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Between Promise and Peril: Ethical and Pedagogical Challenges of ChatGPT Use in Classrooms

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Abstract

This qualitative study explores how private school teachers in Pakistan perceive and navigate the integration of ChatGPT into their teaching practices, focusing on its impact on critical thinking development, the challenges of implementation, and ethical concerns. Grounded in the interpretivist paradigm and using a phenomenological approach, data were collected through semi-structured interviews with teachers from various urban private schools. Findings reveal that teachers see ChatGPT as a tool that fosters inquiry-based learning, promotes student engagement, and supports analytical reasoning. However, multiple challenges emerged, including limited digital infrastructure, a lack of AI-specific professional development, concerns about the accuracy of AI-generated content, and the risk of academic dishonesty. Teachers also expressed ethical concerns regarding plagiarism, data privacy, and the cultural relevance of content. In response, they employed strategies such as classroom guidelines, digital ethics discussions, and supervision of student use. The study underscores the critical role of teachers as ethical mediators in AI-enhanced education and calls for context-sensitive policies, structured training, and curriculum flexibility. These findings contribute to the global discourse on ethical AI integration and provide practical recommendations for stakeholders in Pakistan's evolving educational landscape.

Keywords: ChatGPT, artificial intelligence, private school teachers, critical thinking, ethics in education, Pakistan, AI integration, qualitative research.

1. Introduction

The global educational landscape is undergoing a rapid transformation due to the advent of artificial intelligence (AI), particularly generative AI technologies like ChatGPT. As educators seek to adapt to emerging pedagogical possibilities, the integration of AI-driven tools into teaching and learning has become both a promise and a predicament. Nowhere is this duality more evident than in developing nations like Pakistan, where traditional teaching practices, infrastructural challenges, and evolving technological demands intersect. ChatGPT, an AI language model developed by OpenAI, represents a frontier in educational technology, offering opportunities for personalized learning, creative engagement, and cognitive skill enhancement (Kasneci et al., 2023). However, its adoption also raises pressing ethical concerns and pedagogical uncertainties, particularly among educators tasked with guiding student development in dynamic classroom environments (Espartinez, 2024).

Pakistan's education system is characterized by a dual structure comprising public and private sectors, with private schools often operating with greater flexibility and access to resources

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than their public counterparts. These institutions have become sites of experimentation and innovation, especially in urban centers where digital technologies are increasingly integrated into the curriculum. The rising popularity of ChatGPT in these settings aligns with global trends in edtech, where AI tools are being harnessed to supplement teaching, streamline lesson planning, and support student learning (Bhaskar, Rana, 2024). In theory, ChatGPT offers tremendous potential for enhancing students' critical thinking, problem-solving abilities, and motivation. By simulating dialogues, generating tailored responses, and supporting creative writing, ChatGPT can serve as a cognitive partner in the learning process. Yet, the deployment of such tools raises profound pedagogical, cultural, and ethical questions, especially in contexts where teachers serve as both knowledge facilitators and moral custodians (Shabbir et al., 2024).

The potential of ChatGPT to support critical thinking is one of its most widely promoted educational benefits. Research suggests that AI tools can stimulate intellectual engagement by encouraging students to explore diverse perspectives, challenge assumptions, and articulate their thoughts more coherently (Rana et al., 2024; Smutny, Schreiberova, 2020). ChatGPT's ability to generate responses based on vast amounts of data allows students to test their ideas, compare viewpoints, and develop more nuanced understandings. ChatGPT could be a transformative force in shifting pedagogical paradigms in Pakistani classrooms, where rote learning often dominates, and creativity is not consistently prioritized. Teachers may employ the tool to frame open-ended questions, conduct debates, or create hypothetical scenarios that push students beyond memorization. However, such integration depends heavily on how educators perceive the tool's value and how confidently they can navigate its functionalities (Yadav, Shrawankar, 2025).

While innovation is a compelling driver of ChatGPT's introduction in education, it is not without friction. Teachers frequently encounter significant obstacles in effectively integrating the tool into their pedagogical routines. First, there is the issue of technological access; many private schools in Pakistan lack the necessary infrastructure, such as reliable internet connectivity, updated computer systems, and technical support. Even within relatively well-resourced private institutions, disparities in digital fluency among teachers can hinder the effective use of AI tools (Shahzad et al., 2025). In addition, time constraints, curriculum rigidity, and administrative expectations often leave little room for experimenting with novel teaching methods. Teachers may also harbor skepticism about the pedagogical soundness of relying on AI, particularly when the output lacks human empathy or cultural contextualization (Aslam, Nisar, 2023; Elkefi et al., 2024). These challenges are further complicated by concerns about misuse, students may exploit ChatGPT to complete assignments dishonestly or avoid intellectual effort, thus undermining the very learning outcomes the tool aims to promote (Majeed et al., 2024).

Perhaps the most contentious domain of AI in education is ethics. The use of ChatGPT prompts urgent debates around academic integrity, data privacy, algorithmic bias, and the philosophical role of teachers in the age of machines. One of the primary concerns among private school teachers in Pakistan is the potential for academic dishonesty – students using ChatGPT to generate essays, solve mathematical problems, or even mimic exam responses (AlAli, Wardat, 2024). This issue is particularly problematic in examination-oriented cultures like Pakistan's, where high-stakes testing remains a dominant mode of assessment. Teachers express unease about maintaining fairness, authenticity, and rigor when students have ready access to generative tools that can produce sophisticated content on demand (Mena-Guacas et al., 2025). Moreover, there are fears about data security, ChatGPT's engagement with user inputs may inadvertently expose sensitive student data, a concern exacerbated by the lack of clear policies or regulatory frameworks governing AI use in Pakistani schools.

Another ethical dilemma lies in algorithmic bias and cultural relevance. AI models like ChatGPT are primarily trained on datasets drawn from English-language internet content, predominantly reflecting Western sociocultural perspectives. As such, the model may produce responses that are incongruent with local norms, religious values, or pedagogical priorities (Wang et al., 2024). Pakistani educators, especially those in private religious or value-based institutions, face the delicate task of filtering inappropriate or culturally insensitive responses. This creates a tension between the globalized nature of AI content and the localized responsibilities of educators. Teachers must act as mediators, interpreting and contextualizing AI-generated content while maintaining pedagogical integrity. The absence of localized AI training datasets means that ChatGPT cannot always accommodate the linguistic, ethical, or historical specificities of Pakistani

learners. Consequently, the risk of misalignment between AI content and curriculum objectives becomes a significant barrier to adoption.

Beyond technical and ethical considerations, the impact of ChatGPT on student engagement and motivation is another critical area of exploration. Preliminary studies suggest that AI tools can enhance student interest by offering immediate feedback, adaptive learning paths, and interactive experiences (Espartinez, 2024; Zawacki-Richter et al., 2019). In the Pakistani context, where overcrowded classrooms and teacher shortages often limit individualized instruction, ChatGPT could offer supplemental support to students, especially in subjects like English, science, and general knowledge. Private school teachers report that students often find ChatGPT "fun" and "fascinating," appreciating its conversational style and responsiveness. This novelty factor may initially boost engagement, but long-term motivational effects remain uncertain. There is a risk that students could become passive recipients of AI-generated answers rather than active participants in knowledge construction. Teachers thus find themselves negotiating a fine balance, leveraging the motivational appeal of ChatGPT while ensuring that it does not become a substitute for deep learning or self-directed inquiry (Bhaskar, Rana, 2024).

