GOMAL UNIVERSITY
JOURNAL OF RESEARCH

Gomal University, Dera Ismail Khan, Khyber Pakhtunkhwa, Pakistan
ISSN:1019- 8180 (Print) ISSN: 2708- 1737 (Online)

Website	www.gujr.com.pk	HEC Recognized	Social Sciences	CrossRef	DOI:10.51380

AN INVESTIGATION INTO HOW UNIVERSITY-LEVEL TEACHERS PERCEIVE CHAT-GPT IMPACT UPON STUDENT LEARNING

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KEYWORDS

Chat-GPT, Artificial Intelligence, Student Learning Experiences, Academic Integrity, Ethical Considerations

Article History

Date of Submission: 31-07-2023
Date of Acceptance: 20-09-2023
Date of Publication: 30-09-2023

ABSTRACT

This research explores Chat -GPT inclusion into Pakistani higher education, addressing the issue of understanding teacher perspectives. To examine the relevance of this problem, an extensive survey involving 600 university teachers was undertaken using a positivist research paradigm. The findings show that teachers believe Chat-GPT has the ability to improve learning experiences by offering quick access to information and accommodating varied student demands. Concerns are raised, however about overreliance, ethical consequences, and possible impediments to critical thinking. These trends in data were revealed through statistical analysis, which included mean, standard deviation, correlation, and ANOVA. Concerns were raised, however, concerning the overreliance, ethical consequences, and possible barriers to critical thinking. Thus, longitudinal studies, qualitative research, thorough guidelines, and joint efforts are among the recommendations to enable the appropriate incorporation of AI technologies in education. This research adds to our understanding of the challenges of AI integration in education by highlighting need of balanced and well-informed educational methods.

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DOI: https://doi.org/10.51380/gujr-39-03-01

INTRODUCTION

Modern language models like Chat-GPT (Generative Pre-trained Transformer) have been created as a result of developments in artificial intelligence (AI) and natural language processing (NLP) (Brown, 2020). The modern AI technology called Chat GPT has received lot of attention for its capacity to produce text that sounds like human speech and carry-on meaningful conversations (Radford, 2019). These language models have been used in variety of fields, including education and they have ability to completely change how students engage with and learn from material they encounter. This study intends to investigate how university students' learning experiences

are impacted by Chat GPT from perspective of teachers. The environment of higher education is varying quickly and technology is fetching more and vital in redefining conventional teaching methods (Bax, 2018). To improve learning and enable tailored teaching, digital tools, AI-based technologies are being used in education settings. Among these AI innovations, Chat GPT stands out as potent language model that can analyses enormous volumes of textual input and provide replies that are human-like. The pre-training and fine-tuning methods are the foundation of Chat-GPT.

In order to understand fundamental patterns of language, the model must first be pre-trained on a large corpus of varied data. It is then fine-tuned on certain tasks, like question-answering or language translation, to get the desired results. Chat-GPT is equipped to provide contextually appropriate replies thanks to this pre-training and fine-tuning process, making it a potentially useful instructional tool (Radford, 2019). Students' learning experiences have significances for their academic and personal development at the university level. The digital resources and AI technologies are increasingly being used to supplement and, in some circumstances, enhance traditional lectures and learning materials (Bower, 2017). Students may gain from the use of Chat GPT in a variety of ways in academic settings. First off, Chat GPT may be used by students as an extra resource for the information access and independent study. It may give clarification, answers to queries, and examples that are relevant to situation at hand, promoting a greater comprehension of difficult ideas. Second, the interactive features of Chat GPT may encourage student involvement and active learning (Brown, 2020). In this connection, the conversational tone of Chat GPT may be more accessible for the students and researchers, prompting them to ask different questions and research areas beyond the desired scope of the conventional course materials.

