EXPLORING STUDENTS' AND TEACHERS' EXPERIENCES WITH AI TOOLS IN ONLINE LEARNING ENVIRONMENTS

Dr. Aruna K[1], R. Jayashree[2]

[1]Centre for Distance and Online Education, Manipal University Jaipur, Rajasthan, India.

[2]Assistant Professor, Department of Management Studies, Easwari Engineering College, Chennai, Tamil Nadu, India.

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[1]Assistant Professor, Centre for Distance and Online Education, Manipal University Jaipur, Rajasthan, India. ORCID no: 0000-0002-4519-7236 ID: https://orcid.org/0000-0002-4519-7236

[2]Assistant Professor, Department of Management Studies, Easwari Engineering College, Chennai, Tamil Nadu, India. ORCID no: 0000-0006-5456-1665 ID: https://orcid.org/0009-0006-5456-1665

Abstract: *The integration of Artificial Intelligence (AI) into online education is rapidly transforming teaching and learning practices worldwide. This qualitative study explored how students and teachers perceive and experience AI tools in digital learning environments. Using semi-structured interviews with 40 participants— 20 students enrolled in international online programs and 20 teachers from Indian and international open and distance learning institutions— the study examines perceived benefits, challenges, and ethical considerations. Thematic analysis identified five dominant themes: Empowerment and Efficiency, Pedagogical Innovation, Ethical Ambivalence, Erosion of Creativity, and the Need for Digital Ethics and AI Literacy. The findings suggest that while AI enhances efficiency, personalization, and academic confidence, it also raises concerns about academic integrity, emotional disconnect, and reduced originality. This study proposes a conceptual model emphasizing the importance of balancing technological efficiency with human empathy in AI-enabled education. These implications highlight the need for AI literacy, ethical guidelines, and human-centered pedagogical approaches.*

Keywords: *Artificial Intelligence, online learning, qualitative research, teacher experience, student perception, AI ethics, distance education*

1. Introduction

The rapid growth of Artificial Intelligence (AI) has reshaped the landscape of higher education, positioning digital tools at the center of teaching, learning, and academic support systems. From automated feedback and adaptive learning pathways to conversational agents such as ChatGPT, AI has evolved from supplemental technology into an integrated cognitive partner within online and blended learning environments. As universities increasingly transition toward digital and

hybrid ecosystems, AI tools are becoming essential for enhancing accessibility, personalization, and learner engagement (Alshahrani, 2023).

The COVID-19 pandemic has dramatically accelerated this shift. What began as an emergency response to maintain academic continuity soon transformed into a broader rethinking of pedagogical possibilities (Adeniyi et al., 2024). Institutions worldwide now rely on AI-powered learning management systems, proctoring tools, automated writing support systems, and predictive analytics to support student retention and progression (Dong, 2023) (Holmes et al., 2021). This expansion has produced an environment in which students and teachers routinely interact with AI, often without fully understanding its implications, capabilities, or limitations.

However, the integration of AI into education extends beyond technological efficiency. It introduces complex pedagogical, ethical, and emotional dimensions that shape how teachers teach and students learn. For educators, AI prompts the redefinition of professional identity. Traditional instructor roles centered on content delivery and manual evaluation are being supplemented, or in some cases replaced, by intelligent systems that generate assessments, guide feedback, and monitor learner performance (Budhwar et al., 2022; Dwivedi et al., 2019). Educators must navigate tensions between leveraging AI for innovation and preserving human judgement, empathy, and creativity within digital classrooms.

Similarly, students experience AI as both an enabler and a disruptor. Although AI tools offer clarity, scaffolding, and efficiency, they also challenge students' perceptions of authorship, intellectual ownership, and academic honesty (Lewis et al., 2020; Schön et al., 2023). Generative AI can support reflection and problem solving, yet it can also diminish originality and over-standardize academic writing when used uncritically (Bleakley*, 2004; Creely, 2024) (Kasneci et al., 2023). This duality has led to new anxieties about fairness, plagiarism, authenticity, and emotional disconnect that may arise when human instructor feedback is replaced by algorithmic responses.

Despite the widespread adoption of AI tools, a significant gap remains in the understanding of the *lived experiences* of those engaging with these technologies on a daily basis. Much of the existing literature emphasizes technical capabilities, system performance, and institutional implementation strategies (H Al-Khresheh, 2024). Far less is known about how teachers and students *feel*, *interpret*, and *interpret AI during* their online learning journeys. This gap is especially critical in

the context of open and distance learning (ODL), where reliance on technology is inherently higher and human–machine interaction is more pronounced.

