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Research Article

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Teachers' professional identity in the era of artificial intelligence: A phenomenological study

Akilu Isma'il [1]*, Halimat Bashir Ibrahim [2]

[1] Department of Science Education, Faculty of Education, Federal University Gusau, Gusau, Zamfara State, NIGERIA
[2] Kaduna State Ministry of Education, Government Secondary School Magajiya, NIGERIA
***Corresponding Author:** akilu@fugusau.edu.ng

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ABSTRACT

This study adopted a phenomenological research design to examine the lived experiences of teachers regarding their professional identity in response to the rapid expansion of artificial intelligence (AI) integration in education. The study involved thirty purposively selected teachers as participants. Data were collected through in-depth semi-structured interviews and analyzed using thematic analysis. Member checking was used to validate the findings. Data analysis followed a systematic phenomenological process, comprising thematic clustering, and synthesis of core themes. Trustworthiness was ensured through member checking, peer debriefing, and maintaining an audit trail. Five themes emerged from the findings; evolving professional roles, diverse emotional responses, emerging patterns of teacher-AI partnership, tensions between teacher autonomy and standardized instruction, and a redefinition of professional identity. The study revealed that teachers initially feared role erosion but gradually recognized the potential for AI to support, rather than replace, their teaching. Majority of the participants reported a transformation in their professional identity that signify a shift from traditional instruction toward facilitation in AI-mediated environments. It was recommended, among others, that rather than undermining the role of teachers, AI should be positioned to advance their professional identity within the classroom environment.

Keywords: teacher professional identity, artificial intelligence, integration in education, human-AI relationship, professional development

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INTRODUCTION

The rapid integration of artificial intelligence (AI) into education is transforming the professional identity for teachers. From automated assessments to adaptive learning systems, AI is not just a tool but a force reshaping how teachers perceive and perform their roles (Adekunle et al., 2024; Alejandro et al., 2024; Govender & Ramatea, 2025; Muslim, 2020; Tan et al., 2025; Runge et al., 2025; Uwosomah & Dooly, 2025). The use of AI in education represents a major transformation in how teaching and learning are carried out (Meylani, 2024). According to Korchagin and Lobanova (2025), professional identity strongly influences job satisfaction, stress resilience, and motivation for ongoing development, especially in roles involving direct human interaction and evolving skill demands. Teachers' professional identity, which refers to their self-perception and how they are viewed within the profession, is shaped by changes in context, particularly advancements in technology (Arcos et al., 2025; Beauchamp & Thomas, 2009; Irani et al., 2020; Jingbo & Siwei, 2025). As AI increasingly mediates planning, delivery, and assessment, teachers are prompted to reflect on their relevance and redefine their professional purpose. This transformation challenges longstanding conceptions of teachers as pedagogical experts and moral agents (Day, 2002). As AI takes on instructional or evaluative functions, teachers may experience professional dissonance, feeling de-skilled or displaced (Aghaziarati et al., 2023). The result is a complex negotiation of identity, where teachers oscillate between roles such as facilitator, data analyst, and ethical gatekeeper of algorithmic systems.

Teacher identity is also socially constructed and relational (Aghaziarati et al., 2023; Irani et al., 2020; Jingbo & Siwei, 2025). When policy frames AI as a tool for "efficiency" or "precision," it can marginalize the emotional and relational labor essential to teaching (Adekunle et al., 2024; Biesta, 2015). Teachers may internalize these narratives, altering their self-perception. Moreover, AI systems are not neutral, they embody the values of their designers (Selwyn, 2019), requiring teachers to ethically recognize systems that may clash with their values. These challenges occur within broader structures, such as neoliberal accountability regimes, where teachers are held responsible for outcomes shaped by opaque AI systems (Ball, 2016). This leads to what Hargreaves (1998) terms "intensification," where demands increase without corresponding autonomy. However, not all experiences are negative. Some teachers reframe AI as a tool for growth, adopting hybrid identities as "techno-pedagogues" (Malakar & Gope, 2022). Runge et al. (2025) also reported that pre-service teachers view AI not as a threat, but as a partner in reimagining education.

Phenomenology is well suited for investigating these experiences, as it centers the lived realities and meaning-making processes of individuals (van Manen, 1997). According to Lester (1999), the purpose of the phenomenological approach is to shed light on specific phenomena by exploring how they are perceived and experienced by individuals within a given context. Thus, the approach helps to examine how teachers emotionally and cognitively respond to the ontological shift posed by AI. Identity is shaped by self-narratives and external expectations (Irani et al., 2020), both of which are disrupted in AI-driven circumstances (Kelchtermans, 2009; Korchagin & Lobanova (2025). Many studies explore AI's technical applications in education, but few examine its influence on teachers' professional identity, particularly in Nigeria. Isma'il et al. (2024) emphasize preparing teachers for AI-driven classrooms where roles and self-perceptions are reshaped. Similarly, Adigun et al. (2025) revealed how pre-service teachers' readiness to adopt AI in inclusive classrooms stressing the need to examine identity shifts alongside adoption.