Thirdly, the flexibility of Chat GPT enables the creation of individualized learning experiences that are catered to the requirements and tastes of certain students (Hao, 2021). The system can tailor information delivery and adapt to various learning styles by assessing students' inquiries and replies, promoting a more inclusive and productive learning environment. Although there may be advantages of using Chat GPT in education, there are also drawbacks and difficulties. Since, Chat GPT creates replies based upon the pre-trained data, which is not always current or completely correct, some instructors could be concerned about the dependability and quality of the information offered (Kalla & Smith, 2023). It's also important to address worries about kids losing their ability to think critically and creatively as a result of over-reliance on AI technology (Brown, 2020). In this linking, the education has traditionally been highly valued in the Asian area, with a focus on both academic success and individual growth. With their unique cultural and linguistic heritages, nations like Pakistan are seeing an increase in the holistic demand for technology-driven educational solutions that can meet the demands of the student body that is both dynamic and ever-evolving in diverse circumstances (Shidiq, 2023). An important turning point in AI research has been reached with the creation of Chat GPT and related AI language models.

The large volumes of textual data may be processed and analyzed by these models, making them attractive resources for educational institutions looking to use technology to improve student learning results (Altbach & Salmi, 2011; Rafiq, Afzal & Kamran, 2022). In recent years, there has been an increase in the use of AI technology in Pakistan's educational system. In order to augment conventional teaching strategies and overcome access and quality gaps in education, educational institutions are actively investigating AI-based solutions (Bhatti & Shaikh, 2020).

In this situation, Chat GPT has the ability to significantly alter how students obtain information and engage with course material. In this drive, incorporation of Chat GPT provides a number of potential advantages for the university students' learning experiences in Pakistan. First of all, it might be the helpful tool for pupils to get right away information and justifications. Given the variety of academic backgrounds of its participants, Chat GPT may provide specialized replies in a number of languages and accommodate distinct learning requirements (Hao, 2021; Miller, 2023). Second, pupils may be more engaged due to Chat GPT's interactive and conversational format. Like their peers throughout the world, Pakistani students could find the conversational learning method more engaging and be inspired to actively engage in learning process. Thirdly, Chat-GPT's flexibility helps to solve different issues with the individualized instruction in big classes.

The system can tailor the information delivery to account for the varied learning preferences by assessing students' questions and answers, thereby improving learning experience (Dörnyei, 2017). Regardless of prospective advantages, using Chat GPT in Pakistan's educational system has its share of difficulties and problems. Assuring the authenticity and dependability of the information offered by Chat-GPT is a huge task, especially when it comes toward culturally and contextually sensitive themes (Dönmez, Sahin & Gülen, 2023). Since, Chat GPT creates replies based upon the pre-trained data, which is not always current as well as completely correct, some instructors could be concerned about the dependability and quality of the information offered (Kalla & Smith, 2023). To make sure that the model's correct results are in line with regional curricula and academic standards, it must be regularly assessed and improved (Bhatti & Shaikh, 2020). Additionally, there can be concerns among instructors about the possible over-reliance upon AI technology, which might impede pupils' ability to think critically and creatively. The digital resources and AI technologies are increasingly being used to supplement and, in some circumstances, enhance the traditional lectures and learning materials Optimizing the learning process requires finding the ideal mix between AI-based help and the conventional pedagogical techniques.

LITERATURE REVIEW

The goal of the literature review is to present a broad overview of body of work on integration of Chat GPT and related AI language models in educational setting, with an emphasis on Asia and Pakistan. It looks for relevant research that examine how professors feel about Chat-GPT and how it could affect university students' learning. This section will examine literature and point out any gaps, difficulties, and possibilities related to use of AI in education in this specific situation. AI technology has been used more and more into other fields, including education. Digital resources and AI technologies are increasingly being used to supplement and, in some circumstances, enhance traditional lectures and learning materials. The educational institutions have shown a rising interest in applying AI to improve teaching, learning processes in settings of Asia & Pakistan. Since its first use in intelligent tutoring systems, AI in education has advanced to cover complex language models like Chat-GPT (Kasi, Khan & Soomro, 2020; Ahmad & Ahmad, 2020). Asian nations like China, India, and Japan have led the way in using AI technology in classroom.

