TEACHER PROFESSIONAL IDENTITY IN THE DIGITAL AGE: CHALLENGES AND OPPORTUNITIES

By

Honorius Chibuko, Ph.D.
Department of Educational Foundations, Coal City University, Enugu State, Nigeria
Email: drhonoriusch@gmail.com
Phone: +2348020747480

Ezema Getrude Chinonso
Email : gc.ezema@unizik.edu.ng
Phone : 08133475676

Ndubuisi Esther Njideka
Email : okonkwoesther59@gmail.com
Phone : 08132150221
Educational Management and Policy Department, Faculty of Education
Nnamdi Azikwe University Awka

Abstract

The study investigated "Teacher Professional Identity in the Digital Age: Challenges and Opportunities." The general aim was to examine how digital innovations are reshaping teachers' self-conception, roles, and pedagogical practices in the 21st century. Four research questions and two null hypotheses guided the study. The study adopted a descriptive survey design. The population consisted of all public and private secondary school teachers in Enugu State, Nigeria. A stratified random sample of 200 teachers was selected. The instrument used was a structured questionnaire titled "Teacher Professional Identity Digital Questionnaire" (TPIDQ), validated by experts in Educational Psychology and Measurement. The reliability of the instrument was determined using Cronbach Alpha, yielding a reliability coefficient of 0.86. Data were collected through trained research assistants and analyzed using mean scores, standard deviation, and independent samples t-tests. Findings revealed that teachers' digital identities are influenced significantly by access to digital infrastructure, institutional support, and their perceived competence with digital technologies. Many teachers struggle with aligning their traditional roles with evolving digital expectations. Hypothesis testing showed significant differences in perceptions between urban and rural teachers ($p < .05$). The findings imply that policy frameworks

should focus on providing equal digital access and professional development opportunities. It was recommended that teacher training curricula be updated to reflect digital pedagogical competencies, and mentoring systems be implemented for identity reconstruction. A major limitation was the exclusion of student perspectives on teacher identity transformation. Further studies could investigate teacher identity using longitudinal or mixed-method designs.

Keywords: Teacher professional identity, digital age, digital pedagogy, challenges, opportunities, educational technology, Nigeria

Introduction

The notion of teacher professional identity (TPI) has gained renewed significance in the wake of rapid digitalization in education. Professional identity encompasses how teachers perceive themselves and are perceived by others in their roles as educators. In the digital age, the proliferation of educational technologies—ranging from smart boards, learning management systems (LMS), to AI-driven tools—has transformed the teaching landscape, thereby necessitating a redefinition of teachers' roles and professional self-concept (Pantić, 2021).

Globally, digital transformation has become a defining force in reshaping education systems. According to the UNESCO (2022), over 90% of countries adopted some form of digital or remote teaching during the COVID-19 pandemic. In Nigeria, the Federal Ministry of Education launched the e-learning policy framework in 2020 to integrate digital tools into classrooms. Despite these initiatives, a majority of Nigerian teachers still struggle to navigate the digital terrain effectively due to limited training, infrastructure deficits, and psychological resistance to change (Ofoegbu, Eze, & Uche, 2023).

Conceptually, teacher professional identity includes three interrelated domains: personal teaching philosophy, perceived role in the school community, and adaptation to systemic expectations (Beijaard, Meijer, & Verloop, 2021). In the digital context, these domains are influenced by technological fluency, social media presence, and expectations for continuous digital learning (Baran et al., 2020). For this study, teacher professional identity is operationally defined as the teacher's self-perception concerning their pedagogical roles and responsibilities in a digitally mediated teaching environment. Relevant digital age challenges include insufficient digital literacy, inadequate technological infrastructure, and ambiguous institutional expectations. Conversely, opportunities abound in access to global pedagogical resources, collaborative teaching, and professional growth through digital platforms (Ng & Tan, 2021).

The theoretical framework is anchored on Technological Pedagogical Content Knowledge (TPACK) model by Mishra and Koehler (2006) and expanded by Chai, Koh, & Teo, (2020), which posits that teacher effectiveness in the digital age depends on the synergistic integration of content knowledge,

pedagogy, and technology. A second framework adopted is the Digital Identity Development Theory (Goodyear, Casey, & Kirk, 2021), which explains how educators form and reform professional identities through interactions in digital ecosystems.

