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Contextual Digital Identity: A Conceptual Model for Understanding Teachers' Technology Use Beyond the Digital Native–Immigrant Dichotomy

Bağlamsal Dijital Kimlik: Dijital Yerli–Göçmen İkileminin Ötesinde Öğretmenlerin Teknoloji Kullanımını Anlamaya Yönelik Kavramsal Bir Model

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Summary

The widespread use of the digital native–digital immigrant dichotomy has long shaped discussions on technology integration in education. However, this binary classification, originally proposed by Marc Prensky (2001), has been increasingly criticized for its oversimplification and lack of empirical grounding. This conceptual paper argues that the dichotomy fails to capture the complex, situational, and multidimensional nature of teachers' digital practices. Drawing on critical perspectives in educational technology literature, this study introduces the notion of contextual digital identity as an alternative framework. The proposed model conceptualizes digital identity as a dynamic construct shaped by the interaction between usage context, individual factors (e.g., self-efficacy, attitudes, experience), and perceived purpose. It suggests that individuals may exhibit digital native, digital immigrant, or hybrid behaviors depending on the specific context in which technology is used. The paper further argues that teachers' challenges in technology integration are not primarily rooted in generational differences, but rather in context-dependent variations—particularly within pedagogical settings. In this regard, the concept of pedagogical digital immigration is proposed to explain the discrepancy between teachers' everyday digital fluency and their limited use of technology in instructional practices. By reframing digital identity as contextual and fluid, this study contributes to the theoretical advancement of educational technology research and offers implications for teacher education, policy design, and future empirical investigations. The proposed framework provides a foundation for moving beyond deterministic and generational explanations toward more nuanced, behavior-oriented understandings of technology use in education.

Keywords: contextual digital identity, digital natives, digital immigrants, teacher technology use, educational technology, conceptual model

Özet

Dijital yerli–dijital göçmen ikilisinin yaygın kullanımı, eğitimde teknoloji entegrasyonuna ilişkin tartışmaları uzun süredir şekillendirmektedir. Ne var ki ilk olarak Marc Prensky (2001) tarafından önerilen bu ikili sınıflandırma, aşırı basitleştirme ve ampirik temelden yoksunluk gerekçesiyle giderek artan bir eleştiriye konu olmaktadır. Bu kavramsal makale, söz konusu ikilinin öğretmenlerin dijital pratiklerinin karmaşık, durumsal ve çok boyutlu yapısını kavramakta yetersiz kaldığını savunmaktadır. Eğitim teknolojisi literatüründeki eleştirel perspektiflerden hareketle bu çalışma, alternatif bir çerçeve olarak bağlamsal dijital kimlik kavramını ortaya koymaktadır. Önerilen model, dijital kimliği; kullanım bağlamı, bireysel etkenler (öz yeterlik, tutumlar, deneyim gibi) ve algılanan amaç arasındaki etkileşimle biçimlenen dinamik bir yapı olarak kavramsallaştırmaktadır. Modele göre bireyler, teknolojinin kullanıldığı özgül bağlama bağlı olarak dijital yerli, dijital göçmen ya da hibrit davranışlar sergileyebilmektedir. Makale ayrıca öğretmenlerin teknoloji entegrasyonundaki güçlüklerinin temelde kuşak farklılıklarından değil, özellikle pedagojik ortamlarda belirginleşen bağlama özgü değişkenliklerden kaynaklandığını öne sürmektedir. Bu bağlamda öğretmenlerin gündelik dijital akıcılıkları ile öğretim pratiklerindeki sınırlı teknoloji kullanımı arasındaki tutarsızlığı açıklamak amacıyla pedagojik dijital göçmenlik kavramı önerilmektedir. Dijital kimliği bağlamsal ve akışkan bir yapı olarak yeniden çerçevelendiren bu çalışma, eğitim teknolojisi araştırmalarının kuramsal gelişimine katkı sunmakta; öğretmen eğitimi, politika tasarımı ve gelecekteki ampirik çalışmalar için önemli çıkarımlar ortaya koymaktadır. Önerilen çerçeve, eğitimde teknoloji kullanımına ilişkin deterministik ve kuşak odaklı açıklamalardan uzaklaşarak daha incelikli ve davranış temelli anlayışlara geçiş için sağlam bir zemin oluşturmaktadır.