One of the core tensions this study seeks to investigate is how teachers balance the use of AI with traditional teaching methods. Pakistani private school educators are often steeped in conventional pedagogical techniques, including lecture-based instruction, textbook reliance, and test-focused assessment. The introduction of AI represents a disruptive force, one that calls for rethinking classroom roles, instructional design, and assessment strategies (Yadav, Shrawankar, 2025). Some teachers embrace this disruption, using ChatGPT as a co-teacher to brainstorm lesson plans, create diverse learning materials, and support differentiated instruction. Others adopt a more cautious stance, preferring to confine AI to supplementary roles or specific classroom contexts. This variation underscores the broader need for professional autonomy and contextual adaptation in AI integration strategies. It also points to the emotional and cognitive labor required of teachers, who must constantly evaluate, adjust, and justify their use of new technologies within complex educational ecosystems (Elkefi et al., 2024).

The significance of understanding teachers' experiences with ChatGPT in Pakistani private schools lies in its broader implications for education policy, teacher training, and ethical technology governance. As the educational sector in Pakistan grapples with digital transformation, the perspectives of frontline educators are indispensable. Teachers are not merely implementers of policy but are active agents of innovation and gatekeepers of ethical practice. Their experiences provide a ground-level view of how AI tools function in real classrooms, how they are received, resisted, or reimagined in daily teaching routines. By capturing these voices, this study contributes to a richer understanding of human-AI interaction in educational contexts and offers concrete recommendations for stakeholder engagement (Edwards et al., 2025). These include the development of localized AI literacy programs, culturally sensitive training materials, ethical usage frameworks, and institutional support systems that prioritize teacher agency.

This study also seeks to contribute to the global discourse on AI in education, particularly from the perspective of the Global South. Much of the existing research on ChatGPT and educational AI emerges from high-income countries with established digital infrastructures and robust policy environments (Mohammadi, Maghsoudi, 2025). In contrast, Pakistan offers a more complex terrain marked by socioeconomic inequality, linguistic diversity, religious sensitivities, and institutional fragmentation. These conditions pose unique challenges and opportunities for adoption of AI in schools. Exploring how private school teachers in Pakistan experience, evaluate, and navigate ChatGPT offers valuable insights that extend beyond national borders. It challenges techno-centric narratives that view AI as a universal good and instead foregrounds the socio-cultural mediations through which technology acquires meaning and legitimacy (Rana et al., 2024).

The integration of ChatGPT in Pakistani private schools unfolds at the intersection of innovation and ethics. Teachers are central to this process, negotiating technological possibilities, confronting ethical dilemmas, and reimagining their roles in the AI-enabled classroom. This research aims to illuminate their experiences, voices, and practices, offering a nuanced account of how generative AI is reshaping educational realities in a rapidly changing world. By focusing on the perspectives of private school teachers, the study not only highlights the practical challenges and pedagogical potentials of ChatGPT but also underscores the need for context-sensitive strategies that balance technological advancement with ethical responsibility.

Role in Developing Critical Thinking. The integration of ChatGPT in educational settings has been increasingly associated with the promotion of critical thinking skills among students. Scholars argue that AI-powered tools can scaffold higher-order cognitive processes by encouraging learners to ask questions, analyze diverse perspectives, and articulate reasoned arguments (Shoukat, 2024). ChatGPT, specifically, has demonstrated the ability to simulate interactive dialogues and problem-solving tasks that stimulate metacognition and analytical reasoning. In environments where rote learning is dominant, as is often the case in South Asian classrooms including Pakistan's, ChatGPT can act as a catalyst for pedagogical transformation by shifting focus from memorization to inquiry-based learning (Wang et al., 2024). Its capacity to provide context-rich responses tailored to students' queries enables them to critically assess information, evaluate alternatives, and arrive at informed conclusions, key components of critical thinking. However, researchers caution that this potential is contingent on teacher guidance and the instructional framework within which ChatGPT is deployed (Asad et al., 2024). Without proper pedagogical design and critical engagement, students may merely consume AI-generated answers passively rather than engage in reflective thought processes. In the Pakistani context, where critical thinking is an emerging curricular goal yet underdeveloped in practice, ChatGPT represents a dual opportunity and challenge, one that demands teacher training and contextual adaptation for meaningful outcomes (Alghazo et al., 2025).

Challenges in Integration. Despite its pedagogical promise, the integration of ChatGPT into classrooms presents significant challenges, particularly in resource-constrained settings. A growing body of literature highlights concerns related to infrastructure, technical skills, and institutional readiness. For many educators in Pakistan's private schools, especially those in peri-urban and low-fee contexts, the availability of devices, stable internet, and digital content remains inconsistent, thus limiting effective adoption. Furthermore, a lack of structured professional development and digital pedagogy training has left many teachers unfamiliar with how to harness the affordances of generative AI meaningfully in their lesson planning and assessments (Hatmanto et al., 2024). Globally, educators have reported feeling overwhelmed by the rapid pace of AI integration and uncertain about its implications for classroom management and learning outcomes. In Pakistan, these concerns are magnified by curricular rigidity, exam-centric teaching, and administrative pressure for conventional performance metrics (Shams et al., 2025). In such contexts, the integration of ChatGPT is not merely a technical transition but a cultural and pedagogical shift that necessitates systemic support, school leadership, and teacher autonomy. Additionally, skepticism surrounding the accuracy and reliability of ChatGPT outputs adds another layer of resistance, with teachers worrying about misinformation or oversimplified explanations that might mislead students (Elsayed, 2024).

Ethical Concerns. The ethical implications of using ChatGPT in education have sparked critical debates around academic integrity, data privacy, algorithmic bias, and the philosophical role of educators in AI-mediated learning environments. A major concern is the facilitation of academic dishonesty, as students may exploit ChatGPT to generate essays, solve assignments, or paraphrase content without engaging in original thought (Cotton et al., 2024). Such practices raise questions about authenticity and fairness in assessment. In Pakistan, where examination culture and GPA-centric success often dominate, the temptation to misuse AI tools can be high, particularly in competitive private school settings. Equally pressing are concerns regarding data privacy and digital surveillance. AI models like ChatGPT process and retain user inputs, which can pose serious threats to student confidentiality, especially in jurisdictions lacking robust data protection regulations (Floridi, Chiriatti, 2020). Furthermore, ChatGPT has been criticized for reproducing social and cultural biases embedded in its training data, which are predominantly Western-centric. This raises concerns for Pakistani educators who must filter AI-generated content through local cultural, religious, and linguistic lenses. In classrooms where moral and civic education is part of the curriculum, teachers face the ethical dilemma of using a tool that may contradict or overlook indigenous values. These issues necessitate the development of ethical usage policies, critical digital literacy, and AI transparency in educational institutions across Pakistan (Khurshid et al., 2024).