Enugu State, the area of study, was chosen due to its blend of urban and rural schools, presenting a diverse context for assessing disparities in digital access and teacher identity formation. In light of these developments, the study sought to explore how teachers in Enugu State negotiate their professional identities within the constraints and potentials of the digital age.

Statement of the Problem

In an era dominated by digital innovations, the transformation of teaching practices has become inevitable. Ideally, teachers are expected to evolve into facilitators of learning, digitally literate mentors, and reflective practitioners who can leverage technology for inclusive education. In reality, however, many teachers in Nigeria, especially in Enugu State, still operate within traditional, teacher-centered paradigms, with minimal integration of digital tools. This misalignment between expectation and practice creates identity dissonance among teachers. Teachers face mounting pressures to adopt unfamiliar technologies, redefine their pedagogical stance, and engage in continuous professional development. This tension disrupts their professional self-conception, often leading to confusion, resistance, or disengagement. Despite numerous government interventions, there remains a significant gap in understanding how teachers perceive these transitions and reconstruct their professional identities. This study, therefore, investigated: How are Nigerian teachers negotiating their professional identity in the digital age, and what challenges and opportunities do they encounter?

Purpose of the Study

The main purpose of the study was to investigate teacher professional identity in the digital age with a focus on the challenges and opportunities in Enugu State, Nigeria. Specifically, the study:

1. Examine teachers' perceptions of their professional identity in digitally-mediated teaching environments.
2. Identified the major challenges faced by teachers in maintaining their professional identity in the digital age.
3. Explored the opportunities presented by digital technologies for enhancing teacher professional identity.

4. Determined whether significant differences exist in professional identity perceptions based on teachers' school location (urban vs. rural).

Research Questions

The following research questions guided the study in line with the specific purposes:

1. What are the perceptions of teachers regarding their professional identity in the digital age?
2. What challenges do teachers encounter in maintaining their professional identity within digital learning contexts?
3. What opportunities do digital technologies provide for enhancing teachers' professional identity?
4. Are there significant differences in perceptions of professional identity between urban and rural teachers?

Hypotheses

The following null hypotheses tested at 0.05 level of significance guided the study

Ho1: There is no significant difference in teachers' perceptions of professional identity in the digital age based on school location (urban vs. rural).

Ho2: There is no significant difference in perceived challenges between digitally trained and untrained teachers.

Significance of the Study

The findings of the study provided both practical and theoretical significances.

Practical Significance: This study is significant to policy makers, teacher educators, school administrators, and teachers themselves. For policy makers, findings may inform more targeted interventions and capacity-building strategies. School administrators may understand how to better support staff undergoing digital transition. Teachers may use findings to reflect on their identity and development pathways.

Theoretical Significance: This study contributed to validating the TPACK framework and Digital Identity Development Theory by applying them in the Nigerian context. It also informed theoretical expansion on professional identity formation in low-resource, digitally transitioning education systems.

Scope of the Study

Variable Scope: The study covers the variable of teacher professional identity, including associated challenges and opportunities in digital environments.

Population Scope: All secondary school teachers in Enugu State.

Content Scope: Concepts of digital identity, technological challenges, pedagogical change, and teacher self-conception.

Geographical Scope: Enugu State, chosen for its urban-rural diversity and active teacher professional networks.

Literature Review

This section presented a critical review of relevant literature to provide a comprehensive context and conceptual foundation for understanding teacher professional identity in the digital age. The review was organized under three major headings: Conceptual Framework, Theoretical Framework, and Review of Empirical Studies. A summary of the literature reviewed concluded the section. The literature explores how professional identity is shaped by internal beliefs, institutional expectations, and external influences, particularly digital technologies in 21st-century classrooms.

Conceptual Framework

Concept of Teacher Professional Identity

Teacher professional identity (TPI) refers to a teacher's self-conception in relation to their professional role, encompassing beliefs, values, motivations, and practices (Beijaard et al., 2021). In the digital age, TPI is no longer static but fluid, constantly evolving through experiences with digital technologies and interactions with students, peers, and online communities (Pantić, 2021).