Existing Gaps in the Literature

Although research on AI in education is expanding, it is often techno-centric, focusing on system performance rather than teacher subjectivity and identity. Few studies engage with the lived, emotional, and interpretive dimensions of teachers' experiences using phenomenological methods. This gap limits our understanding of how teachers perceive and adapt their professional identities in the era of AI. This study seeks to explore this gap through the lived experiences of teachers from a phenomenological perspective.

Objective of the Study

The main objective of the study is to examine teachers' professional identity in the era of AI through a phenomenological approach.

Research Questions

The following research questions guided the study:

1. How do teachers negotiate shifting professional roles with AI integration?
2. What emotional responses do teachers have in AI-integrated teaching?
3. How do teachers negotiate relationships with AI tools in their practices?
4. What tensions do teachers face between control, autonomy, and standardization with AI?
5. What strategies do teachers use to preserve or reform their professional identity with AI?

LITERATURE REVIEW

Theoretical Framework

Phenomenology, as developed by Edmund Husserl and extended by scholars like van Manen (1997), provides the philosophical foundation for this study. At its core, phenomenology seeks to explore the "essence" of lived experience in order to understand phenomena as they are perceived and felt by individuals, unfiltered by external explanation (van Manen, 1997). This philosophical stance is particularly apt for exploring professional identity, which according to Arcos et al. (2025) and Korchagin and Lobanova (2025), is inherently introspective, relational, and often experienced in complex, emotional terms. As a methodological approach, phenomenology emphasizes deep, reflective inquiry, usually through interviews or written reflections, allowing participants to describe and interpret their own experiences in rich detail (Beck, 2021; Creswell & Poth, 2018). For this study, it offers a path to uncover how teachers experience identity shifts within AI-mediated environments, not just what changes occur, but how these changes are lived and what meanings they hold for the individuals involved.

Conceptual Framework

Teachers' professional identity

Teachers' professional identity refers to the evolving self-understanding teachers develop in relation to their work, grounded in beliefs, values, social interactions and institutional narratives (Beauchamp & Thomas, 2009; Irani et al., 2020; Jingbo & Siwei, 2025; Kelchtermans, 2009). It is not static but continuously shaped by reflective practice, emotional experiences, and systemic expectations (Korchagin & Lobanova, 2025). Central to identity are concepts of agency, relationality, and ethical commitment, dimensions deeply affected by educational reforms and technological interventions. Lai and Jin (2021) reported that different aspects of teacher professional identity might influence teachers' approaches to technology integration. However, this relationship is not yet fully understood. Their findings advocate greater attention to these professional identity orientations when examining and supporting teachers' technology integration.

Moreover, the psychological dimension of identity involves self-perception and self-efficacy, influencing competence and classroom behaviors (Akkerman & Meijer, 2011). From a cultural-historical perspective, identity is viewed as continuously reconstructed, defined through discourse in specific contexts (Chavez Rojas et al., 2021). Scholars broadly agree that the process of identity construction is complex, dynamic, and continuous, encompassing what it means to be a teacher, how they perform the role, their skills, self-image, and confidence (Beijaard, 2019; Magen-Nagar & Steinberger, 2020). Reflecting on training experiences, comparing past knowledge with real teaching, and engaging in professional networks are also key to shaping identity (Chavez Rojas et al., 2021). Akbari et al. (2023) reported that relational identity significantly influences the innovative and continuous use of e-learning systems, further emphasizing the interplay between identity and digital competence.

AI and Teacher Identity

AI introduces profound changes to teaching practices, reconfiguring traditional roles and pedagogical authority. Teachers may find themselves repositioned as data interpreters, algorithm mediators, or facilitators of personalized AI-driven instruction (Selwyn, 2019; Uwosomah & Dooly, 2025). These emerging roles challenge established dimensions of identity, such as autonomy, authenticity, and the relational human element in education (Biesta, 2015). The tension between embracing innovation and preserving pedagogical values forms a critical site of identity negotiation (Hanna et al., 2022; Irani et al., 2020; Lan, 2024; Pillen et al., 2013).

Teachers' professional identity tensions often appear as struggles and dissonances when teachers reconcile conflicting demands, such as incorporating AI technologies into traditional teaching methods (Hanna et al., 2022; Pillen et al., 2013), leading to a need for alignment between pedagogical beliefs and technological advancements (Lan,

2024). These tensions, intensified in AI-enhanced education, compel teachers to reevaluate their roles and develop new skills to adapt effectively (Pishghadam et al., 2022). OECD (2022) revealed that AI enhances reflective teaching practices and boosts teachers' confidence, factors integral to sustaining teachers' professional identity. Moreover, dimensions such as continuity, commitment to preserving core identity, and openness suggest a readiness to adopt new practices and technologies (OECD, 2022).