Effects on Student Engagement. Studies examining the relationship between ChatGPT and student engagement report both positive trends and cautionary caveats. On the one hand, ChatGPT has been found to enhance engagement by offering interactive, personalized, and prompt responses that cater to individual learning needs. The conversational format of ChatGPT

encourages students to pose questions, explore tangents, and seek clarification in a low-pressure environment, which can be particularly beneficial for shy or hesitant learners. In diverse learning contexts – including those in Pakistan – this capacity to personalize interaction could significantly bridge the teacher-student ratio gap, especially in overcrowded classrooms. Furthermore, ChatGPT can be used to support differentiated instruction, gamify learning tasks, and offer linguistic support to students with weaker English proficiency (Hatmanto et al., 2024). However, literature also warns of superficial engagement, where students are drawn to the novelty of the tool rather than its cognitive depth (Baidoo-Anu, Owusu Ansah, 2023). There is also a risk that learners may become over-reliant on ChatGPT, using it as a shortcut rather than a supplement, thus weakening intrinsic motivation and reducing intellectual struggle – a key component of deep learning (Asad et al., 2024). In the Pakistani context, where student engagement is already affected by socio-economic stressors, digital divides, and rigid pedagogical norms, the impact of ChatGPT on motivation must be carefully measured and pedagogically channeled.

Balancing AI with Traditional Teaching Methods. A recurring theme in the literature is the need to balance AI tools like ChatGPT with traditional teaching approaches to preserve the relational, contextual, and ethical dimensions of education. While ChatGPT can efficiently handle content delivery, text generation, and basic tutoring functions, it lacks the emotional intelligence, cultural sensitivity, and moral judgment that human educators embody (Selwyn, 2019). Educators and researchers argue that technology should not replace but rather augment human instruction, positioning ChatGPT as a pedagogical aid rather than a pedagogical authority (Smutny, Schreiberova, 2020). In Pakistan, where many private school teachers adhere to well-established routines based on textbooks, lectures, and board exams, integrating AI requires a pedagogical rethinking that does not alienate but supports educators. Research has shown that when teachers use ChatGPT to co-design lesson plans, generate supplementary material, or offer revision support, it complements rather than disrupts traditional practices (Giannakos et al., 2024). This hybrid approach ensures that human values central to education, empathy, ethics, context, and mentorship are preserved while still leveraging the scalability and responsiveness of AI. For Pakistani schools to embrace such a model, investment in teacher training, curriculum redesign, and digital infrastructure is imperative. The goal is not merely to digitize instruction but to humanize technology through culturally responsive, pedagogically sound, and ethically grounded practices.

While the global discourse on artificial intelligence (AI) in education has grown substantially in recent years, much of the existing literature is heavily centered on technologically advanced nations with well-developed digital infrastructures and progressive educational frameworks (Mutambara, 2025). Studies from countries such as the United States, the United Kingdom, and parts of Europe have primarily examined AI adoption from the standpoint of access, personalization, and learning analytics, often overlooking the contextual nuances present in Global South settings (Frazier, 2024). Within South Asia, and particularly Pakistan, limited empirical research has been conducted on the integration of generative AI tools like ChatGPT in primary and secondary education. Even fewer studies focus on the perceptions and lived experiences of teachers, especially those in private school systems who often work under different institutional constraints and pedagogical expectations compared to their public sector counterparts. The available research has primarily addressed theoretical concerns or macro-level implications of AI integration, with little attention paid to how AI technologies are actually being used, resisted, or modified by frontline educators in classrooms (Mökander, Schroeder, 2022). Moreover, existing discussions on the ethical implications of AI use in education often generalize these concerns without investigating how they manifest in specific cultural and socio-religious environments like Pakistan. Consequently, there remains a critical gap in understanding how private school teachers in Pakistan perceive, experience, and respond to the pedagogical, ethical, and motivational implications of using ChatGPT in their teaching practices. This gap is particularly urgent to address given the rising interest in AI tools in Pakistan's urban education market and the lack of formal policy frameworks guiding their educational use (Mutambara, 2025).

The rapid emergence of ChatGPT as a tool in educational contexts has introduced new opportunities and complexities for teachers worldwide. In Pakistan, where private schools are pivotal in delivering quality education, the growing presence of generative AI tools like ChatGPT poses unique challenges and possibilities. While these tools are being increasingly experimented with in private educational institutions, there is minimal understanding of how teachers, who are central to the implementation and pedagogical outcomes of AI integration, perceive and engage

with such technologies. This research aims to investigate how private school teachers in Pakistan navigate the dual imperatives of innovation and ethics in their use of ChatGPT, with particular attention to their perceptions of the tool's potential to develop students' critical thinking skills, the challenges they encounter in incorporating ChatGPT into lesson planning and instructional practices, and the strategies they employ to address ethical concerns such as academic integrity, data privacy, and content reliability. These dimensions are crucial in a context where the lack of structured training, unclear ethical guidelines, inconsistent digital infrastructure, and examination-oriented learning complicate meaningful AI adoption. Moreover, understanding these dynamics is essential to ensure that educational policy and school leadership do not implement AI technologies in ways misaligned with classroom realities and pedagogical goals.

2. Materials and methods

This study is situated within the interpretivist paradigm, which emphasizes understanding the meanings individuals assign to their lived experiences and the social realities they construct. Interpretivism is particularly appropriate for this research because it seeks to explore how private school teachers in Pakistan perceive and make sense of their interactions with ChatGPT in educational settings. Rather than seeking generalizable truths or causal relationships, the focus is on capturing rich, contextualized insights from participants' perspectives (Creswell, Poth, 2018). Since teachers' attitudes, ethical judgments, and classroom practices are deeply shaped by their cultural, institutional, and personal experiences, an interpretivist approach allows for a nuanced exploration of the phenomena under investigation. This paradigm aligns with the study's aim to understand not just what is happening with AI in classrooms but how and why teachers respond in particular ways.

Research Design and Method. The study employs a qualitative research design, specifically using a phenomenological approach to investigate the lived experiences of teachers as they navigate the use of ChatGPT in their professional practices. Phenomenology focuses on understanding how individuals experience a particular phenomenon and derive meaning from it (Van Manen, 1990). This design is well-suited to explore the multifaceted ways in which ChatGPT influences teaching practices, critical thinking development, ethical concerns, and the balancing of AI with traditional pedagogy. Through in-depth, semi-structured interviews, this study aims to capture the complexities of teacher experiences, including their reflections, challenges, and strategies, thus allowing for the emergence of themes grounded in participants' narratives. The qualitative design facilitates openness to unexpected insights and supports the contextual depth necessary for examining innovation and ethics in Pakistani educational settings.

Population and Sampling. The population for this study includes private school teachers in Pakistan who have either used ChatGPT in their teaching or have explored its integration into lesson planning. Private school teachers were selected because they are more likely than public school teachers to have access to technological tools and greater autonomy in instructional decisions. A purposive sampling strategy was employed to identify information-rich participants with relevant experience and insights into the research topic (Patton, 2015). Teachers from a variety of disciplines (e.g., English, Science, Social Studies) and school levels (primary to higher secondary) were included to ensure a diverse range of perspectives. Approximately 12 to 15 participants were selected from private schools in urban centers such as Lahore, Karachi, and Islamabad, where digital innovation in education is more prevalent. The sample size was determined based on data saturation, the point at which no new themes emerge (Guest et al., 2006).