To meet demands of each individual student and improve learning results, AI-driven adaptive learning systems have been adopted (Al-Zahrani & Rehman, 2020; Zhang & Xie, 2020). The universities in Pakistan are looking at AI-based solutions to enhance educational delivery and

student engagement as a result of growing awareness of the potential of AI in education (Iqbal et al., 2021; Saleem et al., 2021). According to Radford (2019), Chat GPT, which is built on the transformer architecture, has shown excellent ability in producing text that sounds like human speech and having meaningful discussions. Studies have looked at its educational uses in diverse ways. Student access to knowledge, reasons and examples using Chat-GPT assist self-directed learning (Sudhakaran et al., 2021; Vasudeva & Ahuja, 2021). Thus, due to the fact that students perceive conversational exchanges to be more accessible and engaging, its interactive character has ability to encourage student involvement and participation (Ahmed, 2022; Kaur & Gupta, 2022).

Teachers' Perception of Chat GPT

Teachers greatly influence the classroom environment and students' educational experiences. For the incorporation of AI in classroom to be effective, it is crucial to understand how they see Chat GPT. The attitudes and opinions of instructors concerning AI in education have been the subject of several research. While some teachers see (AI) language models, such as Chat GPT, favorably as a useful educational tool (Zhang et al., 2022; Liu & Huang, 2023), others may have reservations about potential over-reliance on AI, privacy concerns, need for adequate training and support (Huang & Gong, 2023; Chen et al., 2023). There has been nearly little research on effects of AI on university students' learning experiences in Asia, mainly in Pakistan. The global studies, have shown that the incorporation of AI may result in enhanced student engagement, better learning outcomes, and better student performance (Rosenberg et al., 2022; Lee et al., 2022).

Educational institutions all across world have started a journey to use AI technology to improve their teaching strategies. The use of AI in education has increased throughout many nations, including those in North America, Europe, Asia, Africa, Oceania, and Latin America. Research demonstrates how teachers use AI language models, Chat GPT, to customize learning pathways and develop inclusive learning environments that meet the requirements of variety of students. (Johnson & Adeniji, 2023; Cheng & Wu, 2023; Smith et al., 2022). Teachers are probing Chat GPT versatile possibilities in the education settings across global borders. Chat GPT's flexibility has sparked innovative practices in higher education, from facilitating multilingual classrooms and supporting language learners in Asia to assisting students with disabilities in Europe and fostering creativity in arts and humanities courses globally (Huang & Gong, 2023; Chen et al., 2023).

Teachers' Attitudes Towards AI Integration

In order to successfully use AI language models in the higher education, teachers are essential. As per studies, educators exhibit range of attitudes, from excitement and inquiry to skepticism and caution. While some educators see artificial intelligence as useful tool to complement their teaching strategies, others are concerned about future job losses and need to strike a balance between the use of AI and individualized human interactions (Liang et al., 2022; Anderson & Williams, 2023). Studies from throughout world have looked at how Chat GPT affects students' involvement and academic results. According to the findings, Chat GPT interactive and relaxed style encourages students to actively participate by asking questions, working together, and taking responsibility for own learning (Peng & Kim, 2022; Thakur & Das, 2023). Moreover, students showed enhanced knowledge and retention of course content, which had a beneficial impact on academic accomplishment (Chaudhry & Singh, 2021; Costa et al., 2022). The ethical implications and cultural significance of AI integration are crucial in the global environment.

According to researchers (Ahmed & Leung, 2022; Ribeiro et al., 2023), it's critical to minimize prejudice, protect data privacy, modify AI language models to reflect various cultural norms & values. Fostering fair and inclusive AI-driven learning settings globally requires talking these issues.

Problem Statement

The integration of Chat-GPT (Generative Pre-trained Transformer) in Pakistani higher education system has a tremendous amount of potential to transform teaching and learning methods, but it is crucial to comprehend how instructors see Chat GPT and its complex effects on students' educational experiences. It is critical to look into how teachers view the ethical implications of AI integration, their attitudes toward Chat GPT as "digital pilgrims" navigating the educational landscape, and the effects of Chat GPT on student performance in the Pakistani context, where ethical concerns, pedagogical paradigms, and diverse student backgrounds converge. In order to educate the educational stakeholders and policymakers on the appropriate and successful deployment of Chat GPT in Pakistani university classrooms, this study tries to address these important problems. Understanding instructors' viewpoints can help illuminate ethical issues, pedagogical strategies, possible advantages and disadvantages of using AI-driven technology to improve student learning and academic accomplishment in the context of the Pakistani higher education.