According to Akkerman and Meijer (2020), TPI is constructed and reconstructed through reflective practice and social engagement, often influenced by cultural norms and systemic expectations. Key components include subject knowledge, pedagogical beliefs, relationships with learners, and adaptation to change.

Operational Definition: In this study, Teacher professional identity (TPI) is the teacher's perceived sense of self and role within a digitally driven educational system, as shaped by digital access, competence, and pedagogical transformation.

Challenges to Teacher Professional Identity in the Digital Age

Teachers today face multifaceted challenges in adapting their professional identities to digital demands. These include insufficient digital literacy (Ng & Tan, 2021), lack of institutional support (Obi-Ani, Anikwenze, & Isiani, 2021), fear of redundancy due to AI (Hodges et al., 2020), and conflicting expectations from stakeholders. Additionally, older teachers may experience identity disruption or even alienation in technologically progressive environments.

Opportunities in the Digital Age

On the positive side, digital tools allow teachers to connect globally, access open educational resources, and personalize learning. They also empower reflective teaching through data analytics and facilitate teacher autonomy and innovation (Carpenter & Krutka, 2021). The use of professional learning networks (PLNs) enhances collaboration and the co-construction of identity through social presence.

Interrelationships of the Concepts

Professional identity is influenced by challenges (e.g., low digital literacy) and enhanced by opportunities (e.g., access to e-resources). These interactions form a cyclical process of identity negotiation. The relationship can be visually represented as:

Conceptual Schema

Challenges (Digital Gaps, Resistance) —► Identity Struggles —► Identity Reconstruction

▲ | ▼

Opportunities (Digital Collaboration, PLN) ◄————————————

Theoretical Framework

Technological Pedagogical Content Knowledge (TPACK) Framework

Developed by Mishra and Koehler (2006) and further refined by Chai et al. (2020), the TPACK framework explains how effective teaching in digital settings requires the seamless integration of technological, pedagogical, and content knowledge. A teacher's professional identity, therefore, evolves with the development of TPACK as a core competence. The model underpins teacher development programs globally and is increasingly used to assess digital readiness.

Application to the Study: This framework explains how a teacher's identity is redefined through digital pedagogical competence. Teachers who integrate TPACK elements effectively are more likely to adopt a dynamic, self-regulated professional identity in the digital age.

Digital Identity Development Theory

Goodyear et al. (2021) proposed that identity formation in digital contexts is a reflexive, socially constructed process where online and offline experiences converge. Teachers participate in digital spaces such as virtual PLCs, webinars, and social networks that challenge traditional hierarchies and promote identity reformation.

Application to the Study: This theory explains how teachers negotiate professional identity via engagement in digital spaces, leading to new roles, affiliations, and self-perceptions.

Review of Empirical Studies

Several recent studies provide evidence for the current investigation.

Study 1: Obi-Ani et al. (2021). Title: Covid-19 and the Reshaping of Nigerian Education *Design*: Mixed methods. *Findings*: Teachers lacked training in digital tools, leading to feelings of inadequacy and identity threat. *Gap*: Focused on pandemic era only; did not explore sustained identity transformation.

Study 2: Umezulike & Onuoha (2022). Title: Professional Identity and Digital Integration among Secondary School Teachers in South-East Nigeria *Design*: Survey; 350 teachers. *Findings*: Urban teachers exhibited higher digital confidence than rural counterparts. **Weakness**: Did not consider psychological aspects of identity negotiation. *Relation*: This study builds on their findings by incorporating psycho-social and contextual dimensions.

Study 3: Carpenter & Krutka (2021). Title: Social Media and Teacher Professional Identity. *Design*: Qualitative; USA teachers. *Findings*: Teachers used Twitter and YouTube to craft identities, share resources, and learn.. *Weakness*: Non-African context. *Relation*: Reinforces digital affordances for identity formation.

Study 4: Ofoegbu et al. (2023). Title: Professional Learning and ICT Usage in Nigerian Secondary Schools. *Design*: Quantitative; 276 teachers. *Findings*: Institutional support significantly predicted teacher confidence in digital instruction. *Gap*: Did not link support to identity outcomes. *Relation*: Current study investigates how support systems shape identity negotiation.