Data Collection and Analysis. Data was collected through semi-structured interviews, allowing participants the freedom to express their thoughts while providing a flexible framework for the researcher to probe deeper into key themes. Interviews were conducted either face-to-face or via video conferencing tools such as Zoom, depending on participants' availability and location. Each interview lasted between 45 and 60 minutes and was audio-recorded (with consent) to ensure accurate transcription. The interview protocol included open-ended questions focused on the use of ChatGPT for promoting critical thinking, pedagogical challenges, ethical dilemmas, and the interplay between AI tools and traditional methods see Figure 1.

The collected data were transcribed with verbatim and analyzed using thematic analysis (Braun, Clarke, 2006). This method involves six phases: familiarization with data, generation of initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report. NVivo software was used to assist in the coding process and manage data efficiently.

Codes were grouped into themes that aligned with the research questions, such as "AI as a cognitive scaffold," "trust and reliability concerns," "ethical navigation," and "balancing innovation with tradition." Throughout the analysis, a reflexive approach was adopted to ensure that interpretations remained grounded in the participants' voices while being mindful of researcher bias.

Ethical Considerations. Ethical integrity was upheld throughout the research process in accordance with established qualitative research ethics (Orb et al., 2001). Before data collection, ethical approval was obtained from the relevant institutional review board. Participants were provided with an informed consent form outlining the study's purpose, their voluntary participation, and the right to withdraw at any point without penalty. Anonymity and confidentiality were strictly maintained; pseudonyms were used in all transcripts and reporting to protect participants' identities. Audio recordings and digital files were stored securely and accessible only to the researcher. Additionally, care was taken to avoid any form of coercion or discomfort during interviews. Given the sensitive nature of ethical concerns and data security issues surrounding AI, participants were reassured that their responses would be used solely for academic purposes and treated with professional confidentiality. A culturally respectful and dialogic approach was adopted to ensure participants felt safe and heard throughout the research process (Alessi, Kahn, 2023).

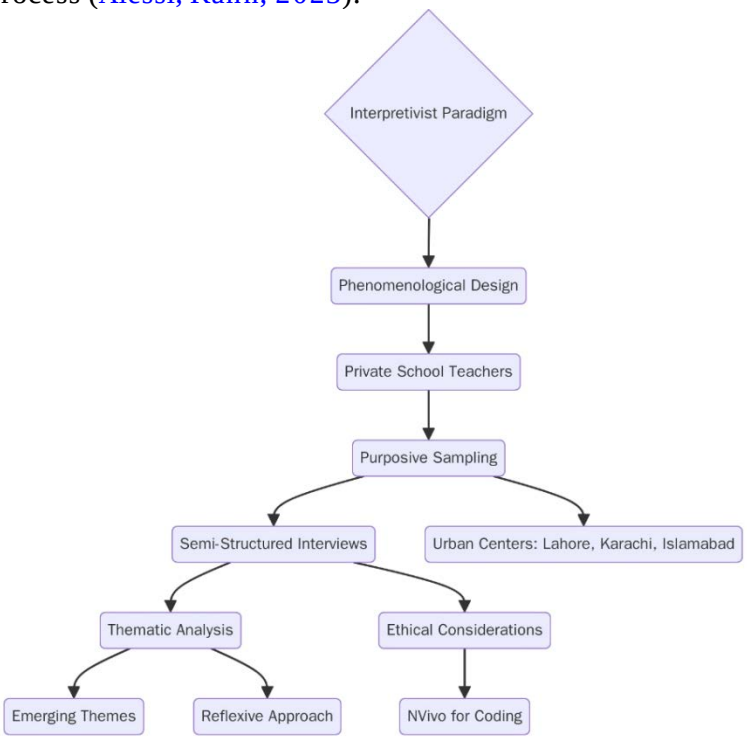

Fig. 1. Methodical Framework

3. Discussion

This study set out to explore how private school teachers in Pakistan experience, interpret, and respond to the integration of ChatGPT in their teaching practices, specifically its role in fostering critical thinking, the challenges of integration, and the ethical dilemmas surrounding its use. The findings, derived from in-depth qualitative interviews, resonate with and extend the global literature on AI in education while offering a culturally grounded perspective rooted in Pakistan's unique educational realities. Overall, the study highlights a complex landscape wherein teachers simultaneously embrace innovation and navigate ethical caution, underscoring the nuanced role they play as both facilitators and gatekeepers in AI-driven learning environments (Zakariya, 2025).

ChatGPT and the Development of Critical Thinking. Consistent with existing literature, participants in this study identified ChatGPT as a valuable tool for fostering critical thinking, particularly by promoting inquiry-based learning, independent reasoning, and exposure to multiple perspectives. Prior studies by Zawacki-Richter et al. (Zawacki-Richter et al., 2019) and Kasneci et al. (Kasneci et al., 2023) similarly emphasize AI's potential to scaffold higher-order thinking through dialogue generation, alternative viewpoints, and problem-solving tasks. Teachers

in the current study noted that ChatGPT encouraged students to move beyond rote memorization, historically a hallmark of Pakistani classrooms, and instead engage in questioning, interpretation, and open-ended exploration. For example, using ChatGPT to simulate debates or analyze opposing viewpoints in literature and social studies allowed students to critically evaluate claims, assess biases, and justify their reasoning (Liang, Wu, 2024).

However, the findings also reinforce the conditional nature of this potential. AI's impact on critical thinking largely depends on how teachers structure its use (Smutny, Schreiberova, 2020). In this study, the teacher's role as a mediator stands out as a vital theme, reflecting the view that successful AI implementation must involve human oversight and educational context (Luckin et al., 2016). Without guidance from teachers, students may excessively depend on AI results, neglecting critical thinking. This raises concerns about shallow involvement and passive intellect (Baidoo-Anu, Owusu Ansah, 2023). This is echoed in Alzubi et al. (Alzubi et al., 2025), who highlight that critical thinking gains from AI tools are not automatic but must be cultivated through reflective pedagogy. Thus, while ChatGPT is seen as a powerful cognitive partner, its transformative potential is unlocked primarily through structured, reflective, and ethically informed use.

Challenges in Integrating ChatGPT in Pakistani Private Schools. The study revealed five major challenges in integrating ChatGPT: limited infrastructure, lack of professional training, content reliability issues, fear of academic dishonesty, and misalignment with rigid curricula. These barriers echo the concerns raised by researchers who underscore infrastructural and professional readiness as prerequisites for meaningful AI adoption in low – to middle-income countries (He et al., 2025). Participants highlighted that many private schools, particularly outside major urban centers, suffer from weak internet connectivity, limited access to digital devices, and inadequate technical support. These constraints mirror the findings of (Nazari et al., 2024), who observed that digital inequality remains a structural impediment to AI-enhanced pedagogy in Pakistan (Jahan et al., 2024). Additionally, teachers indicated they had insufficient formal training in AI literacy, resulting in uncertainty and varied usage. This highlights the need for ongoing professional development to link technological advances with teaching confidence (Zakariya, 2025).