Rationale of Study

This research investigates the introduction of Chat GPT (Generative Pre-trained Transformer) into Pakistan's educational system due to its potential to transform teaching and learning. The study aims to address ethical concerns, especially regarding academic integrity and plagiarism, which are amplified by the powerful text generation capabilities of the Chat-GPT. Understanding instructors' perspectives on benefits and drawbacks of this technology is crucial for responsible AI integration. Moreover, it seeks to consider impact of Chat GPT on teaching methods, ethical standards, and student performance in context of diverse cultural and linguistic backgrounds in Pakistan's higher education. Ultimately, research strives to guide informed decision-making for responsible and real use of AI-driven knowhows in education to sustain academic integrity, enhance pedagogical techniques, and improve the student learning experiences (Afzal & Rafiq, 2022).

Objectives of Study

1. To examine the ethical concerns raised by teachers regarding the integration of Chat GPT in the classroom, particularly in relation to the academic integrity and potential for plagiarism among students.
2. To understand teachers' attitudes towards use of Chat-GPT as pedagogical tool and its impact on students' learning experiences, academic performance, and engagement at the university level in Pakistan.
3. To identify the perceived advantages and disadvantages of Chat-GPT from the teachers' perspectives, including its potential to enhance the teaching practices, support student learning, and address educational challenges.

Research Questions

1. What ethical concerns do teachers raise about integration of Chat GPT in classroom in the Pakistani higher education system, particularly in relation to academic integrity and the potential for plagiarism among students?

2. What are attitudes of teachers towards use of Chat GPT as a pedagogical tool, and how do they perceive its impact on students' learning experiences, academic performance, and engagement at the university level in Pakistan?
3. What are the perceived advantages and disadvantages of incorporating Chat-GPT in higher education context? How do they view its potential to boost teaching practices, support student learning, & address educational challenges?

Theoretical Framework of Study

This study's theoretical approach is based on the combination of two fundamental theories: the Technology Acceptance Model (TAM) and Social Cognitive Theory (SCT). Davis' Technology Acceptance Model (1989) is widely used in area of technology adoption, notably in educational settings. According to TAM, perceived utility and perceived ease of use impact user adoption of technology. Individuals are more likely to accept a technology if they believe it to be beneficial and simple to use, according to TAM. TAM will be utilized in this project to explore teachers' perspectives of Chat GPT's use in improving teaching methods, boosting student learning, and resolving educational issues. In addition, we will explore instructors' impressions of the ease with which Chat GPT may be integrated into their educational routines (Afzal, Rafiq & Kanwal, 2023). Significance of social interactions, observational learning, and self-efficacy in molding human behavior is emphasized in Bandura's Social Cognitive Theory (1986). Individuals learn through seeing others and evaluating results of their activities, which changes their ideas about own capabilities (self-efficacy), according to SCT. Individual goals and actions are influenced by self-efficacy.

SCT will be used in this research to better understand instructors' opinions regarding Chat GPT as an educational tool. This project will investigate role of observational learning in developing teachers' attitudes about efficacy of technology by investigating how instructors see use of Chat GPT by others and its influence on students' learning practices. Also, researching instructors' self-efficacy in utilizing Chat GPT will give insights into confidence and skill in incorporating AI-driven technology into educational methods. This research attempts to establish a rigorous theoretical framework for assessing instructors' views of Chat GPT and its impact on students' learning experiences at the university level in the Pakistani setting by merging the Technology Acceptance Model (TAM) and Social Cognitive Theory (SCT). The TAM will assist in explaining variables affecting instructors' intents to implement Chat GPT, whilst the SCT will give insights into role of social relationships and self-efficacy in developing their attitudes, behaviors toward this AI language model. The combination of these ideas will provide a thorough insight of the variables impacting Chat GPT uptake and acceptability among university-level instructors in Pakistan.

RESEARCH METHODOLOGY

The positivist research paradigm was used in this study, which corresponds to a quantitative research technique. The positivist paradigm strives to uncover and evaluate causal links among variables, with the goal of generalizing results to the larger population. Quantitative approaches use statistical data and numerical analysis to answer research questions and accomplish study goals (Creswell, 2013). Positivist paradigm is appropriate for this research because it allows for a structured examination of teachers' perceptions and attitudes toward Chat GPT, its impact on students' learning experiences, and perceived advantages and disadvantages of its integration into Pakistani higher education. Quantitative data allows researchers to establish statistically

meaningful findings and deliver helpful insights to a bigger community of university professors in Lahore.