Purpose of the Study

The purpose of this study is to explore the lived experiences of students and teachers using AI tools in online and blended learning environments. Grounded in a qualitative phenomenological design, this research aims to capture the nuanced emotional, cognitive, and ethical tensions that arise through AI-mediated education.

This study specifically seeks the following:

- Examine how teachers perceive and adapt to AI-supported teaching environments.
- Understand how students interpret the value and challenges of AI assistance in their learning processes.
- Identifying the ethical, emotional, and pedagogical concerns surrounding AI use in education.

Research Questions

- How do teachers experience the integration of AI tools in online or blended learning environments?
- How do students perceive the role of AI in supporting online learning?
- What ethical and emotional implications arise from the increasing reliance on AI in education?

By addressing these questions, this study contributes to the growing discourse on AI-enabled learning by foregrounding human experiences that are often overshadowed by technological narratives. The findings provide deep insights into how AI reshapes not only learning processes but also the identities, responsibilities, and emotions of learners and educators in digital spaces.

2. Review of Literature

The integration of Artificial Intelligence (AI) into higher education has generated extensive scholarly attention over the past decade. Research has examined AI's potential of AI to enhance learning efficiency, support instructional design, and enable data-driven decision making. However, the literature also reveals substantial gaps in understanding the *human dimensions* of AI adoption, particularly the subjective experiences, emotions, and ethical tensions faced by students

and teachers in digital learning environments. This review synthesizes existing research across four major domains: (a) AI and the transformation of online learning, (b) teachers' experiences with AI integration, (c) students' perceptions of AI in learning, and (d) ethical and emotional considerations.

2.1 AI and the Transformation of Online Learning

AI has significantly reshaped digital learning ecosystems through automation, personalization, and predictive analytics. Adaptive learning platforms such as Coursera, Khan Academy, and edX use machine learning algorithms to tailor content pathways based on learner performance (Gligorea et al., 2023; Seo et al., 2021). Such platforms enhance efficiency, support differentiated instruction and provide real-time insights into student engagement. AI-enabled systems can deliver personalized microlearning experiences, automate tutor-like feedback, and support large-scale online or blended education models (Onesi-Ozigagun et al., 2024).

However, scholars have also warned that, while AI advances instructional scalability, it risks reducing the relational and affective elements of education. The increasing reliance on algorithmic governance may shift education toward mechanistic efficiency at the expense of human empathy, creativity, and critical reflection (Ampuero et al., 2013). The literature thus positions AI as both a transformative force and a potential disruptor, raising questions about the evolving role of human judgement in educational processes.

2.2 Teachers' Experiences with AI Integration

Teachers' experiences with AI are complex and paradoxical. Research shows that educators appreciate AI's capacity to reduce administrative burden, support assessment, and enhance instructional quality (Singh et al., 2024; Walter, 2024). Automated grading tools, plagiarism detection software, and AI-driven learning analytics allow instructors to focus on mentoring, creative planning, and personalized feedback (Eager & Brunton, 2023). Studies in Asian and global higher education contexts have confirmed that educators perceive AI as a partner for improving teaching efficiency and student engagement (Salameh, 2025).

However, teachers also report significant challenges. Concerns include:

- Uneven digital literacy and readiness
- Loss of professional autonomy

- Over-dependence on algorithmic recommendations
- Misalignment between AI suggestions and instructional goals
- Anxiety about academic integrity breaches facilitated by generative AI

Similarly, some educators fear that AI-generated lesson plans or content templates may lead to homogenized pedagogy, thereby weakening the creative, contextual, and relational aspects of teaching. These tensions illustrate the need for AI-specific professional development and institutional guidelines that support thoughtful and informed use.

2.3 Students' Perceptions of AI in Learning

Emerging research indicates that students experience AI tools as both empowering and problematic. AI systems, such as ChatGPT, enhance learner confidence, offer accessible explanations, and scaffold complex cognitive tasks (Liu et al., 2024). Students often describe AI as a "study companion" that supplements instructor feedback and supports revision, time management, and academic writing.

However, students also expressed concerns regarding:

- Reduced originality in writing
- Over-reliance on automated responses
- Uncertainty about what constitutes plagiarism
- Emotional detachment associated with automated feedback
- Algorithmic bias and the impersonality of machine-generated guidance

Previous research suggests that when students rely excessively on AI-generated solutions, they risk diminishing their critical thinking, analytical depth, and reflective capacity (Chavez et al., 2024). More recent studies have highlighted the growing confusion among students about the acceptable boundaries of AI use, particularly in contexts where institutions lack clear policies or guidance (Song, 2024).