Marschall's (2022) research further revealed AI's capacity to strengthen teachers' self-efficacy, thereby contributing to positive identity transformation. Likewise, Ma (2022) express how teachers' professional identity requires consistent commitment and motivation to address evolving educational challenges, especially in the context of digital transformation. Teachers' professional identity, encompassing aspects like existential value and ethical judgment, may face challenges as teachers incorporate AI tools into their practice (Karaolis & Philippou, 2019). These elements emphasize that teachers' professional identity evolves in response to changing educational demands, and navigating associated tensions is essential (Karaolis & Philippou, 2019).

Historical Evolution of Teacher Identity

Teacher identity, widely recognized as a dynamic and evolving concept, has been central to educational research since the late 20th century. The term "teacher identity" generally refers to the way teachers perceive themselves, their roles in the classroom, and the values that inform their teaching practices (Beauchamp & Thomas, 2009). Its historical evolution has been shaped by educational, societal, and technological transformations (Jingbo & Siwei, 2025).

In the early stages of educational reform, teachers' professional identities were predominantly defined by traditional pedagogical practices, where the teacher was viewed as the central figure in the classroom. This traditional role emphasized the transmission of knowledge and the authority of the teacher (Lortie, 1975). However, as educational systems evolved, particularly in the mid-20th century, the role of teachers shifted towards more student-centered approaches. This encouraged reflective practices, fostering professional identity increasingly influenced by interactions with students and the broader educational community (Schutz et al., 2001).

The latter part of the 20th century saw the rise of technological advancements in education, particularly the introduction of computers and digital technologies in classrooms. These changes significantly redefined teachers' professional identities, as they integrated new tools into their pedagogical practices. As technologies became more sophisticated, teachers reassessed their roles, moving from transmitters of knowledge to facilitators of learning (Adekunle et al., 2024; Ertmer & Ottenbreit-Leftwich, 2010). Cuban (2001) stated that the integration of technology, including AI, has further complicated this transformation, making teachers question their autonomy and professional roles.

Teachers' Perceptions of Technology and AI Integration

The integration of technology into the classroom has been a contentious topic in educational research. On one hand, technology is seen as a tool for enhancing teaching and learning outcomes (Haleem et al., 2022), while on the other, it is often perceived as a threat (Jussupow et al., 2022) to teachers' professional autonomy (Duan & Zhao, 2024). Kim and Kwon (2023) and Yau et al. (2023) stressed the importance of teachers' perspectives when designing AI education programs, particularly within the secondary school setting. The extent of teachers' knowledge and awareness of AI is a key determinant in preparing students for the demands of the AI-driven future (Abualrob, 2025). Perceptions of AI and technology in education vary widely, depending on context, including geographical location, access to resources, and individual attitudes.

Research has shown that teachers' attitudes towards technology are often shaped by their prior experiences and training. According to Sodangi et al. (2022) and Ertmer (2005), teachers who received extensive professional development in technology were more likely to embrace it, seeing it as an opportunity to enhance instruction. In contrast, teachers with limited training were more likely to resist, perceiving it as a disruption to their traditional methods.

The introduction of AI in education has intensified these perceptions. AI technologies, such as adaptive learning systems and AI-driven assessments, promise to personalize learning and improve outcomes (Uwosomah & Dooly, 2025). However, many teachers express concern about AI reducing their agency or replacing roles (Jingbo & Siwei, 2025; Selwyn, 2011). Studies indicate that while teachers recognize AI's potential, they remain skeptical about its implications for professional identity, fearing a devaluation of expertise as AI systems replicate teaching functions (Isma'il et al., 2024; Uygun, 2024). Teachers' perceptions are shaped by their knowledge of AI, with those well-versed in it seeing augmentation opportunities, while those less informed perceive threats (Kim & Kwon, 2023).

Identity Transformation in Technologically Mediated Classrooms

The integration The integration of AI and other digital technologies is not just about tools but about transformation of teachers' professional identities. Jingbo and Siwei (2025) noted that as technology becomes deeply embedded in practice, it compels teachers to reconsider their roles and responsibilities, marking this process with both challenges and opportunities. A significant aspect of this transformation is the reinforcement of the shift from teacher-centered to learner-centered approaches. With AI providing personalized learning experiences, teachers are increasingly required to act as facilitators, guides, and mentors (Govender & Ramatea, 2025; Isma'il & Olatunbosun, 2024; Uwosomah & Dooly, 2025).

However, integration has also generated a sense of loss among teachers accustomed to traditional interactive styles (Uygun, 2024). Teachers report feeling both empowered to innovate and threatened by the erosion of pedagogical expertise (Jingbo & Siwei, 2025; Isma'il et al., 2024). Another dimension of identity transformation involves teacher-student relationships. According to Aghaziarati et al. (2023), with AI handling many administrative tasks, teachers can focus more on individualized instruction and interaction. While this is seen as positive, it requires adopting new relational practices, which may challenge traditional notions of what it means to be a teacher.

