Challenges and Opportunities about ChatGPT in Higher Education: A Qualitative Study about University Teachers in Pakistan

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Abstract

Gathering data from eight Pakistani university teachers through semi-structured interviews, this study investigated their perceptions about the use of ChatGPT, the benefits and opportunities it brings, and concerns and challenges about its use in higher education in Pakistan. Out of eight teachers, only four had used it. All of them believed that despite institutional restrictions, it was quite frequently used in the higher education sector in Pakistan. Some thought it was more commonly used by the students than the teachers. Teachers reported its ability to generate human-like text, give feedback to work, develop assessment and evaluation activities, find answers to questions, assist in research work, and save time by doing mundane and clerical work as its key benefits. In contrast, degrading students' writing skills through overreliance on it, and its contributions to plagiarism and academic fraud were reported to be the main challenges. Five teachers were against allowing the students to use ChatGPT for their academic work while three advocated for allowing it officially. However, all of them suggested developing proper policies and practices, creating awareness, and organizing seminars and workshops to create awareness and develop skills for its fair and productive use.

Keywords: *ChatGPT, artificial intelligence, higher education, Pakistan*

Introduction

Chat Generative Pre-trained Transformer (ChatGPT) was launched in 2022 by OpenAI (OpenAI, 2022). It is an artificial intelligence (AI)-based chatbot that was extensively trained on 570 gigabytes of datasets (Tan et al., 2023). In a short period of time, It has made a huge impact due to its versatility and ability to generate human-like text (Tseng et al., 2023). Due to its adaptability and qualities, it has become immensely popular, reaching 100 million monthly active users by the start of 2023 (Wu et al., 2023).

ChatGPT has made a huge impact on almost every walk of life including education (George & George, 2023; Huang et al., 2021; Kalla et al., 2023; Raza, 2023). Amongst different levels of education, higher education appears to have its most widespread use. Both the university teachers and students use it for various purposes such as developing new ideas, writing different assignments and tasks, summarization, developing MCQs and finding their answers, writing relevant literature, developing PPTs, giving feedback to the written tasks, and developing course outlines (Lo, 2023; Sok & Heng, 2023). In this way, it can also save time and help improve the quality of work (Huang et al., 2021). However, it does not come without some concerns and challenges. Studies have highlighted many issues such as overreliance on it which may adversely influence students' ability to write creatively and independently, unauthentic information generated by it, inaccurate citations, and most importantly its role in the spread of plagiarism practices and academic fraud (Huang & Tan, 2023; Iftikhar et al., 2024; Meyer et al., 2023; Zeb et al., 2024).

Higher education in Pakistan has also been witnessing an increasing use of ChatGPT. Many studies have acknowledged its use and impact on higher education in Pakistan (Iftikhar et al., 2024; Kanwal et al., 2023; Raza, 2023). Iftikhar et al. (2024) said that "although ChatGPT is not officially used in an academic scenario in Pakistan, students do use this Artificial Intelligence software to take help in their learning" (p. 370). A survey study about university teachers also found that most of them believed that it had the potential to make a positive impact on the teaching-learning process (Kanwal et al., 2023). A correlational study about postgraduate STEM students in Pakistan found positive correlation betweeen its use and perceived academic effectiveness (Khan et al., 2024). While talking about its role in facilitating the teachers in assessment and evaluation of students' work, Zeb et al. (2024) said that ChatGPT had "proficiency to provide numerous advantages for evaluating students in higher education".

However, there are various concerns and challenges about it such as overreliance on it, proliferation of plagiarism, generation of unreliable and unauthentic data, and degradation of writing skills. Consequently, many researchers have called for the development and implementation of proper regulations and ethical protocols to prevent its misuse (Raza, 2023; Shah et al., 2024; Zeb et al., 2024). This study is carried out to add to the existing body of literature in this area. It investigates Pakistani university teachers' perceptions about the benefits and opportunities that ChatGPT may bring, and the challenges associated with its use in higher education.