Summary of Literature Review

The review examined key concepts such as professional identity, digital challenges, and opportunities, with operational definitions contextualized to Nigerian settings. Theories like TPACK and Digital Identity Development Theory provide a solid foundation for understanding how identity evolves in technologically dynamic classrooms. A total of four recent empirical studies were reviewed. These studies illuminated the relationship between digital integration and professional identity but lacked specific insights into identity reconstruction and contextual disparities across rural-urban settings. The current study addresses these gaps by: (1) Exploring psychological, infrastructural, and pedagogical components of identity. (2) Comparing urban and rural teacher experiences. (3) Investigating both the constraints and enablers of digital identity formation.

Methods

Design of the Study

This study adopted a descriptive survey design. The design is appropriate because it enables the researcher to collect data from a sample of respondents on their opinions, perceptions, and experiences regarding teacher professional identity in the digital age without manipulating any variables (Creswell & Creswell, 2020). The descriptive survey design is well suited to studies aiming to gather factual information, assess current conditions, and interpret relationships between variables. The study was conducted in Enugu State, located in South-East Nigeria. The state comprises 17 Local Government Areas and includes a mix of urban, semi-urban, and rural communities. Enugu State was chosen due to its diversity in digital infrastructure across schools, including areas with highly developed urban ICT facilities (e.g., Enugu North and Enugu South) and underserved rural zones (e.g., Nkanu West, Aninri). This setting provides a suitable context to explore differences in teacher identity construction in the digital era. The population of the study comprised all public and private secondary school teachers in Enugu State during the 2024/2025 academic session. According to data from the Enugu State Post-Primary School Management Board (PPSMB, 2024), there are approximately 8,437 secondary school teachers in the state. The sample size for the study was 200 teachers, drawn from both public and private secondary schools across urban and rural areas of Enugu State. A stratified random sampling technique was employed to ensure that the sample was representative of: Geographic location (Urban vs. Rural), School type (Public vs. Private), and Training exposure (Digitally trained vs. untrained teachers). From each stratum, proportionate random sampling was used to select respondents, maintaining equity and representativeness across categories. The breakdown is shown in the following respective strate and sample size: Urban Public Schools: 50; Urban Private Schools: 50; Rural Public Schools: 50; Rural Private Schools: 50; Total 200.

The instrument used for data collection was a structured, researcher-developed questionnaire titled: "Teacher Professional Identity Digital Questionnaire (TPIDQ)". The TPIDQ consisted of four sections: Section A: Demographic data (gender, years of experience, school type, location, digital training); Section B: Items on perceptions of teacher identity in the digital age (10 items); Section C: Items on challenges to professional identity in the digital age (5 items); and Section D: Items on opportunities presented by digital transformation (5 items). Items were rated on a 4-point Likert scale: Strongly Agree (SA = 4), Agree (A = 3), Disagree (D = 2), and Strongly Disagree (SD = 1). The instrument was subjected to face and content validation by three experts—two in Educational Psychology and one in Educational Technology from the University of Nigeria, Nsukka. The experts examined the clarity, relevance, and coverage of the items. Their feedback led to the modification and rewording of five items for improved clarity. To establish the internal consistency of the instrument, a pilot study was conducted using 20 teachers from Ebonyi State who were not part of the main study sample. The responses were analyzed using Cronbach's Alpha, which yielded a reliability coefficient of 0.86. This indicates that the instrument was reliable and suitable for the main study.

Data were collected over two weeks by the researcher and three briefed research assistants. Participants were approached in their respective schools. The purpose of the study was explained, and consent was obtained. The questionnaires were administered on-site and retrieved the same day to ensure high response rates and to minimize bias or external influence. The data collected were analyzed using both descriptive and inferential statistics. Descriptive statistics (mean and standard deviation) were used to answer the four research questions. ***Inferential statistics*** (independent samples t-test) were used to test the two hypotheses at a significance level of 0.05. The decision rule for answering the research questions was based on the benchmark mean score of 2.50. A mean of 2.50 and above indicates agreement, while a mean below 2.50 indicates disagreement. The t-test was used to determine whether there were statistically significant differences in identity perceptions based on teacher location and training status.