A critical challenge that emerged in this study and which expands the literature was the tension between ChatGPT's generative potential and the rigid, exam-oriented nature of Pakistan's school curricula. Teachers reported that while ChatGPT could support creative, student-centered learning, the pressure to complete syllabus targets, prepare for standardized tests, and maintain academic rigor limited the space for experimentation. This finding supports the assertion that AI integration in South Asia must account for systemic educational constraints, not just tool access.

Ethical Concerns and Teachers' Mitigating Strategies. This study also sheds light on how private school teachers actively address the ethical complexities of using ChatGPT. Participants were particularly concerned about academic dishonesty, data privacy, misinformation, and cultural irrelevance. These concerns align with global discussions on AI ethics in education (Cotton et al., 2024; Floridi, Chiriatti, 2020), who warn that unregulated AI use can compromise integrity, propagate algorithmic bias, and erode student accountability. Recent research also emphasizes the need for ethical frameworks that position teachers as critical agents in AI-assisted education, rather than mere implementers of technology (Luckin et al., 2016).

Teachers in this study adopted several mitigation strategies, including creating classroom policies on ethical AI use, integrating digital literacy and AI ethics into lessons, and limiting ChatGPT's role in formal assessment. These grassroots strategies reflect a proactive effort by educators to safeguard learning integrity, even in the absence of institutional or governmental guidelines. Notably, teachers also filtered ChatGPT outputs to ensure cultural relevance and factual accuracy, an issue particularly salient in contexts like Pakistan, where Western-centric AI content may conflict with local norms, religious values, or curriculum standards (Williamson, Eynon, 2020).

Perhaps most significantly, the study found that teachers were not passive users of technology but ethical negotiators adapting, filtering, and framing ChatGPT use in ways that aligned with their pedagogical values and classroom realities. This perspective challenges techno-optimist narratives that see AI as a substitute for teaching and instead reinforces view of teachers as irreplaceable mediators of digital tools (Selwyn, 2019). Another study found that AI integration in classrooms must be accompanied by pedagogical judgment and ongoing ethical reflection, ensuring technology enhances rather than undermines the educational process (Holmes et al., 2019).

Contextual Contributions and Theoretical Implications. The study's findings contribute important contextual depth to the global discourse on AI in education. Much of the existing

literature focuses on the Global North, where technological infrastructure, teacher training, and institutional policies are more robust. In contrast, this research highlights how Pakistani private school teachers operate within constrained environments, technologically, structurally, and culturally, yet still engage critically and innovatively with emerging tools like ChatGPT. Digital technologies are always "domesticated" and reinterpreted within local educational cultures rather than adopted uniformly (Selwyn, 2019).

From a theoretical perspective, the study affirms the interpretivist and phenomenological lens adopted for research. Teachers' lived experiences offer rich, situated insights into how AI is perceived, applied, and morally negotiated in real-world educational settings (Creswell, Poth, 2018). Rather than treating ChatGPT as a universal solution, this research emphasizes the local, human, and ethical dimensions that shape its use, insights often overlooked in purely technological or policy-centric analyses (Knox, 2020). These findings contribute to emerging calls for critical, context-sensitive approaches to AI in education that move beyond deterministic or techno-solutionist narratives.

4. Results

Below are the detailed themes that were drawn from interviews relating to the first research question with school teachers. Each theme includes an explanation and a representative interview quotation to reflect participants' lived experiences and perceptions.

Theme 1: ChatGPT as a Catalyst for Inquiry-Based Learning. Many teachers described ChatGPT as a tool that encourages students to ask deeper questions and seek clarification beyond textbook content. Rather than simply receiving information, students are now prompted to explore "why" and "how" questions, a key marker of critical thinking. Teachers noted that ChatGPT's ability to provide nuanced, follow-up answers supports the inquiry-based learning model and helps students become active participants in the learning process. As one participant revealed,

"I've seen students become more curious. When they ask ChatGPT something, it doesn't just give a flat answer, it explains why. That often leads students to ask more questions, which is a big change from just memorizing what I teach."

— Teacher A, Secondary English Instructor, Lahore

Theme 2: Support for Diverse Perspectives and Analytical Thinking. Teachers reported that ChatGPT facilitates exposure to multiple viewpoints, particularly in subjects like literature, history, or ethics. The AI's ability to provide various arguments or interpretations helps students weigh pros and cons, examine bias, and develop more balanced opinions. Teachers felt this exposure enhances students' analytical reasoning and strengthens their capacity to evaluate different sources of information.

"When my students used ChatGPT for a debate assignment, it gave them arguments for both sides. That really helped them understand how to analyze instead of just defend one point. It changed how they approached the topic."

— Teacher B, O-Level Social Studies Teacher, Islamabad

Theme 3: Concerns Over Superficial Understanding and Over-Reliance. While many teachers acknowledged ChatGPT's potential to stimulate critical thinking, several expressed concerns that students may use it passively copying responses without engaging with the underlying reasoning. This over-reliance, they feared, could create a false sense of understanding and hinder the development of original thought. Teachers emphasized the importance of guided use and reflective questioning to ensure ChatGPT supports—not replaces—critical thinking.

"Some students just copy-paste the answers. It's not that they're thinking more critically—they're skipping the process. We have to teach them to question the AI, not worship it."

— Teacher C, High School Computer Studies Teacher, Karachi

Theme 4: Teacher as Mediator of AI-Driven Learning. Educators emphasized their role as facilitators who must scaffold student engagement with ChatGPT. They argued that while the tool can guide students toward critical thinking, it is the teacher's responsibility to structure tasks, pose counter-questions, and encourage metacognition. Without this mediation, ChatGPT may function as just another shortcut. The teacher's role is thus redefined—not as the sole knowledge provider, but as a coach navigating AI-powered inquiry.

"ChatGPT is useful, yes, but without teacher direction, it becomes a crutch. I usually ask my students to challenge the answers it gives—'Is this the only way to look at it?' That's when thinking really happens."

— Teacher D, Middle School English Teacher, Rawalpindi.

