPT was launched by OpenAI in November 2022, schools, universities, and public opinions expressed concerns about the ethical issues of ChatGPT, possible cheating, and how students might degrade their critical thinking. Institutions banned ChatGPT in Washington, New York, Alabama, and Virginia in the USA; and Queensland and New South Wales in Australia (Heaven, 2023). A New York Times article highlighted the possible disturbing implication of cheating by students by using ChatGPT. Imperial College London and the University of Cambridge warned students from using ChatGPT.

There were supporters as well as disapproval of using ChatGPT in the educational context. Jenna Lyle, a spokeswoman for the New York City Department of Education, told the Washington Post in early January 2023 that this artificial intelligence (AI) will not give critical thinking and problem-solving skills.

The shockwave and negative impression have reduced over time and educators started feeling positive aspects of ChatGPT that this software could actually be helping in learning. Three months after launching ChatGPT, many started thinking positively about it (Heaven, 2023).

In this study, the investigator would like to evaluate the perception of pre-service teachers studying at a university in India.

Research objective

1. To investigate students' awareness of ChatGPT.
2. To investigate if Indian students use ChatGPT.
3. To study students' perception of banning ChatGPT.

Research question

1. Are higher education students (pre-service teachers) aware of ChatGPT in India?
2. Do pre-service teachers use ChatGPT in India?
3. Do pre-service teachers feel that ChatGPT be banned for students to use?

Framework and literature review

A systematic review study by Librenza-Garcia (2017) revealed that machine learning helps to understand the insight information and give clinical solutions among health treatment receivers. Educationists acknowledge the importance of Information and Communication Technology (ICT) and even a new learning theory was coined known as the Connectivism Learning Theory (Siemens, 2005). The importance of ICT grew the policymaker's attention in different countries (Kozma, 2008).

Kiryakova & Angelova (2023) conducted survey research among the higher education faculty in Bulgaria. The study found that ChatGPT is an exciting and useful tool for learning, however, there are concerns about academic integrity, unethical, and risk of plagiarism issues. Li et al., (2023) investigate ChatGPT's search output in Chinese language understanding by ChatGPT. The result was doing well despite some factual errors and issues regarding verifiable citations. Arendt et al. (2023) found the relevance and help of ChatGPT in the digital world despite the lack of generating creative thinking of the machine.

Richard Culatta, CEO of the International Society for Technology in Education (ISTE), a nonprofit that advocates for the use of technology in teaching said that banning ChatGPT could be even counterproductive (Heaven, 2023). He expressed it is time to evaluate and ask what needs to be done to make a better fit for future generations with the software. The one-size-fits-all education policy is outdated. Personalized learning and Artificial intelligence help the need of modern learning needs (Brizard, 2023).

According to a systematic review of the existing research findings by Gentile et al. (2023), there is a sentiment among scholars that it needs to address the paradigm shift in

education with the incoming technology and Artificial intelligence. Roy & Putatunda (2023) found the effectiveness of the integration of ChatGPT in language learning classes.

There is great potential ability of information processing with ChatGPT. ChatGPT could score on the Scholastic Assessment Test (SAT), tests in biology, art history, environmental science, macroeconomics, psychology, US history, and more. This is smart. Others like Google's Bard and Microsoft's Bing Chat were also introduced. News and media focused on negative rather than promising aspects of ChatGPT.

The concept of using ChatGPT in educational institutions has been divided into two- Supporter and Disapproval. David Smith, a professor of bioscience education at Sheffield Hallam University in the UK opined the positive tune on ChatGPT, and this is a game changer.

Emily Donahoe, a writing tutor and educational developer at the University of Mississippi, has noticed that ChatGPT could help teachers shift away from an excessive focus on final results. Other teachers like Donahoe and Crompton think that chatbots could help teach those other skills. ChatGPT could find critical issues and students compose and rewrite with their argumentative and critical thoughts. Smith and other teachers agree that ChatGPT is useful in learning. Knowledge dispensed in the classroom in the past is available anytime anywhere through the Internet and technology.

ChatGPT shows novel potential to enhance educational research in scientific studies (Kieser et al., 2023). It has promising scope in using healthcare education that a systematic review of 60 documents highlighted the benefit of it (Sallam, 2023). In healthcare, ChatPGT is useful for giving advice and understanding the background of the health issue (Mörch et al. 2020), however, it cannot suggest individualized advice (Nastasi et al., 2023). Wang et al., (2023) highlighted the possible issues of legal and ethical concerns of using ChatGPT in the medical profession. Sison (2023) found the ethical concerns of using ChatGPT. To solve the issue of ethics and plagiarism, Newell (2023) suggested the need for oral evaluation rather than accepting printout documents that could be infringing plagiarism to understand the real knowledge of learners.