2.4 Ethical and Emotional Dimensions of AI in Education

Ethical debates play a central role in contemporary AI scholarships. Key concerns include transparency, accountability, bias, intellectual property, and data privacy (Limongi, 2024). Generative AI tools complicate the traditional norms of authorship and originality. The students

and teachers often struggle to distinguish between legitimate assistance and academic misconduct when using AI (Perkins, 2023; Song, 2024).

Emotional dimensions are equally important. Studies have shown that AI-mediated learning environments can evoke conflicting feelings, such as excitement about technological possibilities paired with anxiety about authenticity, fairness, and instructor expectations (A. R. Malik et al., 2023). While AI provides immediate support, it cannot replicate human empathy, relational understanding, or socio-emotional sensitivity, all of which are crucial for meaningful learning (Creely, 2024). This body of literature signals the need for holistic AI literacy that includes not only technical competence, but also ethical awareness and emotional intelligence.

2.5 Research Gap

Existing scholarship largely examines AI's functional or technical outcomes rather than the *lived experiences* of those who use AI tools daily (Knoth et al., 2024). Studies tend to focus on system performance or institutional adoption, with limited attention paid to the subjective, emotional, and ethical complexities encountered by learners and educators. Furthermore:

- Few studies have explored these experiences using qualitative phenomenological approaches.
- Research focusing on both teachers and students remains scarce.
- AI experiences in open and distance learning (ODL) contexts are underrepresented.
- Cross-cultural perspectives, especially comparing Indian and global contexts, have been insufficiently explored.

This study addresses these gaps by offering a rich, qualitative account of students' and teachers' experiences with AI in digital learning ecosystems, thereby contributing new insights into the human–AI interface in contemporary education.

2.6 Conceptual Foundation

This study is grounded in three interrelated theoretical perspectives that explain how teachers and students experience AI within online learning environments: (a) sociomateriality, (b) post-digital pedagogy, and (c) cognitive and ethical load perspectives. These frameworks provide a conceptual basis for interpreting how AI tools influence human agency, learning relationships, and academic identity.

2.6.1 Sociomateriality

Sociomateriality posits that human activity and technological tools are deeply entangled, forming networks in which agency is shared between people and digital artifacts (Dinnar et al., 2021). Within AI-mediated learning

- AI tools shape how students write, think, and interpret their academic tasks.
- Teachers' decisions regarding feedback, assessment, and content design are influenced by AI-generated prompts and analytics.
- Learning becomes a product of human–machine co-performance rather than purely human cognition.

This perspective supports the notion that AI is not merely a neutral tool, but also an active participant that reconfigures educational practices, ethical norms, and power structures.

Conceptual Foundation
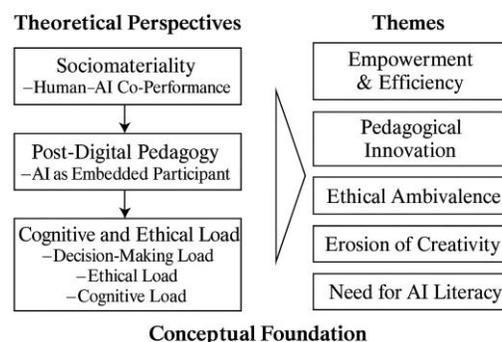
2.6.2 Post-Digital Pedagogy

Post-digital theory argues that technology is no longer separate from human learning; it is embedded, invisible, and inseparable from contemporary educational experiences (Han et al., 2023; Van Compernolle & Henery, 2014) (Fawns, 2019). In this view, AI becomes

- A partner in meaning-making
- A collaborator in content creation
- A mediating force shaping the dynamics of teaching and learning

Post-digital pedagogy highlights the need to move beyond simple technological optimism and instead focus on the human experiences, emotions, and power relations introduced by AI (Hodgson et al., 2021). This aligns with the themes of this study, particularly ethical ambivalence and creative erosion.

2.6.3 Cognitive and Ethical Load Perspectives

The cognitive load literature provides insights into how AI tools influence learners' mental effort and processing capacity (Oladele Jegede, 2024). Although AI can reduce cognitive load by simplifying complex tasks or providing instant explanations, it can also

- Introduce ethical load—emotional strain related to plagiarism concerns, authorship doubts, or fear of misusing technology
- Increase decision-making load, as students must constantly judge what constitutes acceptable AI use
- Reduce productive cognitive struggle, which is essential for deep learning

Similarly, teachers face ethical and cognitive burdens as they attempt to balance academic integrity, fairness, and responsible AI use in diverse classrooms.