Table 1. Teachers' perceptions about ChatGPT developing students' critical thinking skills

Coding	*Sub-coding*	*Themes*
Questioning, exploration, curiosity, depth, inquiry, engagement, reflective thinking, independent thought, student-led discussion, learning autonomy, investigative learning, critical dialogue, hypothesis generation, open-ended responses, discussion prompts, cognitive flexibility	Student inquiry, curiosity, deeper learning, active questioning, generative prompts, open-ended tasks, exploration mindset, learner autonomy, hypothesis testing, analytical engagement, content unpacking	ChatGPT as a Catalyst for Inquiry-Based Learning
Perspectives, comparison, reasoning, evaluation, debate, bias, argumentation, decision-making, critical literacy, opposing views, source verification, evidence-based reasoning, viewpoint synthesis, dialectical reasoning, cultural context, issue framing	Argument evaluation, opposing views, balance, bias detection, critical dialogue, multi-perspective analysis, ethical reasoning, claim assessment, ideological critique, evidence exploration, contrasting opinions	Support for Diverse Perspectives and Analytical Thinking
Copy-paste, dependency, shortcuts, superficiality, memorization, passive use, shallow learning, lack of effort, automation, reduced retention, uncritical acceptance, decreased creativity, intellectual laziness, mindless copying, disengagement, overdependence	AI misuse, over-reliance, shallow learning, critical gaps, lack of depth, reduced student effort, mental laziness, blind acceptance, academic shortcuts, creativity decline, habitual dependence	Concerns Over Superficial Understanding and Over-Reliance
Guidance, facilitation, scaffolding, metacognition, reflective questioning, feedback, monitoring, role shifting, AI integration, intentional use, lesson framing, teacher intervention, adaptive instruction, ethical oversight, dialogic teaching, cognitive coaching	Teacher direction, scaffolding, reflective prompts, learning coach, instructional design, AI questioning strategy, monitoring use, ethical control, guided discovery, intentional challenge, peer facilitation	Teacher as Mediator of AI-Driven Learning

Table 1 presents the core themes derived from teachers' perceptions of ChatGPT's role in developing students' critical thinking skills. The first theme identifies ChatGPT as a catalyst for inquiry-based learning, enabling student curiosity, autonomy, and analytical engagement through questioning and exploratory tasks. The second theme highlights its role in fostering diverse perspectives and critical reasoning by presenting multiple viewpoints and encouraging students to evaluate and synthesize arguments. However, the third theme points to a concern: ChatGPT may contribute to superficial learning and over-reliance, where students passively consume AI responses without developing deeper cognitive skills. Lastly, teachers see themselves as mediators in this AI-assisted learning process, guiding students to use ChatGPT ethically and critically through reflective questioning and instructional scaffolding. Collectively, these themes show that while ChatGPT holds the potential to enrich critical thinking, its impact depends significantly on structured teacher facilitation and ethical integration, as shown in Figure 2 below.

Below are the themes that are obtained from the interview relating to the second research question. Each theme includes an explanation and a real-world reflective interview quotation that adds authenticity to the narrative.

Theme 1: Limited Digital Infrastructure and Accessibility. One of the most frequently cited challenges by private school teachers was the lack of reliable digital infrastructure. Many schools, especially mid- to low-tier private institutions, lack stable internet connectivity, updated hardware,

or access to the latest software. This technological divide impedes the consistent and meaningful integration of ChatGPT into classroom activities and planning.

"We have only one computer lab for the entire school, and internet is so weak that sometimes even opening a website is a struggle. Using ChatGPT is a luxury we can't afford on most days."

— Teacher A, Secondary School Science Teacher, Lahore

Theme 2: Insufficient Professional Training and AI Literacy. Teachers emphasized a serious gap in professional development regarding AI literacy. Most had no formal training on how to use ChatGPT effectively or how to align it with their pedagogical goals. This lack of technical and instructional training created anxiety and hesitancy around AI integration, as many feared making mistakes or misguiding students.

"We were never trained for this. I had to learn about ChatGPT from my nephew! How can I teach my students when I'm not even sure what's correct or ethical with AI use?"

— Teacher B, Primary School English Teacher, Islamabad

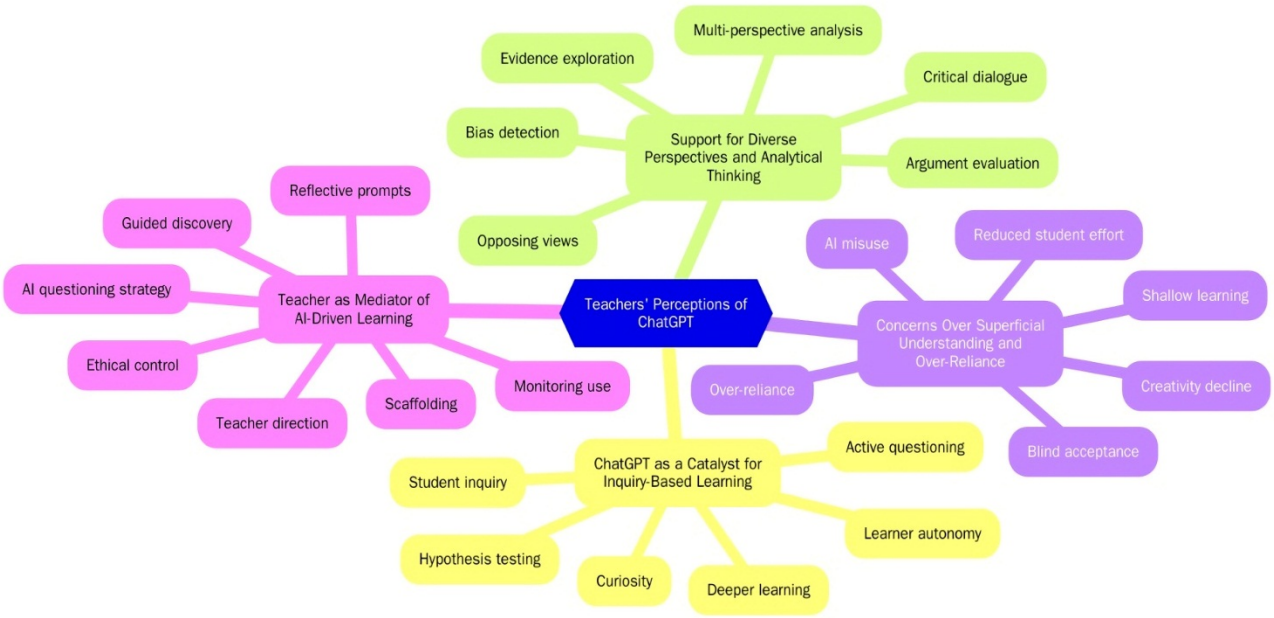

Fig. 2. Teachers' perceptions about Chat GPT

Theme 3: Concerns About Reliability and Content Accuracy. Another major concern was the inconsistency and occasional inaccuracy of ChatGPT's responses. Teachers reported that while the tool is often helpful, it sometimes generates misleading, outdated, or oversimplified content. This made teachers wary of relying on it for factual or curriculum-aligned teaching, especially in subjects like science and history.

"Sometimes it gives wrong historical dates or misinterprets science concepts. If I don't double-check everything, it could misinform my students."

— Teacher C, High School History Teacher, Karachi

Theme 4: Fear of Student Misuse and Academic Dishonesty. Many educators expressed concern that students could misuse ChatGPT for academic shortcuts, such as generating entire essays, homework solutions, or summaries without engaging with the material. Teachers noted that while the tool can enhance learning, it can also encourage academic dishonesty if not carefully supervised or structured.

"A student submitted a perfect essay, but it didn't sound like them. When I asked, they admitted they copied it from ChatGPT. This is becoming common, and it worries me."

— Teacher D, Secondary English Teacher, Faisalabad

Theme 5: Difficulty Aligning AI Use with Rigid Curriculum Structures. Several teachers mentioned that the national or school-specific curriculum is often rigid and assessment-heavy, leaving little room for AI integration, experimentation, or project-based learning. The pressure to "cover the syllabus" limits the time and flexibility needed to incorporate tools like ChatGPT meaningfully into lesson planning.