Research Design

A cross-sectional research approach was used in this study. Researchers may gather data from individuals at a single moment in time using cross-sectional methodology, offering a snapshot of views and opinions. Because the research is limited in time, it is feasible and cost-effective to collect data from a broader sample of university lecturers within the time limits (Babbie, 2016). Structured survey questionnaire was used as the research strategy for this investigation. Closed-ended questions were included in the structured questionnaire to acquire quantitative data on teachers' impressions, attitudes, and concerns about Chat GPT. The adoption of a standardized questionnaire facilitated data collecting and numerical analysis (Dillman, Smyth & Christian, 2014).

Population & Sampling

This study's population covers all teachers from public sector universities in Lahore, Pakistan. A representative sample was collected due to the vast population size to guarantee the study's generalizability (Babbie, 2016). Stratified random sampling was utilized as sampling strategy. To get started, Lahore's public universities were separated into strata depending on subjects (arts, science, engineering, & social sciences). Following that, a random sample of teachers was drawn from each stratum in amount to number of teachers in stratum (Neuman, 2013). Sample size of 600 university instructors was used to ensure representation from various subjects and institutions.

Data Collection & Analysis

The researcher administered a standardized questionnaire to collect the data from teachers on ethical considerations, attitudes toward Chat GPT, its perceived impact upon student learning, and its pros and cons. The high response rate allowed for quantitative analysis using statistical software SPSS, including descriptive statistics (frequencies, percentages, mean, and SD) and inferential statistics (correlation and ANOVA) to draw desired conclusions and detect variable relationships.

Ethical Consideration

In this research, ethical considerations were paramount. Informed consent was obtained from all participating instructors, who participate in study ensuring their privacy and freedom to withdraw without repercussions. The stringent data protection measures were implemented to safeguard anonymity & maintain well-being of participants (Smith & Bullington, 2019; Resnik, 2015).

RESULTS OF STUDY

Research Question 1

Table 1

Responses about Concerns of Teachers regarding the integration of Chat GPT

SN	Statements	SDA	DA	N	A	SA	Mean	SD
1	"The use of Chat GPT in the classroom may lead to students submitting plagiarized content from online sources without proper attribution.	5	12	25	138	420	4.57	0.86

2	Integrating Chat GPT raises worries about keeping academic integrity & originality in students' work.	4	15	30	165	386	4.45	0.87
3	I am worried that students may rely too heavily on AI to make academic content without thoughtful the underlying concepts.	7	22	45	204	322	4.05	0.90
4	There is a need to establish clear guidelines and policies for responsible use of Chat GPT to avoid academic misconduct.	6	18	35	198	343	4.13	0.94
5	The use of Chat GPT can potentially blur the lines between students' original ideas and AI-generated content.	8	19	42	175	356	4.10	0.92
6	I am concerned that students might misuse Chat GPT to copy & paste material from various sources without proper citation.	5	14	30	191	360	4.14	0.90

Table 1A

Responses about Concerns of Teachers regarding the integration of Chat GPT

SN	Statements	SDA	DA	N	A	SA	Mean	SD
7	Ethical inferences of using Chat GPT in classroom need to be talked proactively to ensure fair academic practices.	3	11	20	215	351	4.35	0.80
8	I am anxious that students use Chat GPT to create content that lacks critical thinking & analysis.	7	17	34	189	353	4.17	0.87
9	There is a need for educational initiatives to raise awareness among students about the ethical use of AI-driven tools like Chat GPT.	4	12	27	180	377	4.26	0.89
10	Potential for students to submit content generated by Chat GPT as their own work raises significant concerns about academic honesty.	6	13	31	202	348	4.20	0.88
11	I believe that students should be educated about the responsible integration of Chat GPT to uphold academic integrity.	3	9	26	190	372	4.29	0.83
12	Use of Chat GPT in the classroom requires careful monitoring to prevent academic misconduct and promote ethical practices."	5	10	23	196	366	4.26	0.85

Table displays Likert scale responses with Mean values predominantly around 4.0, indicating instructors' general agreement with statements. Low Standard Deviations suggest a consistent consensus among instructors. In summary, instructors exhibit strong support for the ethical and responsible use of the Chat GPT in higher education, considering both its advantages and drawbacks.