Results

This section presents the analysis of data collected, based on the four research questions and two hypotheses formulated. Descriptive statistics (mean and standard deviation) were used to answer the research questions, while inferential statistics (independent samples t-test) were used to test the hypotheses at 0.05 level of significance.

Research Question 1

What are the perceptions of teachers regarding their professional identity in the digital age?

Table 1: Mean Ratings on Teachers' Perception of Their Professional Identity in the Digital Age

Item	Statement	SA	A	D	SD	Mean	Std. Dev.	Decision
1	I see myself more as a facilitator than a knowledge dispenser.	85	73	30	12	3.16	0.83	Agree
2	Technology enhances my effectiveness as a teacher.	92	68	25	15	3.19	0.84	Agree
3	My role as a teacher has evolved due to digital innovations.	89	66	28	17	3.14	0.88	Agree
4	I engage in online professional learning networks (PLNs).	60	80	42	18	2.91	0.91	Agree
5	I feel confident using digital tools in teaching.	70	76	38	16	3.00	0.87	Agree
6	I believe digital tools are essential for teacher professionalism.	91	72	24	13	3.21	0.79	Agree
7	I identify as a digital-age educator.	76	71	37	16	3.03	0.86	Agree
8	I participate in digital pedagogical innovation.	69	75	35	21	2.96	0.89	Agree
9	My students perceive me as a modern, tech-savvy teacher.	62	78	38	22	2.90	0.93	Agree

10	I am motivated to improve my digital teaching skills.	94	66	28	12	3.21	0.83	Agree
	Aggregate Mean					**3.07**	**0.86**	**Agree**

Interpretation:
The aggregate mean of 3.07 indicates that teachers in Enugu State generally perceive themselves as evolving professionals adapting to the digital age. Their self-conception reflects an alignment with digital pedagogical practices.

Hypothesis One

There is no significant difference in teachers' perceptions of professional identity in the digital age based on school location (urban vs. rural).

Table 2: Independent Samples t-Test of Perception Scores by Location

Group	N	Mean	SD	df	t-cal	t-crit	p-value	Decision
Urban	100	3.22	0.76	198	3.42	1.96	0.001	Reject H_0
Rural	100	2.88	0.84					

Interpretation:
The calculated t-value (3.42) exceeds the critical value (1.96) at $p < 0.05$. Thus, the null hypothesis is rejected. There is a significant difference in professional identity perceptions based on school location, with urban teachers reporting stronger digital identity alignment.

Research Question 2

What challenges do teachers encounter in maintaining their professional identity within digital learning contexts?

Table 3: Mean Ratings on Challenges Faced by Teachers

Item	Statement	SA	A	D	SD	Mean	Std. Dev.	Decision
1	I lack adequate digital literacy training.	98	62	30	10	3.24	0.80	Agree
2	Poor infrastructure hinders digital engagement.	110	60	18	12	3.34	0.79	Agree
3	School leadership provides limited support for digital teaching.	87	73	30	10	3.19	0.81	Agree
4	I feel overwhelmed by the speed of technological change.	92	68	30	10	3.21	0.82	Agree
5	Lack of time for digital skill development.	95	65	32	8	3.24	0.79	Agree
	Aggregate Mean					**3.24**	**0.80**	**Agree**

Interpretation:
Teachers face substantial challenges in digital engagement, notably infrastructure deficits, lack of training, and institutional support, with an aggregate mean of 3.24.

Hypothesis Two

There is no significant difference in perceived challenges between digitally trained and untrained teachers.

Table 4: Independent Samples t-Test on Perceived Challenges by Training Status

Group	N	Mean	SD	df	t-cal	t-crit	p-value	Decision
Digitally Trained	120	2.97	0.78	198	-4.17	1.96	0.000	Reject H_0
Untrained	80	3.51	0.81					

Interpretation:
The t-value (-4.17) is significant at $p < .05$, thus the null hypothesis is rejected. Digitally untrained teachers face more intense challenges than their trained counterparts.

Research Question 3

What opportunities do digital technologies provide for enhancing teachers' professional identity?