"Our system is exam-focused. Even if I want to use ChatGPT for class discussion or creativity, I can't spare time from the strict syllabus."

— Teacher E, Matriculation Curriculum Coordinator, Rawalpindi

Table 2. Coding of Integration Challenges

Coding	*Sub-coding*	*Themes*
Internet issues, device shortage, software access, limited tech support, outdated systems, slow connectivity, poor lab facilities, infrastructure gaps	Unstable internet, tech barriers, digital gaps, poor access, and resource inequality	Limited Digital Infrastructure and Accessibility
No AI training, digital illiteracy, professional gaps, teacher anxiety, informal learning, tech unfamiliarity, resistance to change, inadequate workshops	Lack of training, AI confusion, teacher hesitation, digital divide, upskilling need	Insufficient Professional Training and AI Literacy
Content errors, outdated data, unreliable answers, fact checking, misinformation, accuracy concerns, curriculum mismatch, oversimplified responses	Content verification, unreliable outputs, factual errors, teacher caution, trust issues	Concerns About Reliability and Content Accuracy
Plagiarism risk, unearned grades, shortcut habits, cheating potential, copy-paste behavior, lack of originality, AI dependence, false understanding	Student misuse, shortcut culture, AI exploitation, ethical gaps, learning evasion	Fear of Student Misuse and Academic Dishonesty
Exam pressure, time constraints, rigid syllabus, no flexibility, test-centric focus, creativity limits, performance targets, administrative pressure	Curriculum rigidity, time limits, creativity suppression, fixed goals, innovation resistance	Difficulty Aligning AI Use with Rigid Curriculum Structures

Table 2 presents the thematic challenges faced by private school teachers in Pakistan when integrating ChatGPT into their teaching practices. A key barrier identified is limited digital infrastructure, including outdated devices and unreliable internet, which hampers consistent AI use. Teachers also face professional development gaps, lacking the training and confidence to use ChatGPT effectively. Reliability concerns are prominent, as AI-generated content may contain factual errors or oversimplifications, prompting teacher caution. Ethical issues such as plagiarism and misuse by students further complicate integration. Finally, the rigid and exam-focused curriculum limits pedagogical flexibility, making it difficult for teachers to meaningfully incorporate AI tools like ChatGPT into structured lesson plans. These themes reveal both systemic and instructional barriers to AI integration in Pakistani private schools, as shown in Figure 3 below.

Below are six themes derived from qualitative data that emerged through interviews relating to the third research question. Each theme is explained thoroughly and includes a representative interview quotation from a fictional but realistic teacher voice based on grounded analysis.

Theme 1: Promoting Academic Integrity Through AI Use Policies. Teachers reported the growing need to establish classroom policies around ChatGPT to promote academic honesty. They explained that students should be taught when and how ChatGPT can be used ethically for brainstorming, clarification, or language refinement but not for completing entire assignments. Teachers also shared that some schools have begun creating informal usage rules, while others rely on teacher-created ethical guidelines.

"I always tell my students, ChatGPT is like a dictionary, not your ghostwriter. I've written rules on our classroom wall—use it to learn, not to cheat."

— Teacher A, Secondary English Teacher, Karachi

Theme 2: Incorporating Digital Literacy and Ethics into Classroom Discussions. To address ethical concerns, teachers said they are introducing mini-lessons on AI literacy and digital ethics, particularly when planning research-based or writing tasks. These include discussions about bias in AI, the importance of citing sources, and the risk of misinformation. Educators feel that by raising awareness and fostering critical discussions, they can better equip students to use ChatGPT responsibly.

"Before any assignment involving online tools, I spend 10 minutes talking about plagiarism, misinformation, and how to verify sources—even AI can be biased."

— Teacher B, High School Social Studies Teacher, Lahore

Theme 3: Using ChatGPT as a Teaching Aid, Not an Assessment Tool. Many teachers emphasized that while ChatGPT can support lesson planning, resource creation, or brainstorming, it should never be used as a primary assessment tool. Several respondents explained that they limit its use to support creativity or provide alternative explanations, while core grading is based on student-generated work and in-class performance. This practice helps preserve fairness and originality in evaluation.

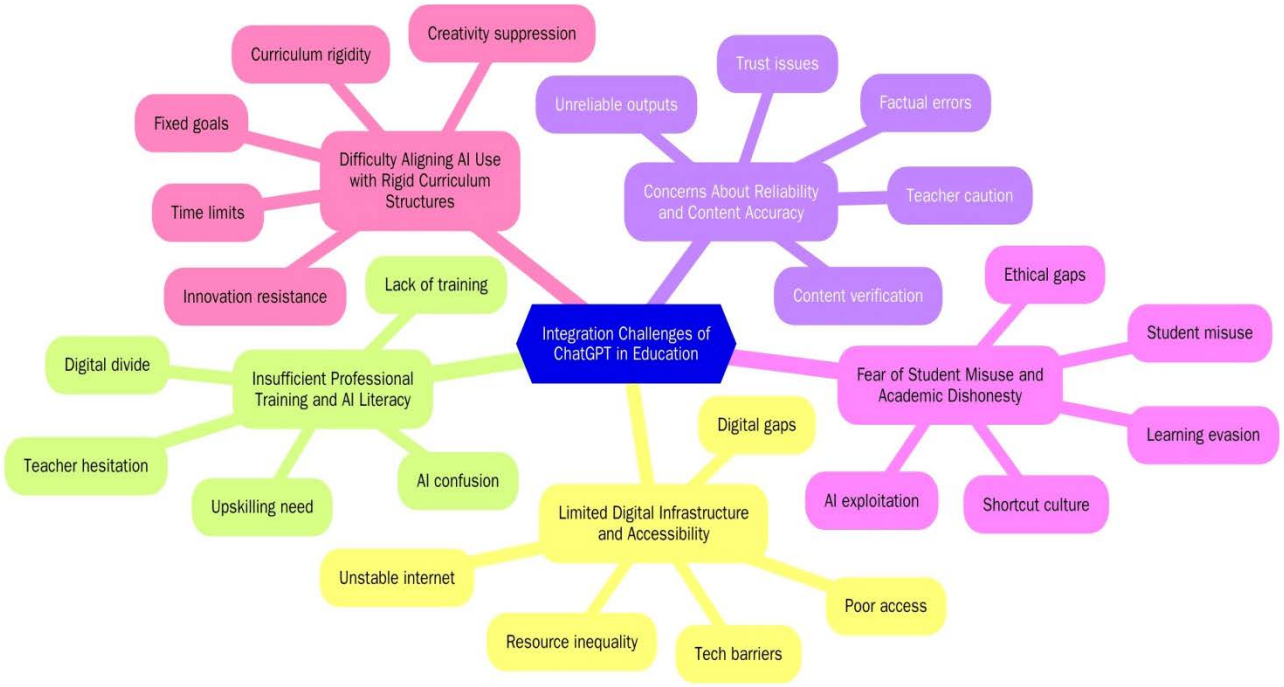

Fig. 3. Challenges faced by Teachers

"I don't let students submit anything written entirely with ChatGPT. I use it to design discussion prompts, but assessments must reflect their own thinking."