2.6.4 Integrative Rationale

Together, these theoretical perspectives frame AI not simply as a tool but as a co-constitutive force in education—shaping behavior, expectations, and emotional landscapes. Sociomateriality explains how human–AI interactions redefine identities, post-digital pedagogy situates AI as an embedded pedagogical actor, and cognitive–ethical load perspectives reveal the emotional and intellectual tensions that AI produces(Chowdhury, 2024).

These frameworks collectively inform the study's methodological choice and guide the interpretation of the findings by emphasizing the following:

- The lived and relational nature of AI use
- The entanglement of human and technological agency
- The ethical and emotional complexities of AI-mediated learning

Thus, the conceptual foundation strengthens the rationale for adopting a phenomenological design and supports a deeper theory-informed understanding of participants' experiences.

3. Research Methodology

3.1 Research Design

A qualitative phenomenological approach was employed to explore how teachers and students interpret their experiences using AI tools in online education (Hsiao & Chang, 2023).

Phenomenology enables an in-depth understanding of participants' perceptions, emotions, and sense-making processes, thereby capturing the essence of their lived reality (Hsiao & Chang, 2023). This approach allowed deep engagement with participants' perceptions, emotions, and lived realities.

3.2 Participants and Sampling

Forty participants were purposefully selected: 20 students enrolled in global online programs and 20 teachers drawn from higher education institutions, 70% based in India and 30% from other countries including the UAE, the UK, and Singapore, all with experience teaching in digital learning environments. All participants were chosen based on their regular interaction with AI-driven tools, such as ChatGPT, Grammarly, Turnitin, Coursera AI tutors, and institutional learning management systems with embedded analytics.

The participant demographics are summarized in Table 1.

Table 1. Participant Demographics

Category	Students (n = 20)	Teachers (n = 20)
Gender	11 Female, 9 Male	12 Female, 8 Male
Country	10 India, 10 International (Canada, UAE, Spain, UK, Singapore)	14 India, 6 International (UAE, UK, Singapore)
Experience with AI Tools	1–2 years: 14; More than 2 years: 6	1–2 years: 12; More than 2 years: 8
Primary AI Tools Used	ChatGPT, Grammarly, Coursera AI Tutors, Turnitin	ChatGPT, Turnitin, Grammarly, LMS Analytics
Mode of Engagement	Fully Online / MOOCs	Online & Blended Higher Education

3.3 Data Collection

Data were collected through semi-structured interviews conducted through video conferencing over a three-month period. Each interview lasted 45–60 minutes. The interview protocol included open-ended questions exploring experiences with AI tools, perceived advantages and challenges, emotional responses, and ethical concerns. All interviews were recorded, transcribed verbatim, and anonymized to maintain confidentiality.

3.4 Data Analysis

A thematic analysis approach was employed(Agnihotri et al., 2023). Data were coded inductively using NVivo software to identify recurring patterns. Through iterative reading, the following five major themes emerged.

- Empowerment and Efficiency
- Pedagogical Innovation
- Ethical Ambivalence
- Erosion of Creativity
- Need for Digital Ethics and AI Literacy

Trustworthiness was ensured through member checking, peer debriefing, and maintenance of an audit trail.

3.5 Ethical Considerations

Ethical approval was obtained through institutional academic procedures aligned with global qualitative research standards. Participants provided informed consent, and confidentiality was assured. Pseudonyms were used to report verbatims.

3.6 Research Rigor

Credibility, dependability, confirmability, and transferability were established through triangulation of perspectives (students and teachers), reflexive journaling, and thick descriptions of findings. The inclusion of international participants enhanced cross-cultural validity and contextual richness.

4. Findings

Through thematic analysis of 40 in-depth interviews, five interrelated themes emerged that capture the nuanced ways in which teachers and students experience AI tools in online learning. These themes reflect the coexistence of empowerment and anxiety, innovation and uncertainty, and efficiency and empathy.

Theme 1: Empowerment and Efficiency

AI tools have consistently been described as enhancing efficiency, organization, and confidence in both teaching and learning. Teachers highlighted how AI applications streamlined grading, provided instant analytics, and reduced the administrative load (Ahmad et al., 2022). For instance, one respondent remarked:

"Earlier, feedback cycles used to take days. With AI analytics integrated into our LMS, I can see student progress instantly and adjust my approach within the same session." - T04

Students expressed similar sentiments, emphasizing how AI-driven tools helped them manage time and clarify concepts. A learner , noted:

"ChatGPT has become my study companion. It breaks complex theories into simpler explanations and gives me confidence before exams." - S11

These reflections align with the findings of Nguyen et al. (2021), who observed that AI fosters learner autonomy through adaptive support (Basri, 2020). However, a sense of empowerment is accompanied by subtle dependency. Participants reported an overreliance on AI for cognitive tasks (Agnihotri et al., 2023), echoing Selwyn's (2022) concern that automation may dilute their critical thinking. The subtheme of "productive dependency" captures this ambivalence—AI empowers users while simultaneously shaping their habits of thought and learning rhythms.