METHODOLOGY

Research Design

This study employed a phenomenological research design based on the interpretivist paradigm, focusing on understanding individuals' lived experiences and the meanings they attach to them. Moustakas' (1994) transcendental phenomenological approach was adopted, with

the researchers maintaining a reflexive journal to uphold epoch. This design was suitable for capturing the depth of identity transformation experienced by teachers adapting to AI era.

Participants

The study was conducted in the Zaria educational zone of Kaduna State, Nigeria. The study location is characterized by both urban and semi-urban schools with varying levels of technological access (Isma'il & Ibrahim, 2025). The participants comprised 30 secondary school science teachers teaching biology, chemistry, and physics, each with a minimum of one year of experience using AI tools in classroom instruction. This sample size was determined based on the principle of data saturation (Creswell & Poth, 2018; Guest et al., 2020; van Manen, 1997). This aligns with phenomenological research principles, which prioritize depth over breadth, with saturation often reached within 20–30 participants. Thus, the chosen sample size is both appropriate and methodologically justified.

Sampling Techniques

A purposive sampling technique was used to select participants who met the following inclusion criteria:

1. A minimum of one year of consistent experience using AI tools for classroom instruction (e.g., AI-assisted grading, adaptive learning platforms).
2. Willingness to engage in reflective journaling and in-depth interviews.

Efforts were made to ensure variation in gender, years of teaching experience, and school technological infrastructure to increase the richness of the data. The participants were identified through collaboration with school principals.

Procedure for Data Collection

Data were collected using in-depth semi-structured interviews and participant reflective journals. Semi-structured interviews lasted between 30–45 minutes using an interview guide. Interviews were conducted face-to-face and were audio-recorded with consent. Participants were also asked to maintain a reflective journal for two weeks, documenting daily interactions with AI in their teaching and how these experiences influenced their roles and self-perception. Journal prompts were provided to guide reflections. All interviews were transcribed verbatim. Member checking was used for post-interview to validate interpretations and increase credibility.

Data Analysis

Data analysis was conducted using Moustakas' (1994) seven-step phenomenological method. The first step, horizontalization, treated all statements equally, followed by reduction and elimination to identify relevant invariant horizons. Next, thematic clustering grouped these horizons into core themes, and textural and structural descriptions provided rich accounts of participants' experiences. Finally, a synthesis of meaning and essence integrated all elements into a composite depiction. NVivo 14 was used for coding, with a second coder engaged for inter-coder reliability. An audit trail documented analytic decisions, and peer debriefing with two experts enhanced credibility by refining interpretations.

RESULTS

Demographic Characteristics of the Participants

The demographic information of the participants indicated a diverse group of 30 secondary school science teachers, nearly balanced in gender and drawn from both public and private schools. Participants varied in age (29–45 years) and teaching experience (5–18 years). Subjects taught include biology, chemistry, and physics. All participants had at least one year of experience integrating AI tools like ChatGPT and one or more of Google Bard, Gemini, Grok and Copilot into their teaching, and were also recently familiar with DeepSeek. Their AI proficiency ranged from basic to advanced, indicating different levels of engagement and familiarity.

The analysis of the lived experiences revealed five core themes. Each theme is presented with supporting quotes and interpretations based on Moustakas' (1994) phenomenology and van Manen's (1997) reflective analysis.

Theme 1. Negotiating Shifting Professional Roles

Participants initially expressed apprehension about the implications of AI integration on their professional roles. Some feared that AI might displace their core responsibilities, diminishing their relevance in the classroom:

> "At the beginning, I honestly questioned if I will still be needed in the classroom in the nearest future ... It felt like AI was about to take over everything" (participant A).

> "When AI first came, I thought it would reduce my importance … like students would prefer the machine to me" (participant N).

Over time, however, teachers' roles evolved from content deliverers to facilitators. They began to appreciate AI's ability to manage routine tasks while they focused on higher-order engagement:

> "My role has changed a lot … I'm now more like a mentor, guiding students and helping them think critically rather than just teaching them facts" (participant C).

> "I don't spend as much time on lesson planning or sources for more textbooks … AI handles that. Now I use the time to challenge students to apply knowledge" (participant R).

Furthermore, the availability of AI-generated data enabled teachers to make more informed instructional decisions, empowering them with insights into student progress:

> "I now analyze AI feedback to adjust my instruction … it gives me a sense of clarity about where my students stand" (participant E).

Responses from theme one revealed a redefinition of the teacher's professional identity, characterized by mentorship, reflection and adapting pedagogy to evolving classroom needs (**Figure 1**).