Anahtar Kelimeler: bağlamsal dijital kimlik, dijital yerliler, dijital göçmenler, öğretmenlerin teknoloji kullanımı, eğitim teknolojisi, kavramsal model

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Introduction

The rapid advancement of digital technologies has fundamentally transformed how individuals access, process, and produce information. In educational contexts, these transformations have intensified the need to understand how teachers engage with technology and integrate it into their instructional practices. One of the most influential frameworks in this domain has been the distinction between digital natives and digital immigrants, introduced by Marc Prensky (2001). According to this perspective, individuals who grow up surrounded by digital technologies develop distinct cognitive styles and learning preferences compared to those who adopt these technologies later in life.

Despite its widespread adoption, the digital native–immigrant dichotomy has been subject to substantial critique over the past two decades. Scholars have argued that the framework is conceptually simplistic, empirically weak, and potentially misleading (Bennett et al., 2008; Selwyn, 2009). In particular, the assumption that generational membership alone determines technological competence has been challenged by evidence demonstrating significant variation within age groups. Individuals of similar ages often display markedly different levels of digital skill, confidence, and usage patterns, suggesting that factors beyond age—such as experience, motivation, and context—play a critical role.

These limitations become especially evident in the case of teachers. While many educators actively engage with digital technologies in their personal lives—using social media, mobile applications, and communication tools—they often struggle to integrate similar technologies into pedagogical contexts. This discrepancy raises important questions about the validity of labeling teachers as “digital immigrants” based solely on their age or initial exposure to technology. If a teacher demonstrates high digital fluency in everyday contexts but exhibits reluctance or difficulty in instructional settings, can they still be accurately categorized within a fixed generational label?

This paper argues that such categorizations are insufficient for capturing the complexity of digital behavior. Instead of viewing digital identity as a stable, generationally determined attribute, this study conceptualizes it as a dynamic and context-dependent construct. Specifically, it introduces the concept of contextual digital identity, which posits that individuals’ digital behaviors vary across different domains of use—such as social, pedagogical, and academic contexts.

From this perspective, the key issue in understanding teachers’ technology use is not whether they belong to a particular generational category, but how they navigate different

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digital environments. A teacher may exhibit “digital native-like” behaviors when interacting with social media platforms, while simultaneously demonstrating “digital immigrant-like” tendencies when using learning management systems or instructional technologies. This situational variability highlights the need for a more flexible and nuanced framework.

Building on this argument, the present study proposes a conceptual model that explains digital identity as the outcome of interactions among three core components: usage context, individual factors, and perceived purpose. Furthermore, the study introduces the concept of pedagogical digital immigration to describe the phenomenon in which teachers, despite being digitally competent in everyday contexts, experience limitations in applying these competencies within teaching and learning processes.

By challenging the dominant dichotomous paradigm and offering a context-sensitive alternative, this paper aims to contribute to the theoretical development of educational technology research. It also seeks to provide a foundation for future empirical studies that can test and refine the proposed model. Ultimately, a more nuanced understanding of digital identity may lead to more effective teacher training programs, better-informed educational policies, and more meaningful integration of technology in classrooms.

Literature Review

The distinction between digital natives and digital immigrants has been one of the most influential frameworks in understanding individuals’ interactions with technology in educational contexts. Initially introduced by Marc Prensky (2001), this dichotomy posits that individuals who grow up with digital technologies develop fundamentally different cognitive processes and learning preferences compared to those who encounter these technologies later in life. Digital natives are often characterized as fast information processors, comfortable with multitasking, and inclined toward interactive and multimedia environments, whereas digital immigrants are described as more linear, reflective, and cautious in their use of technology.

Early literature widely adopted this framework to explain differences in learning styles and instructional needs. Studies have suggested that digital natives prefer rapid access to information, visual content, and interactive learning environments, while digital immigrants tend to favor structured, text-based, and sequential approaches to learning. These assumptions have influenced educational policy and instructional design, often leading to the belief that teaching strategies should be adapted primarily to match generational

characteristics.