Theme 2: Pedagogical Innovation

The teachers described AI as a catalyst for rethinking pedagogy. Many have reported using AI to generate case studies, customize quizzes, and simulate real-world problems. A respondent explained:

"AI tools encourage me to be creative. I now design interactive learning tasks and allow students to co-create materials with AI assistance. It's transformed how I think about engagement." - T09

Students corroborated this by sharing how AI-enabled personalization improved their motivation. A learner, commented:

"AI recommendations helped me discover learning resources that matched my interests. It felt like my course was built just for me." - S07

This resonates with Holmes et al. (2021), who highlight AI's role of AI in fostering adaptive learning ecosystems. However, innovation was not without tension. Some teachers feared pedagogical homogenization, where AI-curated templates might limit originality. Pedagogical innovation has emerged as both a space of creativity and a constraint of conformity. Thus, the innovation narrative reflects AI's dual nature: enabling dynamic experimentation while imposing algorithmic patterns on curriculum design (A. Malik et al., 2024).

Theme 3: Ethical Ambivalence

Participants expressed uncertainty about academic integrity, responsible AI use, and unclear institutional policies. The teachers struggled to differentiate legitimate AI-aided work from inappropriate dependence. One teacher directly voiced this ambiguity:

"When students use AI to generate essays, how do we assess their understanding? The line between guidance and plagiarism is so thin now." - T12

This highlights the ethical confusion that AI has introduced into assessment practices. Students also reported feeling uncertain about what constitutes an acceptable use of AI. One student noted:

"I sometimes wonder if using AI for structuring my assignments counts as cheating, even though I still write most of it myself." - S15

This ethical ambiguity mirrors global debates about academic integrity in the age of generative AI (A. Malik et al., 2024). Participants described institutional responses as inconsistent; some universities encouraged AI use for brainstorming, while others banned it entirely. The resulting confusion points to a critical need for AI governance frameworks in higher education. Thus, the theme of ethical ambivalence captures the moral dissonance between embracing innovation and upholding integrity (Jansen & Von Glinow, 1985).

Theme 4: Erosion of Creativity

A recurring concern among participants was that excessive AI dependence could erode creative and critical capacities. Teachers noted that AI-generated lesson plans or assessments, while time-saving, sometimes "flattened" the human touch. Some participants feared that AI, despite being useful, might reduce their originality and personal expression. Teachers described AI-generated content as polished but lacking in depth or nuance (Omran Zailuddin et al., 2024).

"AI can give me ready-made materials, but they lack context, nuance, and emotion. Creativity can't be automated." - T17

This clarifies that teachers view creativity as a human-driven quality that AI cannot replicate. Students echoed this concern, highlighting how AI sometimes overshadows their authentic voice.

"Sometimes I feel my assignments look perfect but lack soul. The AI polishes everything, and I lose my personal voice." - S03

This verbatim demonstrates how AI's polished output inadvertently suppresses originality. These findings echo Selwyn's (2022) argument that AI risks standardizing intellectual expression. However, several participants acknowledged that AI can stimulate creativity when used intentionally(Fox, 2016; Paesano, 2021). The tension thus lies not in the technology itself but in its use orientation. Creativity, implied by participants, must remain a deliberate human act rather than a by-product of computational efficiency.

## Theme 5: Need for Digital Ethics and AI Literacy

Across both groups, participants emphasized the urgent need for AI literacy—not just technical competence, but also ethical and emotional awareness. Teachers expressed a desire for institutional training to better understand AI bias, data protection, and pedagogical integration. Teachers voiced the necessity for both ethical and functional AI literacy. One teacher expressed:

"We need AI literacy as much as computer literacy. Without it, we risk either fearing or misusing these tools." - T02

This demonstrates that teachers require confidence and clarity in using AI effectively. Students also highlighted the need for training.

"If universities included short modules on AI ethics and proper usage, it would reduce anxiety and misuse." - S19

This quote indicates that a lack of formal guidance creates confusion and emotional stress among learners(García Peñalvo et al., 2024). This aligns with Knox's (2020) call to embed digital ethics into educational design. The theme encapsulates participants' recognition that AI literacy is both a cognitive and moral competence, which is an essential foundation for sustainable digital education(Hara, 2025).