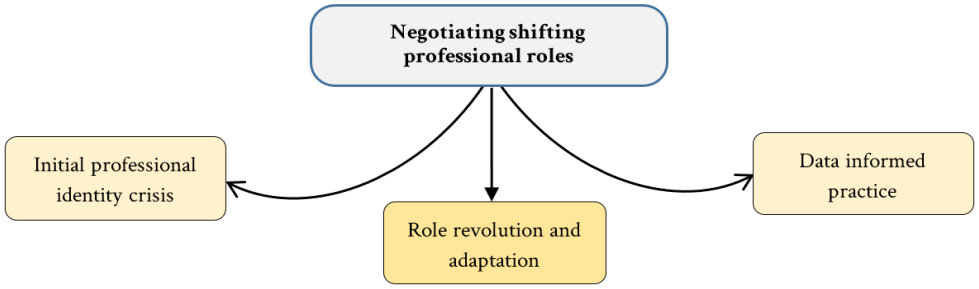

Figure 1. Redefining teacher roles in the AI-integrated instruction (the authors' elaboration of the interview responses, 2025)

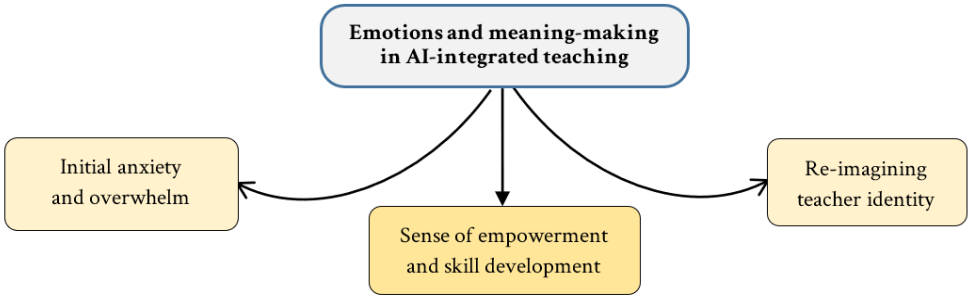

Figure 2. Emotional professional identity transformation through AI-integration (the authors' elaboration of the interview responses, 2025)

Theme 2. Emotions and Meaning-Making in AI-Integrated Teaching

Emotional responses played a central role in how teachers made sense of their evolving practices. The initial phases of AI implementation were marked by anxiety and uncertainty. For example,

> "When I was first introduced to AI tools, ChatGPT in particular, it was overwhelming … it felt like I was suddenly expected to become a tech expert overnight" (participant G).

> "Honestly, my first reaction was fear. I thought I would embarrass myself in front of my students if the AI did something I could not explain" (participant P).

Over time, however, teachers reported a sense of empowerment as they acquired new competencies and observed positive classroom outcomes. For example,

> "Once I got the hang of it, I realized how much it could actually help … AI tools give instant feedback, and honestly, that is a game changer" (participant I).

> "I now feel more confident because AI has given me tools to respond immediately to students' needs" (participant U).

This emotional journey contributed to a reimagining of the teacher identity. Participants began to view themselves as reflective professionals guiding learning rather than simply delivering content:

> "I am no longer just delivering content. I am helping students ask better questions and take charge of their learning journey" (participant K).

Findings under theme two showed that the role of emotions in professional transformation, exemplifying how initial resistance gave way to a deeper understanding of pedagogical purpose in the digital age (**Figure 2**).

Theme 3. Negotiating Teacher-AI Relationships

Teachers described AI as a valuable instructional partner that enhanced personalization and student engagement. Many of them appreciated its ability to offer personalized learning paths while allowing them to adopt a more supportive role. For example,

> "With AI, I believe my students can explore and learn at their own pace … Soon, I will only be stepping in more as a learning coach, guiding them through challenges" (participant A).

> "AI has made it easier to differentiate learners, students who struggle can independently review materials while I focus on supporting others" (participant T).

However, several participants pointed out that AI lacks the emotional intelligence necessary for responsive teaching. For instance;

> "AI tools might be smart, but they cannot pick up on those little non-verbal cues or emotions … that is still something only a teacher can do" (participant H).

> "Sometimes my students are simply tired or distracted, AI cannot tell that, but I can" (participant O).

Others reported instances where AI's recommendations conflicted with their contextual knowledge and classroom realities:

> "Sometimes AI suggests things that just do not fit my class situation … at the end of the day, I stick with what works best" (participant E).

> "I sometimes tried to make use an AI-generated lesson note, but it is often too bulky and abstract for my students … I had to rewrite it" (participant V).