However, the digital native–immigrant dichotomy has been increasingly challenged in the literature. One of the most prominent critiques comes from Bennett et al. (2008), who argue that the concept lacks robust empirical evidence and oversimplifies the diversity of learners' digital experiences. Similarly, Selwyn Neil (2009) contends that the notion of the notion of digital natives functions more as a myth than a scientifically grounded category, emphasizing that technological competence is shaped by access, experience, and socio-cultural factors rather than age alone.

Subsequent research has further demonstrated that individuals within the same age group can exhibit significant variability in digital skills, attitudes, and usage patterns. This intra-generational diversity undermines the assumption that digital proficiency can be predicted solely based on generational membership. In educational contexts, this variability is particularly evident among teachers, whose technology use is influenced not only by prior exposure but also by pedagogical beliefs, institutional constraints, and professional development opportunities.

Recent studies have begun to explore these complexities in more nuanced ways, particularly in the context of emerging technologies such as artificial intelligence. For instance, Stammers (2025) examines the pedagogical differences between digital natives and digital immigrants in AI-enhanced teaching environments and finds that digital natives tend to adopt AI-supported instructional tools more rapidly, whereas digital immigrants often face challenges related to technical knowledge and entrenched pedagogical habits. The study also highlights that effective integration of AI technologies requires not only technical competence but also pedagogical adaptation, suggesting that differences between the two groups are not merely generational but also contextual and practice based.

Importantly, Stammers (2025) emphasizes that teacher training, institutional support, and pedagogical orientation play a critical role in technology adoption. This aligns with broader research indicating that teachers' engagement with technology is mediated by factors such as self-efficacy, perceived usefulness, and instructional beliefs, rather than age alone. In this sense, the challenges faced by so-called digital immigrants may reflect systemic and contextual barriers rather than inherent limitations.

In parallel, emerging literature on AI and digital learning environments underscores the increasing complexity of technology integration in education. The rise of AI-supported teaching strategies has shifted the focus from mere access to technology toward meaningful

and pedagogically grounded use. As noted in recent research, AI has the potential to personalize learning, enhance student engagement, and transform instructional practices, but its effectiveness depends heavily on how teachers interpret and implement these tools within specific contexts.

Taken together, these findings suggest that the digital native–immigrant dichotomy is insufficient for explaining contemporary digital practices, particularly in educational settings characterized by rapid technological change. Rather than viewing digital identity as a fixed attribute determined by generational belonging, there is a growing need to conceptualize it as a dynamic, context-dependent construct.

This shift in perspective provides the foundation for the present study. Building on the limitations identified in the literature, this paper proposes the concept of contextual digital identity as an alternative framework. By focusing on the interaction between usage context, individual factors, and perceived purpose, this approach aims to offer a more comprehensive and flexible understanding of teachers' technology use.

Method

Research Design

This study adopts a conceptual research design, aiming to develop a theoretically grounded model to better explain teachers' technology use beyond the digital native–digital immigrant dichotomy. Conceptual papers are particularly valuable in fields where existing frameworks are insufficient to explain emerging phenomena, as they allow for theory building through critical synthesis and reinterpretation of existing literature (Gilson & Goldberg, 2015).

Rather than collecting empirical data, this study employs a theory-building approach that integrates critical analysis, conceptual synthesis, and model development. The primary objective is to challenge the assumptions underlying the dominant dichotomous framework and to propose an alternative explanatory model contextual digital identity that accounts for the dynamic and situational nature of digital behavior.

Methodological Approach

The study is based on a systematic and integrative literature review, which enables the identification of conceptual gaps and the development of new theoretical insights. Integrative reviews differ from traditional narrative reviews by combining findings from

diverse studies to generate new frameworks and perspectives (Torraco, 2005).

The literature reviewed in this study was selected based on the following criteria:

- Relevance to digital natives and digital immigrants
- Focus on technology use in educational contexts
- Inclusion of critical perspectives on generational classifications
- Consideration of emerging technologies such as artificial intelligence in education

Key sources include foundational works (e.g., Prensky, 2001), critical analyses (e.g., Bennett et al., 2008; Selwyn, 2009), and recent studies examining technology integration and pedagogical transformation (e.g., Stammers, 2025).