ChatGPT has performed smartly and the teaching and learning implemented by higher education have even rendered poorer quality compared to the information and reply given by ChatGPT. The academic integrity checking service done by Turnitin needs to be improved in the current wave of AI progress (Nastasi et al., 2023). The wave of expansion of ChatGPT is growing fast. Chaudhry et al., (2023) thought that there is a need for exposure to such technology in higher education so that learners of this generation move on with the contemporary technology.

ChatGPT is effective and useful in business organization, client inquiry, and bill record tracking (Raj et al., 2023). There is a great positive implication of ChatGPT in the tourism business industry (Carvalho & Ivanov, 2023).

There are many business leaders who have discussed the benefits of ChatGPT. According to a Forbes article, ChatGPT can help streamline the process of analyzing large amounts of data and turning it into reports or summaries that provide valuable insights for business leaders (Raj et al., 2023). Microsoft has integrated ChatGPT into its Bing search engine, and the company's founder, Bill Gates, has stated that ChatGPT will "change our

world” without necessarily putting jobs at risk. There is a positive trend in using AI assistants and ChatGPT in education (Crompton & Burke, 2023)

ChatGPT is a useful tool in business settings and management. Hotel industries use ChatGPT and booking and management efficiently (Remountakis, 2023). Integration and exposure of AI in the service sector would help to improve the business and industries. Scholars thought that using ChatGPT is posing challenges and disturbing in higher education. It needs consideration in learning assessments or learning experiences (Schön, 2023). It is also useful to translate documents from one language in healthcare studies found and published in different languages (Doo, 2023). Lin (2023), supported the possible applicability of ChatGPT in language teaching and learning. Similarly, Bin et al. (2023) concluded the benefit of ChatGPT for educational purposes.

Jessica Stansbury, director of teaching and learning excellence at the University of Baltimore expressed that the immediate calls to ban ChatGPT in schools were ‘People panicked’ (Heaven, 2023).

Many expressed possible misuse, ethical issues, and the need to take responsibility for using ChatGPT. There is also fear that they might lose their job, and others fear the media exposure instead of fearing students' cheating. In February 2023, a survey commissioned by the Walton Family Foundation in the USA found that more than half the teachers and a third of the students used ChatGPT (Kamalov et al. 2023). There is still a mixed feeling among academicians about the usage of ChatGPT in educational teaching and learning (Wyk et al., 2023).

A systematic study of 63 research papers by Memarian & Doleck (2023) found the use of ChatGPT is a mixed bag of potential good impact and negative impacts on teaching and learning in academic integrity. The same findings were expressed by others concerning ethical issues, plagiarism, and cheating (Newell, 2023; Barrot, 2023). Chiu (2023) investigated 88 teachers' perspectives on the use of ChatGPT. The finding concluded that new education needs to improve and focus on education about technology to keep the continuous progress in technology. Education psychologists and scholars like Angela Duckworth, Kathy Hirsh-Pasek, a professor of psychology at Temple University in Philadelphia, Daniel Oppenheimer, a professor of psychology at Carnegie Mellon University in Pittsburgh, Jaelyn Siegel, a postdoctoral research scholar and an adjunct psychology faculty professor at San Diego State University, Gary Lupyan, a professor of psychology at the University of Wisconsin–Madison, James W. Pennebaker, a professor of psychology at the University of Texas at Austin, expressed their positive views in support of ChatGPT in education (Heaven, 2023)

Methodology

This study was a survey method and descriptive analysis of ChatGPT from the perspectives of pre-service teachers in higher education. There were N= 67, participants in this study. The participants were pre-service teachers studying the course of B. Ed. (Bachelor’s degree in Education) and M.Ed. (Master’s degree in Education) course at Arunachal University of Studies. The participants were from northeastern regions of India, particularly from the states of Arunachal Pradesh, Assam, and Meghalaya.

Data Collection

The survey includes 67 respondents from two courses namely B.Ed. course and M.Ed. course. The participant numbers are shown in Table 1 below.

Table 1. Number of Participants in the Study

Participant	Number
Number of respondents from B.Ed.	62
Number of respondents from M.Ed.	5
Total number of participants	67

Note: B. Ed. (Bachelor's degree in Education) and M.Ed. (Master's degree in Education)

Three statements were asked by the respondents to answer Yes/No. Table 2 shows the responses from the participants.