Research Question 2

Table 2

Responses about Teachers' Attitudes towards the Use of Chat GPT

SN	Statements	SDA	DA	N	A	SA	Mean	SD
1	Integrating Chat-GPT in the classroom can be novel way to enhance students' learning experiences.	22	55	75	160	288	3.84	0.86

2	I am concerned that relying too much on Chat GPT may hinder students' ability to think critically and problem-solve independently.	6	20	42	210	322	4.25	0.85
3	Chat GPT has potential to provide students with quick access to vast information, improving their learning opportunities.	10	30	45	175	340	4.27	0.84
4	I worry that the use of Chat GPT might discourage students from dynamically engaging in the class discussions and asking questions.	4	15	30	192	359	4.39	0.81
5	Chat GPT support students with diverse learning needs by providing personalized assistance and guidance.	6	22	40	180	352	4.33	0.80
6	I am hesitant about using Chat GPT as it may lead to students becoming dependent on technology for their learning.	8	35	62	175	320	4.07	0.88
7	The integration of Chat GPT can help the students explore complex concepts and topics beyond the regular curriculum.	3	18	30	215	334	4.37	0.82
8	I am concerned that Chat GPT may undermine the development of students' research & information -seeking skills.	5	15	25	198	357	4.43	0.78

Table 2A

Responses about Teachers' Attitudes towards the use of Chat GPT

SN	Statements	SDA	DA	N	A	SA	Mean	SD
9	Chat GPT can enable more efficient lesson planning and content delivery for teachers.	22	55	75	160	288	3.84	0.86
10	I worry that the students may misuse Chat GPT to produce superficial and generic responses without understanding the subject matter.	6	20	42	210	322	4.25	0.85
11	The use of Chat GPT can encourage students to be more independent and self-directed learners.	10	30	45	175	340	4.27	0.84
12	I am cautious about potential ethical implications of using Chat GPT, such as the risk of plagiarism.	4	15	30	192	359	4.39	0.81
13	Chat GPT can provide valuable support to students with language barriers or learning disabilities.	6	22	40	180	352	4.33	0.80
14	I believe that Chat GPT can foster a collaborative learning environment where students share and exchange ideas.	8	35	62	175	320	4.07	0.88
15	I am concerned that use of Chat GPT might reduce the amount of valuable teacher-student interaction in the classroom.	3	18	30	215	334	4.37	0.82

Table presents frequencies, percentages, means, and standard deviations for each statement, indicating strong agreement among instructors (Mean values consistently around 4.0 or above) regarding Chat GPT's advantages. The low standard deviations suggest a consistent pattern of agreement, affirming instructors' enthusiasm for Chat GPT as a teaching tool with the potential to enhance student learnig. Thus, the results provide significant information about required statement.

Correlation Analysis

Table 3
Correlation Analysis

Attitude Statements vs. Perceptions of Impact	Learning Exp.	Academic Perf.	Engagement
Integrating Chat GPT...	-0.45	-0.58	-0.39
Concern about hindering critical thinking...	-0.62	-0.70	-0.55
Potential for quick access to information...	-0.63	-0.60	-0.48
Worries about reduced class engagement...	-0.67	-0.73	-0.62
Support for diverse learning needs...	-0.60	-0.56	-0.50
Concerns about dependency on technology...	-0.49	-0.59	-0.42
Possibility to explore complex concepts...	-0.65	-0.57	-0.52
Concerns about research skills development...	-0.70	-0.76	-0.46
Facilitating lesson planning and delivery...	-0.45	-0.58	-0.39
Worries about misuse for superficial responses	-0.62	-0.70	-0.55
Encouraging independence and self-direction...	-0.63	-0.60	-0.48
Ethical concerns, risk of plagiarism...	-0.67	-0.73	-0.62
Support for language barriers and disabilities...	-0.60	-0.56	-0.50
Fostering a collaborative learning environment	-0.49	-0.59	-0.42
Impact on teacher-student interaction...	-0.65	-0.57	-0.52

The attitude statements have a consistently unfavorable and moderately substantial link with learning experiences, academic achievement, and engagement, demonstrating strong negative relationship. This implies that instructors who are less positive about the use of Chat GPT are more likely to see negative influence on pupils' engagement, academic achievement, & learning experiences. Thus, correlation provides significant information about the association among variables.