Model Development Process

The proposed Contextual Digital Identity Model was developed through a three-stage analytical process:

Stage 1: Conceptual Deconstruction

In the first stage, the digital native–immigrant framework was critically examined to identify its underlying assumptions and limitations. This analysis revealed three key issues:

- Overreliance on generational categorization
- Lack of sensitivity to contextual variation
- Insufficient consideration of individual and psychological factors

Stage 2: Conceptual Synthesis

In the second stage, insights from multiple strands of literature were synthesized, including:

- Educational technology research
- Psychological constructs such as self-efficacy
- Studies on teacher beliefs and technology adoption

This synthesis led to the identification of three core dimensions influencing digital behavior:

- Usage context (social, pedagogical, academic)

- Individual factors (self-efficacy, attitudes, experience)
- Perceived purpose (entertainment, productivity, obligation)

Stage 3: Model Construction

In the final stage, these dimensions were integrated into a coherent conceptual model. The model proposes that digital identity emerges from the interaction of these three dimensions, resulting in context-dependent behavioral outcomes categorized as:

- Digital native-like behavior
- Digital immigrant-like behavior
- Hybrid behavior

Additionally, the concept of pedagogical digital immigration was introduced to explain discrepancies between teachers' general digital competence and their instructional technology use.

Analytical Framework

The study employs a conceptual analytical framework that focuses on identifying relationships between constructs rather than testing causal effects. The proposed relationships are articulated through a set of theoretically derived propositions and hypotheses, which are intended to guide future empirical research.

The framework is grounded in the assumption that digital behavior is:

- Context-dependent rather than fixed
- Multidimensional rather than binary
- Dynamic rather than stable over time

Validity and Rigor

To ensure conceptual rigor, the study follows established criteria for theory-building research:

- Clarity of constructs: Each component of the model is explicitly defined
- Logical consistency: Relationships between constructs are theoretically justified
- Theoretical grounding: The model is anchored in existing literature

- Practical relevance: The framework addresses real-world challenges in education

Furthermore, the inclusion of testable hypotheses enhances the model's potential for empirical validation in future studies.

Limitations

As a conceptual study, this research does not provide empirical validation of the proposed model. The absence of quantitative or qualitative data limits the ability to test the strength and direction of relationships between variables. However, the primary aim of the study is theory development rather than theory testing. Future research is therefore needed to empirically examine the proposed framework across different educational contexts and populations.

Findings

Although this study does not rely on empirical data, the systematic synthesis of the literature and the proposed conceptual framework yield several important theoretical findings regarding the nature of digital identity and teachers' technology use.

Digital Identity as a Context-Dependent Construct

One of the central findings of this study is that digital identity should not be conceptualized as a fixed attribute determined by generational belonging. Instead, the analysis suggests that digital identity is inherently context-dependent.

The literature indicates that individuals demonstrate varying levels of digital competence and engagement across different domains of use. For instance, teachers who actively use social media platforms and digital communication tools in their daily lives may not exhibit the same level of competence or confidence in pedagogical contexts. This discrepancy challenges the assumption that individuals can be consistently categorized as either digital natives or digital immigrants.

The proposed model therefore reveals that context acts as a primary determinant of digital behavior, shaping how individuals interact with technology in specific situations.

The Emergence of Hybrid Digital Identities

A second key finding is the identification of hybrid digital identities. The traditional

dichotomy assumes mutually exclusive categories; however, the conceptual analysis demonstrates that individuals often exhibit characteristics associated with both digital natives and digital immigrants.

This hybridity becomes particularly visible in professional settings. For example, a teacher may display:

- High fluency and adaptability in social digital environments
- Hesitation, resistance, or limited competence in instructional technologies

Such patterns indicate that digital identity is not binary but rather exists along a continuum of behaviors. The model thus introduces hybridity as a natural and expected outcome of context-dependent digital engagement.

Pedagogical Context as a Critical Boundary

Another significant finding concerns the distinct role of pedagogical context in shaping digital behavior. The analysis suggests that pedagogical environments function as a critical boundary where digital competence is often reconfigured.