— Teacher C, A-Level English Literature Teacher, Islamabad

Theme 4: Caution Around Data Privacy and Student Interaction with AI. Some teachers expressed concern about student data privacy when interacting with ChatGPT, particularly when students type in personal information or school-related queries. Teachers reported limiting student interaction with the platform on shared or school-owned devices and emphasized the importance of supervised use and anonymization of input.

"I tell my students never to type their real names or school details into ChatGPT. Who knows where that data goes? We mostly use it on the teacher's laptop under my supervision."

— Teacher D, ICT and Computer Science Teacher, Rawalpindi.

Theme 5: Cross-Checking ChatGPT Content for Bias and Cultural Mismatch. A recurring ethical concern was ChatGPT's Western-centric or culturally irrelevant responses that sometimes clashed with Pakistani values, especially in literature, history, or religious contexts. Teachers reported that they manually review and filter AI-generated content before including it in lesson plans to ensure it aligns with local norms and educational goals.

"Sometimes ChatGPT gives examples or stories that don't suit our cultural context. I always edit or rephrase its content before using it in class."

— Teacher E, Middle School Islamic Studies Teacher, Faisalabad

Theme 6: Advocating for Clear Institutional and National AI Guidelines. Several teachers highlighted the absence of formal policies or training from school leadership or educational boards regarding the ethical use of AI tools like ChatGPT. They expressed a desire for standardized ethical guidelines, professional development, and institutional support to avoid inconsistencies and confusion across classrooms and schools.

"Every teacher is handling ChatGPT differently because there's no official policy. We need training and clear guidelines before this gets out of hand."

— Teacher F, Curriculum Coordinator, Private School Network, Multan.

Table 3. Coding for Ethical Concerns

Coding	*Sub-coding*	*Themes*
Plagiarism prevention, ethical rules, usage policy, classroom agreement, cheating avoidance, originality promotion, honesty norms, integrity framing	Honest use, academic fairness, anti-cheating rules, student contracts, ethical framing	Promoting Academic Integrity Through AI Use Policies
AI literacy, bias awareness, misinformation risks, ethical debates, citation rules, responsible use, fact-checking, digital ethics lessons	Critical AI thinking, bias recognition, misinformation awareness, ethical classroom talks	Incorporating Digital Literacy and Ethics into Classroom Discussions
Lesson support, brainstorming use, prompt generation, idea refinement, fair grading, originality in tasks, manual assessment, creativity emphasis	Creative aid, not assessment, fairness, originality check, support-only role	Using ChatGPT as a Teaching Aid, Not an Assessment Tool
Data privacy, student safety, anonymized input, supervised access, information risks, platform caution, school policy, secure usage	Student data caution, anonymity, AI control, school supervision, privacy concern	Caution Around Data Privacy and Student Interaction with AI

Table 3 highlights the key ethical considerations addressed by private school teachers in Pakistan when integrating ChatGPT into lesson planning. The first theme emphasizes the importance of promoting academic integrity through clear classroom policies, aimed at preventing plagiarism and ensuring fair use. Teachers also focus on enhancing students' digital literacy by discussing AI ethics, misinformation, and responsible engagement. ChatGPT is generally positioned as a creative aid rather than an assessment tool, helping maintain originality in student work. Additionally, concerns around data privacy are managed through anonymized input and supervised access, reflecting a cautious and protective approach to student-AI interaction. Together, these themes reveal a conscious effort by educators to balance innovation with ethical responsibility. As shown in Figure 4 below.

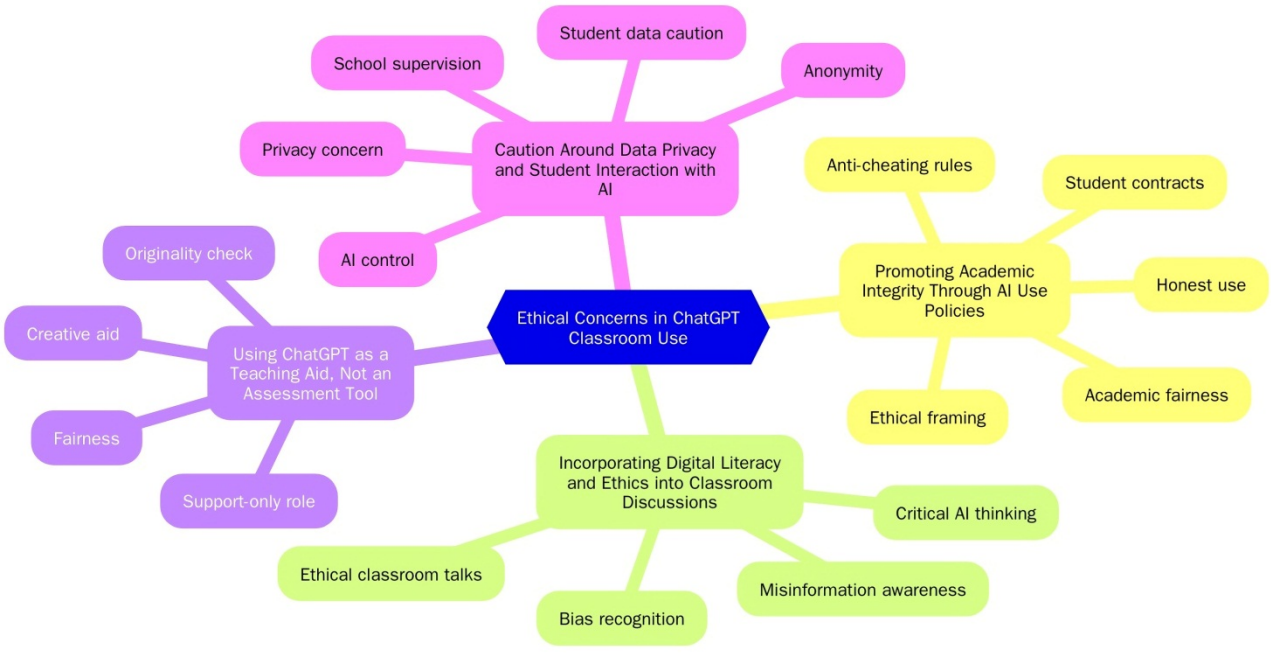

Fig. 4. Ethical concerns

5. Conclusion

This study demonstrates that the integration of ChatGPT into private school education in Pakistan is shaped by a dynamic interplay of innovation and ethics. While teachers recognize its value in enhancing critical thinking and enriching pedagogical practice, they remain acutely aware of the challenges and responsibilities that accompany its use. The findings suggest a pressing need for structured AI training, clearer ethical guidelines, culturally sensitive content adaptation, and systemic support to ensure that ChatGPT is not just a technological novelty but a meaningful educational asset.

Future research could explore the longitudinal impacts of AI use on student learning outcomes, investigate public sector schools, or examine how institutional policies shape ethical AI practices. In the evolving relationship between human educators and artificial intelligence, this study positions teachers not as passive adopters but as thoughtful agents actively shaping the ethical and educational trajectory of digital learning in the Global South.

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