Table 2. Students' Feedback to Statements About ChatGPT. Yes/No Responses.

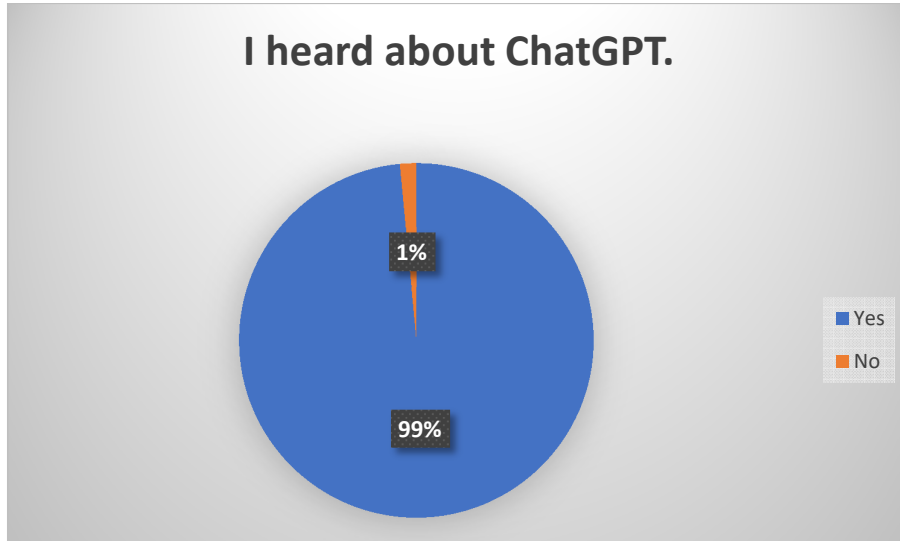
Statement	Yes	No
1. I heard about ChatGPT.	66	1
2. I use ChatGPT for learning.	58	9
3. ChatGPT should be banned for students to use.	36	31

Data Analysis

There were three statements that students responded in Yes/No reply (Figure 1). Regarding the statement "I heard about ChatGPT" 66 out of a total of 67 participants responded "Yes". Only one responded "No". answer 99% of students aware of ChatGPT.

Figure 1

Pie-chart Showing Students Aware of Chat GPT

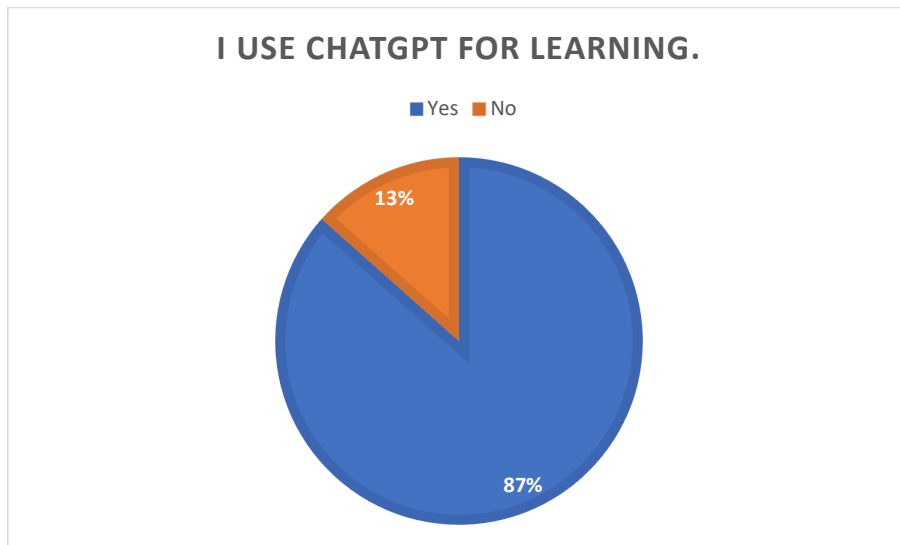


Source: This pie chart was derived from statement number 1, of Table 2.

The second statement was based on the second research question about whether Indian students use ChatGPT or not. For this, a statement “I use ChatGPT for learning”. Out of a total of 67 participants, 58 responded “Yes” and nine responded “No” (Figure 2). This explained that 87% of the respondents use ChatGPT for learning purposes.

Figure 2

Pie-chart Showing Percentage of Respondents Using ChatGPT.