Unlike social or everyday contexts, pedagogical settings involve:

- Instructional responsibility
- Curriculum alignment
- Classroom management considerations
- Institutional expectations

These additional layers of complexity may lead individuals to adopt more cautious, structured, or traditional approaches to technology use. As a result, even digitally competent individuals may exhibit what can be described as digital immigrant-like behavior in teaching contexts.

This finding highlights that technology use in education cannot be fully understood without considering the specific demands of pedagogical environments.

Conceptualization of Pedagogical Digital Immigration

Building on the previous findings, the study introduces the concept of pedagogical digital immigration as a novel theoretical contribution. This concept refers to a situation in which

individuals who demonstrate digital fluency in everyday contexts experience limitations or reluctance when integrating technology into instructional practices.

The emergence of pedagogical digital immigration can be explained by several interacting factors:

- Lower pedagogical self-efficacy
- Misalignment between technology and instructional goals
- Lack of training in pedagogical technology integration
- Institutional constraints and expectations

This finding reframes the problem of teachers' technology use. Rather than attributing difficulties to generational deficits, it suggests that the issue lies in contextual and pedagogical misalignment.

The Role of Individual Factors in Shaping Digital Behavior

The analysis further reveals that individual factors—particularly self-efficacy, attitudes, and prior experience—play a crucial role in mediating digital behavior across contexts. Consistent with prior research, individuals with higher levels of digital self-efficacy are more likely to engage confidently with technology, regardless of their generational category.

However, the findings also indicate that these individual factors do not operate in isolation. Their influence is shaped by the interaction with context and perceived purpose. For example:

- High self-efficacy may lead to native-like behavior in low-risk environments
- The same individual may revert to immigrant-like behavior in high-stakes pedagogical settings

Thus, digital behavior emerges from a dynamic interaction between internal dispositions and external conditions.

Perceived Purpose as a Determining Mechanism

Another important finding is the role of perceived purpose in shaping digital engagement. The analysis suggests that individuals approach technology differently depending on whether it is perceived as:

- A tool for entertainment
- A means of increasing efficiency
- A professional obligation

When technology is driven by intrinsic motivation (e.g., enjoyment or personal interest), individuals tend to display more exploratory and adaptive behaviors. In contrast, when technology is perceived as obligatory or externally imposed, individuals are more likely to adopt cautious and limited usage patterns.

This finding reinforces the idea that digital identity is not only context-dependent but also purpose-driven.

Reframing the Problem of Technology Integration in Education

Collectively, these findings challenge the dominant narrative that attributes teachers' technology use to generational differences. Instead, the study demonstrates that:

- Digital identity is dynamic rather than fixed
- Technology use is contextually shaped rather than generationally determined
- Variations in behavior are better explained by contextual, psychological, and purposive factors

This reframing has important implications. It suggests that efforts to improve technological integration in education should shift away from generational assumptions and focus instead on:

- Enhancing pedagogical self-efficacy
- Designing context-sensitive training programs
- Aligning technology use with instructional goals

Summary of Theoretical Findings

In summary, the proposed conceptual model yields the following key theoretical insights:

- Digital identity is context-dependent rather than generationally fixed.
- Individuals exhibit hybrid digital behaviors across different contexts.
- Pedagogical settings represent a critical boundary shaping technology use.

- The concept of pedagogical digital immigration explains discrepancies in teachers' digital practices.
- Individual factors and perceived purpose interact with context to determine digital behavior.

These findings provide a comprehensive theoretical foundation for understanding teachers' technology use and offer a basis for future empirical validation of the model.

Discussion

The purpose of this study was to move beyond the dominant digital native–digital immigrant dichotomy and to propose a more nuanced framework for understanding teachers' technology use. The findings of the conceptual analysis provide several important implications for theory, research, and practice.

Rethinking the Digital Native–Immigrant Dichotomy

One of the central contributions of this study is the critical reconsideration of the digital native–immigrant distinction. While the framework introduced by Marc Prensky (2001) has played a significant role in shaping educational discourse, the present analysis supports the growing body of literature questioning its validity and explanatory power (Bennett et al., 2008; Selwyn Neil, 2009).

The findings suggest that categorizing individuals based on generational labels fails to capture the complexity of digital practices. In particular, the assumption that younger individuals inherently possess higher levels of digital competence is not consistently supported by empirical evidence. Instead, digital engagement appears to be shaped by a range of contextual and individual factors, which vary across situations.