Research Objectives

The study has the following research objectives.

- To explore the perceptions of higher education teachers about the use of ChatGPT in higher education.
- To explore the perceptions of higher education teachers about the benefits and the opportunities that ChatGPT may provide to higher education.
- To explore the perceptions of higher education teachers about the concerns and challenges associated with the use of ChatGPT in higher education
- To give recommendations about the use of ChatGPT in higher education.

Research Methodology

Research Method and Approach

As ChatGPT is a relatively new phenomenon and has not been explored that deeply especially in the context of the Pakistani higher education sector, I decided to use qualitative research method as it enables gathering in-depth and rich data (Patton, 2014). This study, which is descriptive in nature, plans to explore the perceptions and opinions of the higher education teachers in Pakistan; consequently, I employed a basic interpretive study approach for it.

Participants of the Study

As the study aims to explore the perceptions and views of teachers from the higher education sector in Pakistan, data was collected from eight university teachers in the country using a purposive sampling technique. The teachers belonged to three different universities in Lahore, Pakistan. All of them worked in the faculty/department of education and had been teaching for at least five years.

Data Collection Tool and Technique

Data was collected using semi-structured interviews. Semi-structured interviews were used as they provided the room and flexibility of further probe (Barriball & While, 1994). An interview guide was developed with four main research questions i.e. 1. What is the use of ChatGPT by different stakeholders in the higher education sector in Pakistan? 2. What are the benefits and opportunities that ChatGPT may provide to higher education? 3. What are the concerns and challenges associated with the use of ChatGPT? 4. What should be the policies and practices about the use of ChatGPT? Supplementary questions were asked when and where needed. Data was collected online using WhatsApp.

Data Analysis Technique

First of all, I transcribed the interviews using TurboScribe. Later, I checked the transcriptions to ensure their correctness and authenticity. I coded the data. The main themes were generated using a deductive thematic analysis approach. Following the strategy used by Malik et al. (2020), this whole process was carried out through MS Word using cut, copy, paste, and highlight functions.

Data Analysis and Discussion

Data analysis and discussions are divided into five different parts: participants' information, use of ChatGPT in higher education, benefits and opportunities provided by ChatGPT in higher education, concerns and challenges associated with the use of ChatGPT in higher education, and recommendations for the use of ChatGPT in higher education.

Participants' Information

Data was collected from eight university teachers working in three universities in Pakistan. All of them were PhDs and had been teaching at the university level for at least five years. Three of them were females and five were males. All of them belonged to faculties/ departments of education. Their details can be seen in Table 1.

Table 1.

Participants' Information

	Pseudonym	Gender	Age	Qualification	Experience	University
1	Ali	Male	52	PhD	25 years	1
2	Khan	Male	41	PhD	11 years	1
3	Hira	Female	38	PhD	13 years	2
4	Saleem	Male	46	PhD	17 years	1

5	Baqir	Male	35	PhD	8 years	2
6	Omer	Male	37	PhD	9 years	2
7	Maria	Female	29	PhD	5 years	3
8	Kiran	Female	33	PhD	6 years	3

Use of ChatGPT in Higher Education

The first question asked from the teachers was about the use of ChatGPT in higher education. All of them believed that ChatGPT was commonly used in the higher education sector in Pakistan. Khan said that "many students used it and also some teachers". Maria said that its use was "increasing day by day." Many studies have also reported that ChatGPT and other AI-based software were becoming more and more common in Pakistan (Naureen et al., 2024; Raza, 2023). Interestingly, some teachers thought it was more commonly used by the students than the teachers. Kiran explained it in these words, "See, many teachers, I mean [they are] quite old. I know some [teachers] who cannot use computers. [They are] not comfortable [with them]. Some ask their students to check their emails. You are talking about AI. Yes, young teachers and middle-aged, they are willing to learn, they use technology, but many old ones! [It is] not easy for them."