AI Tools In online learning
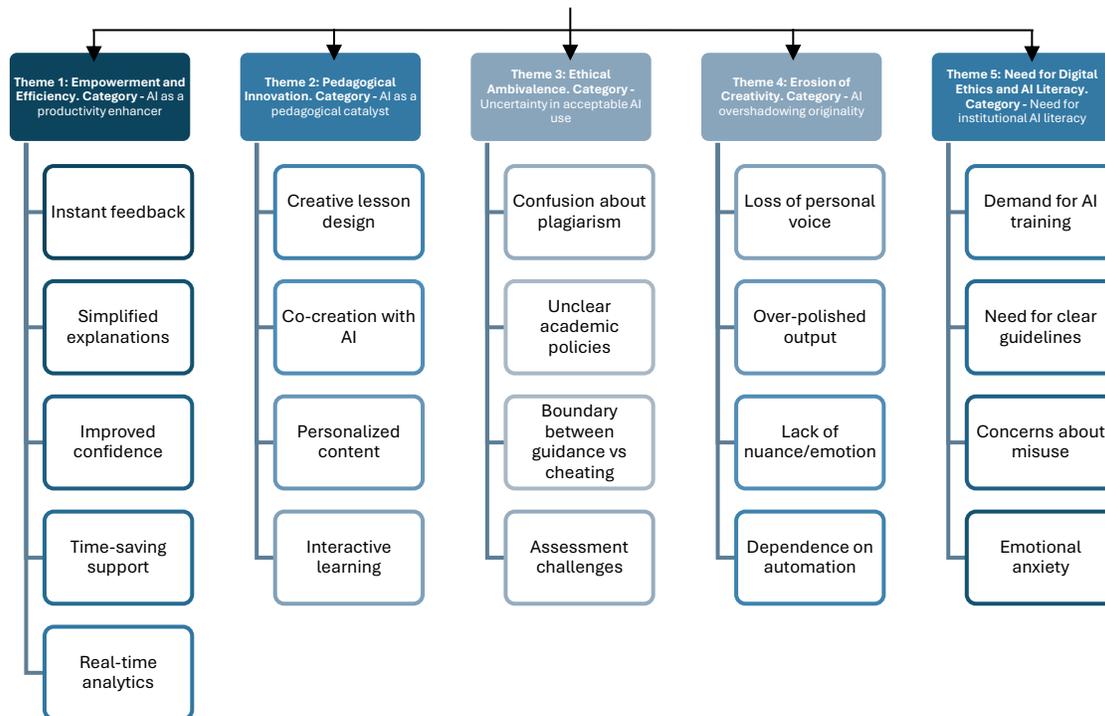
Synthesis of Findings

Collectively, the five themes reveal that AI's influence in online education is characterized by a paradox. It enhances empowerment, introduces dependency, promotes innovation, threatens creativity, and fosters engagement, yet complicates ethics. These dynamics underscore the need for a balance between algorithmic efficiency and human empathy, and between technological competence and ethical consciousness.

Theme	Code Meaning	Representative Verbatims
1.Empowerment & Efficiency	AI improves productivity, clarity, and confidence	"With AI analytics in our LMS, I can see student progress instantly and adjust my approach." — T04"ChatGPT breaks complex theories into simpler explanations and gives me confidence." — S11
2.Pedagogical Innovation	AI stimulates creative teaching &	"AI tools encourage me to be creative… it has transformed how I think about engagement." —

	personalized learning	T09"AI recommendations helped me find materials that matched my interests." — S07
3.Ethical Ambivalence	Users are unsure about what counts as 'ethical' AI use	"The line between guidance and plagiarism is so thin now." — T12"I wonder if using AI for structuring my assignment counts as cheating." — S15
4.Erosion of Creativity	AI may weaken originality and personal voice	"AI materials lack context, nuance, and emotion." — T17"My assignments look perfect but lack soul." — S03
5. Digital Ethics & AI Literacy Need	Users require training and guidelines	"We need AI literacy as much as computer literacy." — T02"Short modules on AI ethics would reduce anxiety and misuse." — S19

5. Conceptual Model of AI-Enabled Learning

The conceptual model developed in this study (illustrated in Figure 1) situates the balance between efficiency and empathy at the heart of AI-enabled education. Surrounding this equilibrium are the five major themes that interact dynamically.

- Empowerment and Efficiency – representing functional and motivational gains.
- Pedagogical Innovation – capturing transformation in teaching approaches.
- Ethical Ambivalence: highlighting moral complexity in AI use.
- Erosion of Creativity – pointing to cognitive and emotional risks.
- Need for Digital Ethics and AI Literacy – serving as a regulatory and developmental axis.