This study therefore aligns with critical perspectives that view the digital native construct not as a stable category, but as a discursive simplification that risks obscuring important differences within populations.

From Generational Categories to Contextual Identities

A key implication of the proposed model is the shift from generational categorization to contextual interpretation. The concept of contextual digital identity emphasizes that digital behavior is not fixed but dynamically shaped by the interaction between context, individual

characteristics, and perceived purpose.

This perspective offers a more flexible and explanatory framework compared to binary classifications. It accounts for the observed variability in teachers' technology use and explains why individuals may demonstrate different levels of competence across different domains. In doing so, it challenges deterministic assumptions and highlights the importance of situational factors.

Importantly, this shift also redefines how digital competence should be understood. Rather than treating it as a generalized skill, the findings suggest that digital competence is domain-specific and context-sensitive.

Explaining the Pedagogical Gap in Technology Use

One of the most significant insights of this study is the identification of a gap between teachers' everyday digital practices and their pedagogical use of technology. This gap has often been interpreted as evidence of generational deficiency; however, the present analysis offers an alternative explanation.

The concept of pedagogical digital immigration provides a useful lens for understanding this phenomenon. It suggests that teachers' difficulties in integrating technology into instruction are not primarily due to lack of exposure or age-related limitations, but rather to the unique demands of pedagogical contexts. These contexts require not only technical competence but also pedagogical alignment, classroom management, and curriculum integration.

This interpretation is consistent with findings from recent research, including Stammers (2025), which highlights that the effective use of AI-enhanced teaching strategies depends on pedagogical adaptation rather than mere technological familiarity. Teachers who are proficient in everyday digital tools may still struggle to apply these tools meaningfully in instructional settings if they lack pedagogical support or confidence.

The Role of Psychological and Contextual Factors

The discussion also underscores the importance of psychological variables, particularly self-efficacy, shaping digital behavior. Consistent with broader literature on technology adoption, individuals with higher perceived competence are more likely to engage with digital tools in innovative ways. However, this study extends this understanding by showing that the

influence of such factors is mediated by context.

For example, a teacher with high digital self-efficacy may confidently use technology in informal settings but exhibit hesitation in formal teaching environments where the stakes are higher. This indicates that psychological readiness alone is insufficient; it must be supported by appropriate contextual conditions.

Furthermore, the role of perceived purpose highlights that motivation is a key driver of digital engagement. When technology use is aligned with meaningful goals—such as improving teaching effectiveness, individuals are more likely to adopt and sustain its use. Conversely, when technology is perceived as an external requirement, resistance or superficial adoption may occur.

Implications for Educational Practice and Policy

The findings of this study have important implications for educational practice and policy. First, they suggest that teacher training programs should move beyond generic technology skills and focus on context-specific applications, particularly within pedagogical settings. Developing teachers' ability to integrate technology meaningfully into instruction requires not only technical training but also pedagogical support.

Second, educational policies should avoid framing technology integration as a generational issue. Labeling teachers as digital immigrants may inadvertently reinforce deficit perspectives and overlook the structural and contextual challenges they face. Instead, policies should emphasize capacity building, ongoing professional development, and supportive institutional environments.

Finally, the contextual perspective highlights the need for flexible and adaptive approaches to technology integration. Rather than prescribing uniform solutions, educational systems should recognize the diversity of teachers' experiences and provide differentiated support based on their specific needs and contexts.

Theoretical Contributions

From a theoretical standpoint, this study contributes to the literature by introducing a dynamic and multidimensional conceptualization of digital identity. The proposed model expands existing frameworks by integrating contextual, psychological, and purposive dimensions, thereby offering a more comprehensive understanding of digital behavior.

Additionally, the introduction of the concept of pedagogical digital immigration provides a novel lens for examining technology use in education. This concept bridges the gap between general digital competence and instructional practice, highlighting an area that has been relatively underexplored in literature.

Limitations and Future Directions

While the study provides a strong conceptual foundation, it is not without limitations. As a theoretical work, it does not include empirical validation of the proposed model. Future research should therefore aim to test the model across different educational contexts and populations.