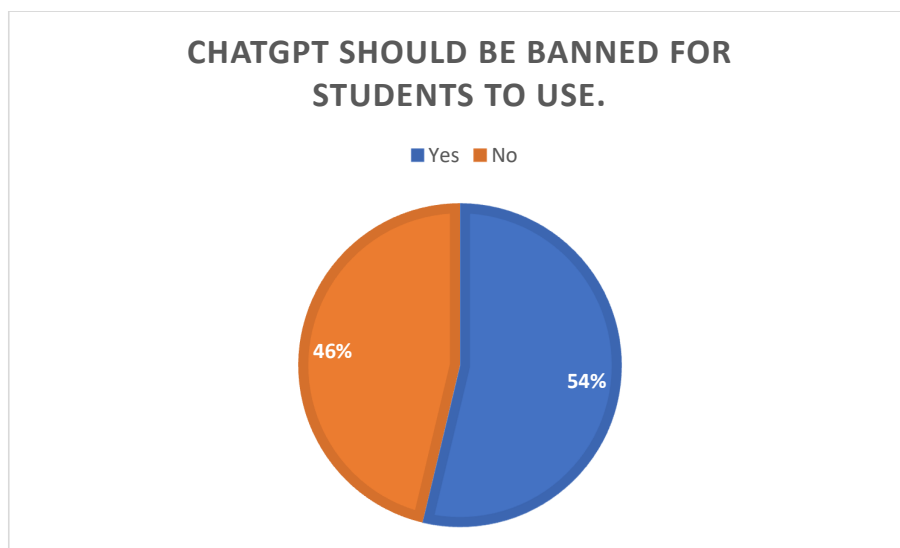


Source: This pie chart was derived from statement number 2, of Table 2.

The third statement was about whether ChatGPT should be banned from use by students or not. In this question, 36 responded “Yes” meaning it should be banned for students. Thirty-one participants responded “No” meaning it should be allowed to be used by students. This is shown in Figure 3 below.

Figure 3

Pie-chart Showing Whether Chat GPT Should Be Banned for Students or Not (Students Responses).



Source: This pie chart was derived from statement number 3, of Table 2.

Findings

From the analysis, it was found that 99% of the respondents were aware of ChatGPT. Out of 67 participants, 87% of pre-service teachers studying at the university use ChatGPT. Despite the majority of respondents as students using ChatGPT, 54% of the respondents feel that ChatGPT should not be allowed to be used for learning purposes

Discussion

In 2021, 46% percent of the population of India (2021 est.) had access to according to The World Factbook(CIA.gov, 2021). Only 22% of schools in India had Internet facilities in the academic year. Among government schools, less than 12% had internet in 2019-20, while less than 30% had functional computer facilities (Special Correspondent, 2021). This means technology-driven teaching approach is not extensively used in India. Learning with machines and ChatGPT is more inclined towards self-directed learning. 54% of the respondents were not willing to let students use ChatGPT. This is one way of conflict with teaching techniques and methods. In India, teacher-centered learning is still more popular than student-centered learning. Indian students are more inclined towards traditional learning and attached to cultural traditional learning. The Indian education system has a long history of teacher-centered learning, and this tradition is still deeply ingrained in the culture (Brinkmann, 2015). Teachers are seen as experts in their field, and students are expected to respect and obey them. Many Indian classrooms have very large class sizes, which makes it difficult for teachers to implement student-centered learning approaches. Many Indian schools faced difficulties with

a lack of the resources needed to support student-centered learning, such as computers, projectors, and other educational materials. Many Indian teachers are not trained in student-centered learning approaches (Narayanan, 2020) and the cultural root of the teacher-centric traditional teaching approach is the reason for failing learner-centered approach (Clarke,2001; Rao et al.,2003; Sarangapani,2003; Gupta,2006; & Batra,2009). Indian students consider the teacher as the main source of knowledge and there is heavy dependence on the teacher's lecture and note-taking way of learning. Looking back to the findings of the current study, 78% of the respondents use ChatGPT for searching information. The participants were pre-service teachers and soon-to-be in the teaching profession. Some of the participants were already in the teaching profession. Despite a majority of them using ChatGPT, when the question arises whether students will be allowed to use ChatGPT, the respondents connect themselves to the feeling of a teacher. Because they will be a teacher soon after the course. The majority of them will not allow students to use ChatGPT even if they use it. The respondents' reflections were similar to the findings of Sison (2023) Newell (2023) and Barrot (2023) who fear ethical issues. These feedbacks were associated with teaching styles and cultural attachment. Many learners are familiar and used to the teacher lecturing classroom learning which is more prevalent in India. Many education psychologists disagree with the ban on ChatGPT (Heaven, 2023; Culatta, 2023), but in the Indian context, more higher education students believe that ChatGPT should not be allowed to be used by students.

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