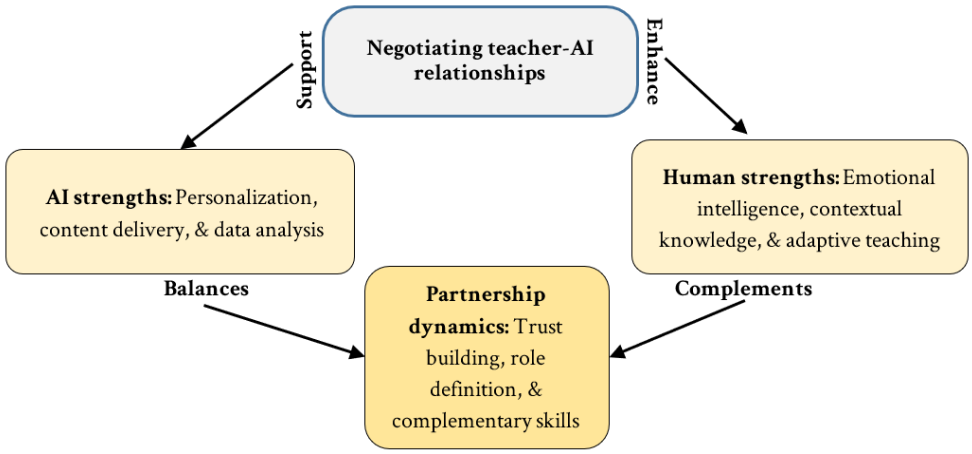

Figure 3. Dynamics of teacher-AI partnership in practice (the authors' elaboration of the interview responses, 2025)

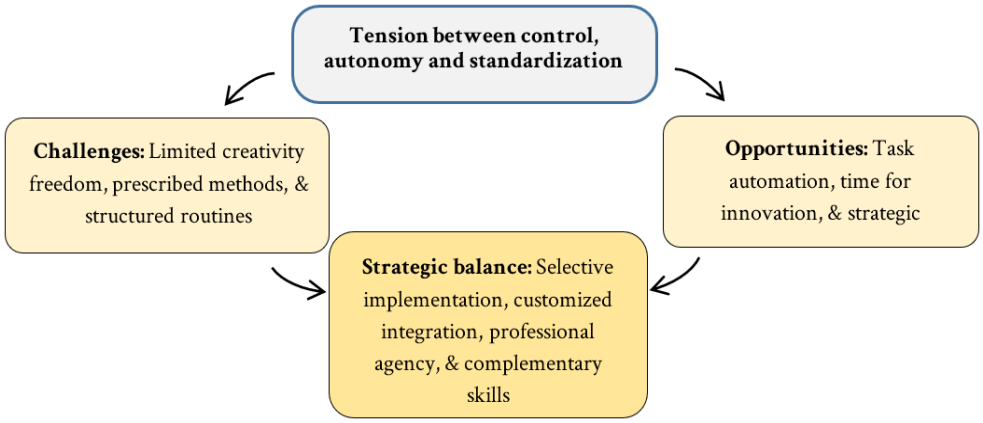

Figure 4. Balancing control, autonomy, and AI-driven standardization (the authors' elaboration of the interview responses, 2025)

Analysis of theme three indicated that an ongoing negotiation of trust, authority, and expertise in the teacher-AI relationship. While AI is embraced as a supportive tool, its limitations in emotional and contextual judgment are recognized and mitigated through human discretion (**Figure 3**).

Theme 4. Tensions Between Control, Autonomy, and Standardization

Participants expressed concerns about losing pedagogical autonomy due to AI's algorithmic suggestions and structured routines. For example,

> "I feel like AI sometimes dictates how I should teach … it suggests what to do and when, and I am not always okay with that" (participant J).

> "Sometimes using AI feels like I'm just teaching from a script, but I feel that my students need something more engaging and dynamic" (participant M).

Teachers also shared feelings of tension between their creative teaching styles and AI's tendency toward standardization. For instance,

> "AI gives me structured lesson outlines, but if I follow them too rigidly, it limits my creativity. I have to adapt them so my teaching feels engaging" (participant L).

> "Sometimes I feel like AI pushes me toward a standard way of teaching, but my students respond better when I bring in local examples and real-life situations" (participant Y).

However, some teachers reported that AI actually provided greater autonomy by automating routine tasks and freeing time for innovation:

> "Strangely, the more AI handles my routine tasks, the more freedom I have to focus on being creative and responsive" (participant F).

> "I feel liberated because AI takes care of what used to drain me–now I can be innovative in my methods" (participant S).

Theme four responses demonstrated the paradox of AI use in education. While AI imposes certain structures, it also supports professional agency when used strategically. Professional agencies refer to teachers' ability to make independent, informed decisions about how and when to use AI tools to best meet their students' needs (**Figure 4**).