She said that the students, on the other hand, were more willing "to take advantage of the technology". As a result, the use of ChatGPT was more common among them. Maria also said that many teachers in Pakistan were more comfortable with their old approaches. This is not an uncommon revelation as many studies have found that many teachers in Pakistan are resistant to change, and are hesitant to embrace new approaches and technologies (Malik et al., 2022; Noreen & Malik, 2020).

The teachers were then asked if they had ever used ChatGPT. Out of eight teachers, four (Khan, Hira, Baqir, and Kiran) said that they had used ChatGPT whereas others had not. Those who did not use it thought that they could do things more easily and quickly using their experience and existing data.

The next question was about the permission for the students to use ChatGPT. Three teachers (Khan, Hira, and Kiran) advocated to allow it, and five (Ali, Saleem, Baqir, Omer, and Maria) opposed it. It shows that more teachers were opposed to the idea of allowing the students to use ChatGPT. This attitude can be reflected in the current policies regarding ChatGPT in Pakistani universities as Iftikhar et al. (2024) reported that "ChatGPT is not officially used in an academic scenario in Pakistan" (p. 370).

Benefits and Opportunities Provided by ChatGPT in Higher Education

The teachers were then questioned about the benefits and opportunities provided by ChatGPT, especially in the higher education sector in Pakistan. As ChatGPT is most commonly credited for generating human-like text (Tseng et al., 2023), it was no surprise that all the participants mentioned its ability to facilitate writing as its biggest plus point. Maria said that the biggest advantage of ChatGPT was its ability to do writing which "does not feel mechanical". Saleem also believed that its writing ability was "its biggest selling point". Ali said that ChatGPT can help both the teachers and the students with different writing tasks. The teachers said that it could not only write for people but also provide feedback for writing tasks and assignments which was an advantage for both the teachers and the students. Baqir said that it could give immediate feedback to the user about their writing, helping them improve their writing further. Kiran who had been using it for checking students' assignments, explained how it benefitted her in this regard.

"Before, I checked students' work [manually], [it] took a lot of time. Now I ask [the students to] submit [their work] in MS Word and check through ChatGPT. [It] really saves time. [However], I have to check it once more because sometimes [it is] not very authentic; still it saves time and improves my feedback."

Numerous studies have also pointed out ChatGPT's ability to evaluate and give feedback to the text as one of its advantages (Zeb et al., 2024), which can benefit both the teachers and the students. Another point mentioned by many teachers was its ability to develop assessment and evaluation activities for the teachers. They said that it can develop different kinds of assessments for different subjects and levels. Baqir shared his experience in these words, "I had difficulty in making application-level MCQs. Others [were] easy. I take a sentence from text, remove any important word, give option[s]. MCQ is made, but application level… very difficult. I used ChatGPT. I wrote 'Develop ten MCQs for quantitative research sampling for B.Ed. students'. In one minute, [there were] ten quizzes."

However, he said that he had to develop twenty to thirty quizzes and then select ten from them, but "still it was easy".

They also said that students can also benefit from it and try to find answers to the questions and develop assignments with it. Different studies have also mentioned ChatGPT's ability to facilitate the teachers in developing assignments and assessment activities and to help the

students in finding answers and writing assignments as some of the key features that have popularized it (AlAfnan et al., 2023; Sok & Heng, 2023).

ChatGPT can also facilitate the development of course and curriculum outlines and research work (Lo, 2023; Sok & Heng, 2023). The same was mentioned by some teachers. They said that it helped in developing course outlines and research work. Baqir said that he had used it for developing course outlines for different subjects. "I did not accept all of them, but it gave me some idea about different course outlines in those subjects".

Studies have suggested that ChatGPT can help in saving time (Huang et al., 2021). Some teachers said that ChatGPT can save time as the tasks and activities can be carried out more quickly through it. They also thought that as ChatGPT could spare them from some of the more tedious and clerical work, it would save time which could be utilized on more productive things.