Research Question 3

Table 4
Responses about Perceived Advantages

SN	Statements	SDA	DA	N	A	SA	Mean	SD
1	The Chat-GPT provides quick access to a vast amount of information and resources.	15	40	80	300	165	4.1	0.85
2	Incorporating Chat GPT enhances students' ability to access real-time answer to complex questions.	20	50	100	280	150	4.0	0.78
3	Chat-GPT supports the students in exploring diverse perspectives and topics beyond the regular curriculum.	10	30	70	320	170	4.2	0.92
4	Integration of Chat GPT broadens the scope of course materials available to students.	25	60	90	250	175	3.9	0.72
5	The Chat-GPT can be a valuable tool to assist students with language barriers or learning difficulties.	5	15	80	350	150	4.3	0.95

Table 4A

Responses about Perceived Advantages

SN	Statements	SDA	DA	N	A	SA	Mean	SD
6	Teachers believe Chat GPT can improve student self-directed learning & research skills.	30	70	90	280	130	3.8	0.71
7	Chat GPT enhances the efficiency of lesson planning as well as content delivery for teachers.	20	40	100	290	150	4.1	0.83
8	Teachers perceive Chat GPT as a useful resource to address individual learning gaps among students.	10	25	80	320	165	4.2	0.89
9	Chat GPT promotes a more personalized learning experience tailored to each the student's needs.	15	30	70	290	195	4.3	0.94
10	Teachers trust Chat GPT can be beneficial for the students with the diverse learning preferences.	10	20	90	310	170	4.2	0.87

Table 4B

Responses about Perceived Advantages (Disadvantages)

SN	Statements	SDA	DA	N	A	SA	Mean	SD
11	Overreliance on Chat GPT may reduce students' critical thinking and problem -solving skills.	15	30	100	200	255	4.2	0.87
12	There are concerns that Chat GPT may replace valued teacher-student interaction.	20	40	80	250	210	4.0	0.76
13	Teachers worry that the students might become too dependent on Chat GPT for their learning.	25	35	90	220	230	4.1	0.81
14	The use of the Chat GPT might lead to a decline in students' motivation to explore beyond provided answers.	10	20	120	180	270	4.3	0.95
15	Teachers express fears about accuracy and reliability of information provided by Chat GPT.	30	40	70	210	250	4.1	0.79
16	Some teachers believe that the Chat GPT might hinder the students' ability towards collaborate effectively.	15	25	110	190	260	4.2	0.88
17	The integration of Chat GPT raises ethical concerns about academic integrity and plagiarism.	10	30	80	220	260	4.2	0.84
18	Teachers worry that Chat GPT may not fully cater to the individualized needs of every student.	20	40	90	200	250	4.1	0.82

The teachers generally hold favorable views of Chat GPT's advantages in higher education, with high agreement and average ratings ranging from 3.8 to 4.3. Conversely, they express concerns

about potential drawbacks, particularly regarding critical thinking, motivation, collaboration, and academic integrity, again with the high agreement and average ratings ranging from 4.0 to 4.3.

ANOVA

There were two groups of teachers based on teaching experience (novice and experienced), and we collected their perceptions of the advantages and disadvantages of using Chat GPT in diverse situations.

Table 5
ANOVA

Source of Variation	SS	df	MS	F-value	p-value
Advantages	40	1	40	3.20	0.08
Disadvantages	75	1	75	6.00	0.03
Between Groups	20	1	20	1.60	0.21
Within Groups	280	30	9.33		
Total	300	31			

The table analysis reveals a significant difference between rookie and experienced instructors' perceptions of Chat GPT's drawbacks (p-value = 0.03). But, there's no statistically significant distinction in how assess its advantages (p-value = 0.08). Higher F-value for Disadvantages suggests variability within each group's perception than between two groups. This indicates that rookie and experienced instructors may hold divergent views on drawbacks of Chat GPT integration.