Theme 5. Strategies of Identity Preservation and Reformation

Teachers deliberately sought ways to preserve and redefine their professional identities. Many described a philosophical shift toward facilitation and inquiry:

> "Before, I used to think teaching was just about giving information or feeding students with facts. But now I think it

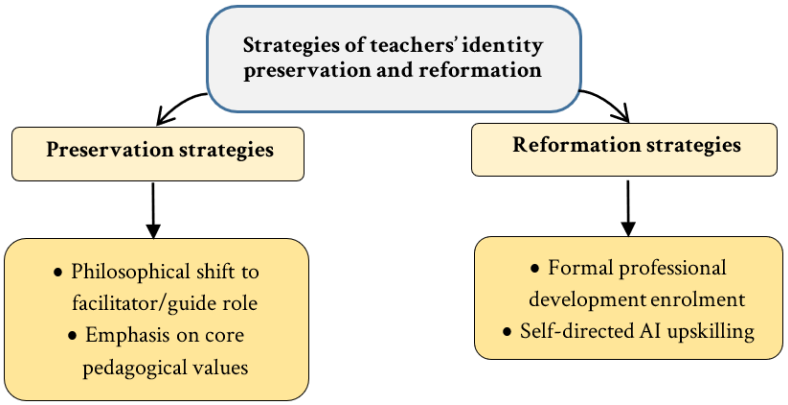

Figure 5. Strategies for teacher identity preservation and reformation (the authors' elaboration of the interview responses, 2025)

> is more about guiding discovery … AI tools really changed how I see effective teaching" (participant I).
>
> "I see myself more as someone who asks questions and provokes thinking, not just someone who delivers notes, especially now that AI can generate content for students so easily" (participant Q).

Professional development emerged as an essential coping mechanism. Teacher participants indicated that they undertook formal training and self-directed learning to stay relevant in AI-enhanced environments. For instance,

> "I took it upon myself to enroll in both online and in-person digital courses … with the current trend, I felt I had to stay ahead of the curve" (participant C).
>
> "I strongly believe that teachers who fail to acquire knowledge about AI will surely be replaced–not by AI itself, but by colleagues who can integrate it" (participant B).

A spirit of collaboration characterizes the most adaptive mindsets. Teachers who embraced AI as a partner, rather than a competitor, reported the most positive experiences:

> "I use AI information as a starting point and then incorporate my professional judgment … it's a partnership between the two" (participant E).
>
> "I often share AI-generated lesson ideas with colleagues … we compare, adjust, and adapt them together" (participant W).

Evidence from theme five suggested that teachers showed resilience and flexibility in navigating a transformative technological shift. Through ongoing reflection and adaptation, teachers developed new professional narratives that integrated both human and technological strengths (**Figure 5**).

DISCUSSION

This study explored teachers' professional identity in the era of AI using a phenomenological approach. Five major themes emerged, revealing a nuanced interplay between continuity and disruption in teachers' self-perceptions. These findings extend existing conceptualizations of professional identity as dynamic and contextually negotiated, as emphasized by Beijaard (2019), Karaolis and Philippou (2019), and Akkerman and Meijer (2011), but they also introduce original insights into how teachers in an African context reframe AI as a professional partner and adopt deliberate strategies of identity reform within resource-constrained systems.

Negotiating Teacher-AI Relationships

The initial resistance expressed by many participants reveals familiar patterns in the literature concerning technological integration, as reported by Lai and Jin (2021) and Duan and Zhao (2024). However, rather than depicting this resistance as merely fear-based, the findings suggest a deeper identity dissonance, as similarly posited by Gee (2000), where teachers' long-held professional expertise felt momentarily invalidated by algorithmic authority. Jussupow et al. (2022) described such identity threats, but the current study reveals a more dynamic recovery: as familiarity with AI grew, participants reimagined themselves not simply as knowledge dispensers but as facilitators of inquiry. This transformation aligns with the fluidity of professional identity stated by Karaolis and Philippou (2019) and Selwyn (2019). Importantly, the study contributes the novel insight that Nigerian teachers often framed AI not as a replacement but as a *partner* in co-producing learning, reflecting a unique relational identity orientation that enriches the global literature. The shift was neither immediate nor uniform, some teachers embraced AI fluidly, while others adopted a pragmatic acceptance born of necessity. This diversity suggests that professional identity reconstruction under AI influence is an ongoing negotiation, rather than a completed transition.

Emotions and Meaning-Making in AI-Integrated Teaching

Participants described a profound emotional journey, beginning with anxiety and overwhelm and culminating, for some, in empowerment. This emotional arc aligns with Hargreaves' (1998) emphasis on the emotional labor of teaching and Selwyn's (2019) framing of AI-induced ethical dilemmas. Yet, the data here suggest that emotional turbulence was not merely a by-product of technological disruption; rather, it served as a catalyst for reflective transformation, also posited by Chavez Rojas et al. (2021). Those participants who critically engaged with their emotions (rather than suppress or ignore them) appeared to experience deeper professional growth. This finding resonates with Mezirow's (1991) transformative learning theory, emphasizing that disorienting dilemmas (like AI adoption) can trigger profound perspective shifts when critically reflected upon. In the Nigerian context, these emotional negotiations were heightened by infrastructural uncertainties, making emotional resilience not just an

individual resource but a survival strategy for sustaining professional identity. Thus, emotional labor in this study became a resource, not just a burden.