Table 5: Mean Ratings on Opportunities Provided by Digital Technologies

Item	Statement	SA	A	D	SD	Mean	Std. Dev.	Decision
1	Digital platforms provide access to global teaching communities.	100	74	20	6	3.34	0.72	Agree
2	Technology enhances my instructional creativity.	97	75	18	10	3.30	0.77	Agree
3	Online training helps me grow professionally.	93	78	19	10	3.27	0.78	Agree

4	I get motivated by digital recognition (e.g., badges, likes, engagement).	66	84	36	14	3.01	0.88	Agree
5	Digital platforms allow me to mentor or be mentored.	83	86	20	11	3.20	0.79	Agree
	Aggregate Mean					**3.22**	**0.79**	**Agree**

Interpretation:
Teachers affirm that digital platforms provide rich professional development opportunities and creative expansion avenues, reflected in a high mean of 3.22.

Research Question 4

Are there significant differences in perceptions of professional identity between urban and rural teachers?
(This was answered under Hypothesis One—see Table 2)

General Conclusion of the Results

The study reveals that: Teachers perceive their professional identity as evolving in line with digital demands; Major challenges include lack of training and digital infrastructure; Urban teachers and digitally trained staff report stronger identity integration; and Opportunities lie in global networking, creativity, and professional growth through technology.

Discussion of Findings

Research Question One:

What are the perceptions of teachers regarding their professional identity in the digital age?

The result showed that teachers in Enugu State generally perceive their professional identity as evolving and positively impacted by digital transformation. The mean score of 3.07 indicates strong agreement that their roles are shifting from traditional knowledge transmitters to digitally literate facilitators. This finding aligns with Beijaard et al. (2021), who emphasized that professional identity in modern classrooms integrates digital literacy, learner engagement, and reflective teaching practices. Similarly,

Carpenter and Krutka (2021) reported that digital-era teachers actively reconstruct their identities through social media, e-learning platforms, and virtual professional networks.

Hypothesis One:

There is no significant difference in teachers' perceptions of professional identity in the digital age based on school location (urban vs. rural).

This hypothesis was rejected. Urban teachers reported significantly higher professional identity alignment with digital innovations compared to rural teachers. This disparity mirrors Umezulike and Onuoha (2022), who found urban teachers had greater access to digital tools and support structures than their rural counterparts. The finding underscores the digital divide that continues to hinder equitable professional development across geographic settings.

Research Question Two:

What challenges do teachers encounter in maintaining their professional identity within digital learning contexts?

Results revealed a high perception of challenges, including inadequate digital literacy training, lack of infrastructure, insufficient leadership support, and digital fatigue. The aggregate mean of 3.24 suggests widespread difficulties in sustaining professional identity amidst digital demands. Ng and Tan (2021) noted similar concerns, pointing out that many teachers in low-resource settings feel overwhelmed and ill-equipped for digital integration. Obi-Ani et al. (2021) also reported that teachers' identities were threatened during rapid digital transitions prompted by the COVID-19 pandemic.

Hypothesis Two:

There is no significant difference in perceived challenges between digitally trained and untrained teachers.

This hypothesis was also rejected. Digitally untrained teachers reported significantly higher levels of perceived challenges than trained counterparts. This aligns with findings by Ofoegbu et al. (2023), who demonstrated that digital training improves teacher confidence, adaptability, and sense of professional agency.

Research Question Three:

What opportunities do digital technologies provide for enhancing teachers' professional identity?

The findings indicated that teachers viewed digital technologies as offering substantial opportunities for identity development through access to global teaching communities, increased creativity, online training, digital recognition, and mentoring. This supports the assertions by Goodyear et al. (2021), who proposed that professional identity in digital spaces is shaped by active engagement in online collaborative environments. Chai et al. (2020) further argued that teachers' development of Technological Pedagogical Content Knowledge (TPACK) contributes significantly to professional identity formation in the digital age.

Conclusion

This study investigated teacher professional identity in the digital age in Enugu State, Nigeria. It revealed that while teachers generally perceive their professional identity as dynamic and positively shaped by digital integration, significant challenges persist—especially among untrained and rural teachers. However, the digital age also provides tremendous opportunities for identity enrichment through innovation, global networking, and reflective practice.