These elements form a cyclical relationship: efficiency and innovation propel AI integration, but ethical literacy and empathy sustain meaningful applications. The model implies that sustainable digital education requires institutions to design AI ecosystems where technology enhances human judgement, not replace it.

Figure 1: Conceptual Model of Balancing Efficiency and Empathy in AI-Enabled Education

5. Discussion

This study sheds light on the complex and often paradoxical experiences of teachers and students as they navigate AI-mediated online learning ecosystems.

5.1 Empowerment and Efficiency

AI in education empowers learners and educators by personalizing learning, enhancing engagement, and supporting critical thinking, while also boosting efficiency through workflow automation, improved content creation, and optimized resource use. This dual impact aligns with sustainable development goals and the evolution of educational practices in the digital age (Malakar & Leeladharan, 2024; Singh et al., 2024; Wang et al., 2022).

AI tools enhance productivity, academic confidence, and real-time feedback (Agnihotri et al., 2023). These findings align with Nguyen et al. (2021), who argued that AI supports autonomy and improves learning efficiency. However, participants' growing reliance on AI also reflects Selwyn's concern for diminishing critical thinking (Walter, 2024).

5.2 Pedagogical Innovation

Teachers have embraced AI to create dynamic, personalized learning content that adapts to individual student needs and enhances engagement and learning outcomes. This practice fosters pedagogical creativity by enabling educators to design flexible and innovative instructional approaches beyond static curricula. However, fears of homogenization echo Williamson and Eynon's (2020) warning that AI may standardize teaching materials and diminish originality (H Al-Khresheh, 2024; Sudrajad et al., 2024). AI tools facilitate real-time content adaptation, multimedia integration, and interactive learning pathways that enrich educational experiences.

However, concerns persist that AI may lead to homogenization, standardizing teaching materials and constraining originality, reflecting Williamson and Eynon's (2020) warning about potential reductions in pedagogical diversity. This tension underscores the need to balance AI-driven efficiency and personalization with preserving teacher creativity and diverse instructional methods to fully leverage AI's educational potential without stifling innovation (Mittal et al., 2024; Sun et al., 2024).

5.3 Ethical Ambivalence

Participants express ethical ambivalence in using AI in education due to uncertainties regarding plagiarism, authorship, and acceptable AI support, which raises concerns about originality and ethical transparency. This ambivalence is reflected in the lack of clear guidelines for responsible AI use, particularly regarding preventing unintentional plagiarism and clarifying AI's role in authorship attribution. Scholars emphasize the need for consensus-based policies and transparency to navigate the ethical challenges posed by AI-assisted academic writing, including issues of over-reliance and accountability (Lund & Naheem, 2023; Sharma & Ruikar, 2023; Subaveerapandiyan et al., 2025). Institutional inconsistency amplifies confusion and underscores the need for clear AI governance (Chan & Hu, 2023; A. Malik et al., 2024).

5.4 Erosion of Creativity

Both learners and educators perceive that the increased reliance on AI in education can lead to erosion of creativity due to over-automation and decreased opportunity for original problem-solving and idea generation. Learners may experience diminished creative engagement as AI tools offer ready-made solutions, reducing their critical thinking and innovative efforts. Educators, while appreciating AI's efficiencies, express concern that excessive AI use might stifle students' creative skill development and original thought processes, highlighting a need for balancing AI integration with human creativity nurturing practices (Ameen et al., 2022; Subaveerapandiyan et al., 2025). This adds nuance to Selwyn's (2022) critique by showing that AI's effect of AI on creativity is contextual and depends on how intentionally learners engage with the tool (Sanusi et al., 2022).

5.5 Need for Digital Ethics and AI Literacy

Participants emphasized the importance of AI literacy, spanning technical, ethical, and emotional competencies(Long et al., 2023). The integration of AI in education demands digital ethics to ensure responsible, fair, and transparent use, addressing privacy and bias concerns. AI literacy is crucial for students and educators to effectively engage with AI tools, enhancing learning outcomes and motivation. Digital and AI literacy also help bridge the digital divide by empowering users with essential skills. Ethical frameworks and literacy training support safe, inclusive AI adoption in education. Together, they enable effective, equitable, and trustworthy AI-enhanced learning environments (H N et al., 2024; Joseph et al., 2024; Saurabh et al., 2021; Singh et al., 2024). This extends argument by recognizing that students also need affective literacy: confidence, self-regulation, and responsible decision-making(Singh et al., 2024).