Negotiating Teacher-AI Relationships

While previous studies like that of Kim and Kwon (2023) and Irani et al. (2020) confirmed teachers' cautious appreciation for AI's instructional capabilities, this study reveals an emerging pedagogy of human-AI complementarity. Participants valued AI's capacity for personalization and routine management but fiercely defended the irreplaceable human dimensions of teaching in terms of emotional resonance, ethical judgment, and relational trust. Some framed AI as a junior collaborator, while others saw it more instrumentally as a tool to be controlled. This distinction suggests that relational identity, as similarly specified by Akbari et al. (2023), not only influences AI adoption but also shapes how teachers conceptualize their own professional agency relative to technological systems. The contribution here is the framing of AI as a partner in Nigerian classrooms, where relationship extends beyond pedagogy to include adaptation to infrastructural and policy gaps, enriching the global discourse on human-technology complementarity.

Tensions Between Control, Autonomy, and Standardization

The tension between creative autonomy and algorithmic constraint emerged vividly. Resonating with Ball's (2016) warning, some participants experienced AI as standardizing pedagogy and narrowing professional discretion. Yet others viewed AI's routine handling as liberating cognitive bandwidth for creativity and student-centered innovation. This paradox suggests that the impact of AI on teacher autonomy is not deterministic but mediated by teachers' pre-existing beliefs about control, creativity, and professionalism. In line with this, Pishghadam et al. (2022) noted that identity negotiations intensify under AI pressure, but this study adds to the literature by showing how teachers in a resource-limited African setting negotiate these tensions differently, sometimes improvising workarounds to reclaim autonomy in the face of infrastructural and algorithmic limitations.

Strategies of Identity Preservation and Reformation

Faced with rapid change, participants did not passively endure identity erosion; instead, many actively engaged in professional development, peer dialogue, and pedagogical reframing. These strategies align with Chavez Rojas et al. (2021), who stressed reflective engagement as critical for identity construction. Interestingly, participants who embraced lifelong learning not only preserved but reinvigorated their professional identities, reframing themselves as adaptive facilitators in a knowledge ecosystem increasingly shaped by AI. This supports Magen-Nagar and Steinberger's (2020) view of adaptive identity transformation but points toward a more proactive, agentive model of identity evolution. The original contribution here lies in highlighting how Nigerian teachers, despite systemic barriers, developed identity reform strategies grounded in collaboration and professional resilience, strategies that may inform global contexts facing similar inequities.

Notwithstanding their personal growth trajectories, participants faced major external barriers such as inadequate infrastructure, weak policy frameworks, and uneven access to professional development. These findings confirm Sodangi et al. (2022), Adekunle et al. (2024), and Govender and Ramatea (2025) regarding uneven access to professional development among teachers. Similarly, Isma'il and Lukman (2022) also reported inadequate instructional facilities in Nigerian secondary schools. All of these factors limit teachers' potential. However, this study nuances those claims by showing that even when personal agency is high, systemic failure can mute or distort transformation. In particular, without institutional alignment as posited by OECD (2022), even the most motivated teachers found themselves improvising around deficits, which risks creating fragile, unsustainable practices. Thus, genuine AI integration must address multi-level support ecosystems, from infrastructural investment to teacher-centered policy design.

CONCLUSION

The study concluded that the integration of AI into teaching presents a transformative shift in teachers' professional identity. Far beyond a technological adjustment, AI adoption reconfigures how teachers perceive their roles, authority, and relevance in the classroom. Teachers transitioned from being sole knowledge providers to dynamic facilitators, guides and co-learners which is indicating a broader reimagining of pedagogical practice in the AI era. In this study, this evolution, characterized by initial resistance and emotional strain, reveals the potential of AI to drive professional growth when adequate institutional support is in place. The study also concluded that AI integration is not only reshaping instructional strategies but also prompting an existential re-evaluation of what it means to teach. For AI to serve as an empowering force rather than a disruptive one, inclusive and teacher identity responsive policy and professional development plans must be embedded within educational systems.

Recommendations

Based on the findings of this study, the following recommendations were made;

1. Nigerian schools should implement mentorship programs pairing experienced teachers with newcomers to AI integration to facilitate strategy transfer and ease transitions.
2. Professional development should include emotional intelligence and AI pedagogy to enable teachers to manage stress, build resilience, and integrate AI effectively.
3. The Ministry of Education and local developers should design user-friendly AI platforms aligned with curricula, ensuring teachers maintain a central role in student engagement.
4. AI tools should provide teachers with control over content and instructional decisions to support professional identity.
5. Schools should establish forums for teachers to share experiences, reflect, and collaboratively adapt pedagogical strategies.
6. Governments and schools should ensure reliable electricity, the Internet, and access to digital devices to enable effective AI use.

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AI statement: Generative AI tool (QuillBot) was used only to improve language clarity and organization; all ideas and interpretations are the authors' original work.

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