Contributions to Knowledge

1. This study highlights the uneven distribution of professional identity transformation across urban and rural school settings in Nigeria.
2. It establishes that digital training significantly moderates the challenges teachers experience in identity formation.
3. It provides empirical validation for the applicability of TPACK and digital identity development theories within the Nigerian context.
4. It contributes a contextualized understanding of teacher identity reconstruction during digital transitions in developing countries.
5. It introduces a three-tier framework (perception, challenge, opportunity) for evaluating TPI in digital learning environments.

Educational Implications of the Findings

1. Teacher training institutions need to embed digital pedagogical identity development into pre-service and in-service training.

2. Policymakers should address rural-urban disparities in digital infrastructure to enable equitable identity development.

3. School leaders must prioritize mentorship, peer learning, and psychological support to help teachers adapt to digital transitions.

4. Curriculum planners should consider integrating digital identity scaffolding strategies into national education frameworks.

5. Teachers need to embrace digital tools as platforms for professional agency, innovation, and lifelong learning.

Recommendations

1. Ministries of Education and school boards should provide continuous digital competence development for teachers.

2. Government and NGOs should invest in infrastructure development, especially in rural schools, to close the digital divide.

3. School administrators should create structured professional learning communities (PLCs) to support digital identity redefinition.

4. National Teachers' Councils should revise teacher standards to include digital identity indicators.

5. Teachers should be encouraged and incentivized to engage in digital mentorship, peer-to-peer learning, and reflective blogging/vlogging.

References

Akkerman, S. F., & Meijer, P. C. (2020). Teacher professional identity: The challenges of being

a teacher. *Review of Educational Research*, *90*(1), 1–32.

Baran, E., Correia, A. P., & Thompson, A. (2020). Technological, pedagogical, and content knowledge (TPACK) for online learning: A critical review of literature. *British Journal of Educational Technology*, *51*(5), 1845–1861.

Beijaard, D., Meijer, P. C., & Verloop, N. (2021). Reconsidering teacher identity research in the digital age. *Teaching and Teacher Education, 104*, 103377. https://doi.org/10.1016/j.tate.2021.103377

Carpenter, J. P., & Krutka, D. G. (2021). Social media, teacher identity, and professional learning: Reconceptualizing connections. *Journal of Educational Technology & Society, 24*(1), 153–165.

Chai, C. S., Koh, J. H. L., & Teo, T. (2020). Enhancing and modeling TPACK among teachers in the digital era. *Educational Technology Research and Development, 68*(1), 1–14.

Chai, C. S., Wang, Y., & Chen, M. (2020). A review of Technological Pedagogical Content Knowledge (TPACK) research in teacher education. *Journal of Educational Computing Research*, *58*(1), 3–26.

Creswell, J. W., & Creswell, J. D. (2020). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (6th ed.). Pearson.

Goodyear, V. A., Casey, A., & Kirk, D. (2021). Developing professional identities in digital teaching spaces. *Learning, Media and Technology, 46*(3), 319–336.

Hodges, C., Moore, S., Lockee, B., Trust, T., & Bond, A. (2020). The difference between emergency remote teaching and online learning. *EDUCAUSE Review*, *55*(3), 1–12.

Mishra, P., & Koehler, M. J. (2006). Technological Pedagogical Content Knowledge: A framework for teacher knowledge. *Teachers College Record*, *108*(6), 1017–1054.

Ng, W., & Tan, L. (2021). Digital literacy for 21st-century teachers. *Journal of Teacher Education Technology, 17*(2), 114–126.

Obi-Ani, N. A., Anikwenze, C. O., & Isiani, M. C. (2021). COVID-19 pandemic and the reshaping of Nigerian education. *Social Sciences & Humanities Open, 3*(1), 100106.

Ofoegbu, T. O., Eze, M. C., & Uche, I. (2023). Digital competencies and professional learning: The Nigerian secondary school experience. *Contemporary Educational Technology, 15*(2), 345–360.

Pantić, N. (2021). Teachers' professional self-concept development during educational change. *Oxford Review of Education*, *47*(5), 651–667.

Umezulike, A. N., & Onuoha, C. A. (2022). Professional identity and digital integration among secondary school teachers in South-East Nigeria. *International Journal of Education Research, 11*(3), 221–239.

UNESCO. (2022). *Global Education Monitoring Report 2022: Technology in education: A tool on whose terms?* UNESCO.