Visual Summary of Key Insights

Theme	What AI Enhances	What AI Risks
Empowerment & Efficiency	Productivity, confidence	Cognitive dependence
Pedagogical Innovation	Personalization, engagement	Teaching homogenization
Ethical Ambivalence	Guidance and support	Integrity ambiguity
Erosion of Creativity	Idea generation	Loss of student voice
AI Literacy Need	Responsible usage	Anxiety, misuse

5.6 Cross-Cultural Perspectives on AI Adoption

Cultural differences have shaped AI experiences. Indian teachers expressed stronger concerns about academic misconduct and overreliance on AI, reflecting an exam-centric academic culture. International participants emphasized intellectual property, data privacy, and transparency, consistent with stricter global regulations such as GDPR (Delello et al., 2025; Khatri & Karki, 2023). Students in India used AI more frequently for language improvement and conceptual explanations, whereas international students demonstrated more cautious experimentation. These variations highlight the need for a culturally responsive AI policy.

6. Conclusion and Implications

This study explored the lived experiences of students and teachers using AI tools in both online and blended learning environments. Through a phenomenological approach, five themes emerged:

Empowerment and Efficiency, Pedagogical Innovation, Ethical Ambivalence, Erosion of Creativity, and the Need for Digital Ethics and AI Literacy. Together, these findings illustrate that AI in education is neither purely enabling nor purely disruptive; rather, it creates a dynamic learning ecosystem shaped by technological possibilities, human emotions, expectations, and ethical concerns (Silva & Janes, 2020).

Overall, this study shows that AI enhances efficiency, personalization, and access to learning support, allowing learners to feel more confident and teachers to design richer pedagogical experiences. Simultaneously, AI can introduce ethical uncertainty, reduce opportunities for creativity, and generate emotional tensions related to fairness, authenticity, and appropriate use (Akgun & Greenhow, 2021). These dualities highlight the need for balanced, human-centered approaches to AI adoption.

6.1 Implications for Educators

These findings suggest that teachers must reenvision their instructional roles in the presence of AI. Rather than viewing AI as a replacement for pedagogy, educators can leverage it as a co-teaching partner that enhances creativity, enables data-driven insights, and supports personalized feedback (Dincer & Bal, 2024). However, this requires the following:

- Professional development in AI literacy
- Clear understanding of ethical boundaries
- Ability to critically evaluate AI-generated content
- Commitment to maintaining emotional connection and empathy in digital classrooms

Teachers can use AI to free time from repetitive tasks, allowing them to invest more effort into mentorship, relational teaching, and human judgment areas where AI cannot substitute human expertise.

6.2 Implications for Students

Students benefit from AI's ability to simplify complex content, provide instant clarification, and support academic confidence (Cui & Alias, 2024; García Peñalvo et al., 2024). However, to prevent overdependence, institutions should:

- Embed structured AI-ethics modules into orientation and first-year programs
- Teach students how to evaluate AI outputs critically

- Promote use of AI for augmentation rather than replacement
- Guide students to maintain their unique academic voice

Supporting students through explicit AI literacy training can help reduce anxiety and encourage responsible use.

6.3 Implications for Institutions and Policy

At the institutional level, the study highlights an urgent need for:

- Clear AI use policies
- Transparent guidelines on plagiarism and authorship
- Institution-wide training programs for both staff and students
- Ethical frameworks addressing bias, privacy, and fairness

Institutions must recognize that inconsistent or vague guidelines increase confusion and ethical stress among learners and instructors. Developing unified and culturally sensitive AI policies can support fairness, clarity, and integrity in academic work.

6.4 Theoretical Implications

This study theoretically contributes to AI-enabled learning by applying sociomateriality, post-digital pedagogy, and cognitive/ethical load perspectives. These findings demonstrate how AI becomes a co-constitutive actor in shaping academic identity, influencing creativity, and mediating emotional and ethical experiences. The concjudgementodel proposed in this study adds a balanced perspective to how educational ecosystems can harmonize efficiency with empathy.

6.5 Limitations and Directions for Future Research

While this study provides rich qualitative insights, its scope is limited to a specific sample of online learners and educators. Future research could:

- Use longitudinal designs to track evolving AI experiences over time
- Compare AI usage patterns across countries or cultural groups
- Investigate disciplinary differences in AI adoption
- Explore students' emotional responses to AI through mixed methods
- Examine institution-level implementation challenges in depth

Expanding to diverse contexts will help build a broader evidence-based understanding of how AI is transforming education.

6.6 Final Reflection

The findings emphasize that AI tools are most successful when embedded within a pedagogical ecosystem grounded in human connections, empathy, and ethical responsibility. AI can enhance learning but cannot replace the relational, critical, and creative dimensions of education. To truly harness AI's potential, educators, students, and institutions must focus on cultivating digital ethics, strengthening AI literacy, and designing learning environments where technology supports, not substitutes, human values.

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