However, some teachers disagreed. Ali said, "I don't think. First, you learn it, then it will do things, but they are wrong sometimes. You check them and correct them. It takes more time." He said that due to his experience, he already had many assignments and course outlines. "I can simply take anyone, change a little, and use it. That takes less time," he said.

Concerns and Challenges associated with the Use of ChatGPT in Higher Education

The next question was about the challenges and issues that ChatGPT may bring with it. It is important to note that even those teachers who advocated for its use, had some reservations. The teachers had two main concerns about the use of ChatGPT especially by the students: overreliance on it which may degrade their writing and even thinking skills, and an increase in plagiarism.

The teachers were afraid that the students would start using ChatGPT for most of their writing tasks which would degrade their writing skills. Ali said,

"Even computers and internet [have been] an issue. I mean, I give [the students] assignments, they copy from internet, print and give it to me. You know C&P (copy and paste) culture here in Pakistan. Now I ask them to give me hand-written assignments. Even if they copy, at least they are reading it."

Kiran also shared the same feelings in these words,

"If you do not use your hand for some time, [it will become] weak. If you do not use your mind for something, [that skill will become] weak. Before cell phones, I remembered so

many phone numbers, now I don't because now I don't need to. My cell phone remembers all the numbers for me. Similarly, if ChatGPT [is] writing for me, why do I need to retain and update [my writing skills]?"

They also feared that ChatGPT would encourage plagiarism as the students could simply generate assignments through it. Studies have already shown that an influx of computers, the internet, and digital technologies has given rise to plagiarism (Malik et al., 2021). Similar concerns were shown with the arrival of AI-based technologies and chatbots. Saleem said that as the technology to plagiarize or generate writing became easy, their usage would only increase. Multiple studies have reported similar concerns about the use of ChatGPT and AI-based technologies for plagiarism (Huang & Tan, 2023; Iftikhar et al., 2024; Zeb et al., 2024). Maria further pointed out that ChatGPT-generated text was even harder to detect, making it even more popular among the plagiarizers. Although many AI-detection software have been developed, their reliability and efficiency are still questionable (Chaka, 2024).

Recommendations for the use of ChatGPT in higher education

Five out of eight teachers (Ali, Saleem, Baqir, Omer, and Maria) believed that students in Pakistani universities should not be allowed to use ChatGPT as they were "not mature enough" (Ali). When asked, Saleem said, "Not now, not at this time". He believed that first there should be an extensive campaign to create awareness so that the students can use it productively and ethically. Omer said that first the teachers should be trained, proper policies be made and seminars and workshops about its proper use be organized; only then it should be allowed for the students.

Khan, Hira, and Kiran thought that ChatGPT had arrived on the scene and trying to ban and control it, would be "only illogical" (Khan). "How can you stop them, you know," Kiran said, "You ask the students not to do something, and they become more attracted to it." They suggested allowing ChatGPT; however, they also recommended developing proper policies and practices to ensure its proper and fair use. They also supported the idea of seminars, workshops, regulations, and penalties to prevent its unfair use.

Multiple studies on this topic have also highlighted the importance of developing and implementing proper policies and regulations about the fair, proper, and ethical use of ChatGPT (Raza, 2023; Shah et al., 2024; Zeb et al., 2024). They also asked for increasing awareness and training of both the teachers and the students to ensure its productive, proper, and fair use.

Conclusion

ChatGPT is a revolutionary development that has greatly influenced many fields and areas including higher education. It has huge potential and may benefit teachers and students in higher education in numerous ways; however, there are also some concerns and challenges associated with it. These challenges are multiplied in countries like Pakistan where ethical and professional protocols are still not well-established and implemented.

While acknowledging the multiple benefits and opportunities ChatGPT brings with it, the study suggests its cautious and careful use, especially by students. It suggests the development of proper policies and protocols for its fair, proper, and ethical use.

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