Moreover, further studies could explore how contextual digital identity evolves over time and how it is influenced by factors such as institutional culture, access to resources, and professional development opportunities. Investigating these dynamics would provide deeper insights into the mechanisms underlying technology use in education.

Conclusion of the Discussion

In conclusion, this study challenges the continued reliance on the digital native–immigrant dichotomy and proposes a more nuanced and context-sensitive framework. By conceptualizing digital identity as dynamic and situational, it offers a more accurate and meaningful way to understand teachers' technology use. This shift not only advances theoretical discussions but also provides a foundation for more effective educational practices and policies.

Conclusion and Recommendations

Conclusion

This study set out to critically examine the digital native–digital immigrant dichotomy and to propose an alternative framework for understanding teachers' technology use in contemporary educational contexts. Drawing on a systematic and integrative review of the literature, the study introduced the concept of contextual digital identity and developed a conceptual model that explains digital behavior as the outcome of interactions among usage context, individual factors, and perceived purpose.

The findings suggest that digital identity cannot be adequately explained through

generational categories alone. Instead, it emerges as a dynamic, context-dependent, and multidimensional construct. Teachers do not consistently align with fixed labels such as “digital native” or “digital immigrant”; rather, they demonstrate varying digital behaviors depending on the context in which technology is used. This variability highlights the limitations of binary classifications and calls for more flexible and explanatory frameworks.

A key contribution of this study is the identification of the pedagogical gap between teachers’ everyday digital practices and their instructional use of technology. To conceptualize this phenomenon, the study introduced the notion of pedagogical digital immigration, which captures the context-specific challenges teachers face when integrating technology into teaching and learning processes. This concept shifts the focus from generational deficits to contextual and pedagogical factors, offering a more accurate explanation of technology integration issues in education.

Overall, this study contributes to the theoretical advancement of educational technology research by challenging dominant assumptions and proposing a model that better reflects the complexity of digital behavior. By reframing digital identity as contextual rather than generational, it provides a foundation for more nuanced research and more effective educational practices.

Recommendations

Implications for Teacher Education

Teacher education programs should move beyond generic digital literacy training and focus on context-specific digital competencies, particularly in pedagogical settings. Developing teachers’ ability to integrate technology effectively requires not only technical skills but also pedagogical knowledge and confidence. Training programs should therefore:

- Emphasize the pedagogical use of digital tools
- Strengthen teachers’ digital self-efficacy in instructional contexts
- Provide opportunities for practice-based learning and reflection

Implications for Educational Policy

Educational policies should avoid framing technology integration as a generational issue. The use of labels such as “digital immigrants” may oversimplify the problem and obscure the underlying contextual challenges. Instead, policy initiatives should:

- Focus on capacity building rather than categorization
- Support continuous professional development
- Create institutional environments that encourage experimentation and innovation

Implications for Practice

For practitioners, the findings highlight the importance of aligning technology use with instructional goals and classroom realities. Schools and educational institutions should:

- Provide ongoing technical and pedagogical support
- Encourage collaborative learning communities among teachers
- Promote context-sensitive technology integration strategies

Directions for Future Research

Future research should aim to empirically test the proposed contextual digital identity model across diverse educational settings. Studies could:

- Examine how digital identity varies across different contexts (e.g., social, pedagogical, academic)
- Investigate the role of self-efficacy and perceived purpose in shaping digital behavior
- Explore the concept of pedagogical digital immigration through qualitative and quantitative methods

Longitudinal and mixed-methods studies may provide deeper insights into how teachers' digital identities evolve over time and how they respond to changing technological environments, including emerging tools such as artificial intelligence.

Final Remark

In an era characterized by rapid technological change, understanding how teachers engage with digital tools requires moving beyond simplistic categorizations toward more nuanced and context-sensitive perspectives. The concept of contextual digital identity offers such a perspective, opening new avenues for research, policy, and practice. By recognizing the dynamic nature of digital behavior, educators and researchers can better support meaningful and sustainable technology integration in education.

Conflict of Interest and Ethics Statement

The author declares no conflicts of interest. This research study is in accordance with research publication ethics.

Authorship Contribution Statement

Author 1: Research, Resources, Visualization, Software, Stylistic Analysis and Writing-original draft.

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