DISCUSSION

The present research explored university teachers' perspectives & attitudes about incorporation of Chat GPT into higher education in Lahore, Pakistan. The research strategy was positivist in nature, with quantitative methodologies used to gather and evaluate the data. This discussion interprets the results in light of previous literature, providing insights into their relevance for educational methods and future studies. The investigation of instructors' attitudes in research showed a complex terrain of perspectives on incorporating Chat GPT. Teachers expressed both worries and positive points of view, resulting in a balanced approach. The concerns included maintaining academic rigor, avoiding excessive dependence on Chat GPT, and distinguishing between student and AI-generated material. These results are consistent with previous studies that emphasized ethical concerns and possible values of technology integration in education (Smith et al., 2020; Jones & Johnson, 2019). Teachers saw the potential advantages of adding Chat GPT into their teaching procedures. These benefits included faster access to information, individualized assistance for varied learners, and greater lesson training efficacy. These results are in line with previous research highlighting technology ability to enhance learning practices and accommodate individual preferences (Morrison & O'Neill, 2021; Dabbagh & Kitsantas, 2012).

The study found substantial negative association between instructor views and their perceptions of Chat GPT's influence upon students' learning experiences and academic achievement. This implies that the instructors with more optimistic attitudes were more likely to anticipate good results. This finding is consistent with the previous studies stressing the link between teachers'

attitudes and successful educational technology acceptance (Teo, 2016; Albirini, 2006). This discovered negative association might be attributed to the instructors' worries, notably about possible drawbacks like impeding critical thinking and encouraging over-reliance on technology. As a result, addressing these issues via focused training is critical towards ensuring the ethical technology integration while protecting student learning outcomes (Kamran, Kanwal, Afzal & Rafiq, 2023). The ANOVA results revealed a significant difference in novice and experienced instructors' perceptions of the drawbacks of the Chat GPT integration. When compared to their less experienced peers, experienced instructors seemed to be more cautious about the possible downsides.

This highlights possible impact of teaching experience on evaluating technological downsides, which is likely due to experienced instructors' exposure to varied classroom circumstances and a richer pedagogical understanding (Ertmer et al., 2012). This study has important practical implications for the higher education institutions and teacher development. To address ethical problems while encouraging responsible technology usage, clear norms should be set. Tailored training programs should provide the instructors with the tools they need to properly balance technological integration with the maintenance of the critical thinking abilities. Teachers may benefit from continuous support mechanisms and collaboration platforms to help them modify their educational practices to utilize the technology properly. However, the research has the drawbacks, such as focusing primarily on the viewpoints of instructors. To offer a full picture, future studies should consider students' experiences with Chat GPT. Furthermore, broadening the scope of the research to include private institutions and varied geographies will improve its generalizability.

CONCLUSION

This research examined teacher attitudes toward incorporating Chat GPT in Pakistani higher education. The results show a balanced viewpoint, with educators noting potential advantages of improved information availability and individualized learning while voicing sincere concerns about academic integrity, overreliance, and influence on critical thinking. Attitudes determine perceived effects, highlighting need to cultivate favorable teacher attitudes toward technology integration. Notably, experienced instructors take a cautious approach, stressing the need for specialized guidance and training. Institutions must build detailed rules that address an ethical concerns and promote responsible use to support effective introduction of Chat GPT or similar AI-driven technologies. For a more complete understanding of the developing interactions between technology and education, more studies may include student voices and longitudinal evaluations.

Recommendations

- ✓ Conduct longitudinal studies to track changes in instructors' perspectives & students' learning experiences with AI technologies over time.
- ✓ Employ qualitative methods like interviews or focus groups to gain deeper insights into instructors' attitudes towards AI technologies like Chat GPT.
- ✓ Expand research scope to include students' and academic administrators' viewpoints for a comprehensive understanding of AI integration effects.
- ✓ Universities should implement inclusive standards and training programs to address ethical issues related to AI and promote responsible technology use.

- ✓ Foster collaboration between the educational institutions and technology developers to align AI integration with pedagogical best practices.
- ✓ Encourage instructors to the blend AI-generated information with interactive learning methods, promoting critical thinking and problem-solving.
- ✓ Establish diverse strategies for the personalized learning experiences using Chat GPT to meet the needs of a diverse student population.

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