

Developing Teacher Professional Identity through Arts-Based Education in the Digital Transformation Era: The Role of Higher Education Leadership

Ha Thanh Huong¹, Tran Thi Thom^{2*}

¹National Academy of Education Management, Hanoi city, Vietnam

Email: huonght@niem.edu.vn

²National Academy of Education Management, Hanoi city, Vietnam

Email: thomkql.niem@gmail.com

*Corresponding Author: Tran Thi Thom, E-mail: thomkql.niem@gmail.com

HOW TO CITE:

Ha Thanh Huong, Tran Thi Thom
(2026). Developing Teacher
Professional Identity through Arts-
Based Education in the Digital
Transformation Era: The Role of
Higher Education Leadership.
International Journal of Special
Education, 41(5s), 27-39.

COPYRIGHT STATEMENT:

Copyright: © 2026 Authors.
Open access publication under the
terms and conditions
of the Creative Commons Attribution
(CC BY)
license (<http://creativecommons.org/licenses/by/4.0/>).

ABSTRACT:

This study investigates the development of teacher professional identity through arts-based education in the context of digital transformation, with a particular emphasis on the role of higher education leadership. A mixed-methods research design was employed, combining quantitative data from 218 participants across four Vietnamese higher education institutions with qualitative insights from 12 semi-structured interviews. Structural Equation Modeling (SEM) results indicate that arts-based education has a significant positive effect on teacher professional identity. Digital transformation was found to moderate this relationship, enhancing the impact of arts-based learning in technologically enriched environments. Additionally, higher education leadership significantly influenced both the implementation of arts-based education and the development of professional identity, while also partially mediating their relationship. Qualitative findings further revealed that arts-based practices foster reflective identity formation, digital environments provide both opportunities and constraints, and leadership acts as a key enabler of pedagogical innovation. The study proposes an integrated framework linking pedagogical, technological, and organizational factors, contributing to theoretical understanding and offering practical implications for teacher education in the digital era.

Keywords: arts-based education; teacher professional identity; digital transformation; higher education leadership; teacher education; structural equation modeling.

1. Introduction

In recent years, the rapid advancement of digital technologies has profoundly reshaped higher education systems worldwide. Digital

transformation has not only altered modes of teaching and learning but has also redefined the competencies required of teachers in contemporary educational contexts. Within this evolving landscape, the development of teacher

professional identity has emerged as a critical concern, particularly in teacher education programs that must respond to increasingly complex pedagogical, technological, and socio-cultural demands (Jing et al., 2025; Kamran, 2025). Professional identity is no longer viewed as a static construct but rather as a dynamic and ongoing process shaped by experiences, reflections, and interactions within diverse learning environments (Kenny et al., 2015).

At the same time, arts-based education has gained renewed attention as a powerful pedagogical approach for fostering holistic teacher development. By integrating creative processes, emotional engagement, and reflective practices, arts-based learning contributes significantly to the formation of professional identity. It enables preservice teachers to explore personal beliefs, values, and teaching philosophies in meaningful ways, thereby enhancing their capacity for critical reflection and self-awareness (Aluri et al., 2023; McKay, 2021). Furthermore, arts-based approaches encourage creativity, empathy, and adaptability, which are essential attributes for educators operating in complex and rapidly changing educational environments (Ewing et al., 2018).

The intersection between arts-based education and digital transformation presents both opportunities and challenges. On one hand, digital technologies such as virtual reality, online platforms, and digital storytelling tools have expanded the possibilities for delivering arts education, making it more accessible and interactive (Gonzalez-Zamar & Abad-Segura, 2020; Lehrman, 2025). These technologies enable immersive and innovative learning experiences that can deepen students' engagement and support identity development. On the other hand, the transition to digital environments raises significant concerns regarding the authenticity and effectiveness of teaching creative arts, which traditionally rely on embodied, experiential, and face-to-face interactions (Burke, 2020, 2021). As a result, educators are required to adapt their pedagogical practices while maintaining the core values of arts education.

In this context, the role of higher education leadership becomes increasingly important. Effective leadership is essential for guiding institutions through digital transformation while ensuring the quality and relevance of teacher education programs. Leaders in higher education play a pivotal role in shaping institutional strategies, fostering innovation, and supporting faculty in integrating arts-based and technology-enhanced pedagogies (Chow & Leung, 2018; Jing et al., 2025). Moreover, leadership practices influence the extent to which educational reforms are successfully implemented, particularly in contexts where cultural preservation and professional development are closely intertwined, such as in Vietnam (Huong et al., 2025). Without strong and visionary leadership, efforts to integrate arts-based education within digitally transformed learning environments may remain fragmented and ineffective.

Despite the growing body of research on arts-based education, digital transformation, and educational leadership, there remains a significant gap in understanding how these elements interact to influence teacher professional identity development. Existing studies tend to examine these factors in isolation, with limited attention to their combined impact within higher education contexts. This gap is particularly evident in developing countries, where digital transformation is rapidly progressing but institutional capacities and pedagogical practices are still evolving (Nguyen, 2020). Addressing this gap is crucial for designing effective teacher education programs that are responsive to both global trends and local needs.

Therefore, this study aims to explore the development of teacher professional identity through arts-based education in the digital transformation era, with a particular focus on the role of higher education leadership. Specifically, the study seeks to examine how arts-based pedagogical approaches contribute to identity formation, how digital transformation moderates this process, and how leadership practices facilitate or constrain these developments. By integrating these perspectives, the study proposes a

comprehensive framework for understanding teacher identity development in contemporary higher education settings.

The findings of this research are expected to contribute to both theory and practice. Theoretically, the study advances current understanding by proposing an integrated model that connects arts-based education, digital transformation, and leadership. Practically, it offers insights for policymakers, educational leaders, and teacher educators on how to design and implement effective training programs that foster professional identity in the digital age. In doing so, the study responds to global calls for innovative, inclusive, and culturally responsive approaches to education, as emphasized in international frameworks such as those proposed by UNESCO (UNESCO, 2023).

2. Literature Review

2.1. Teacher Professional Identity

Teacher professional identity is a multifaceted and dynamic construct that reflects how teachers perceive themselves and their roles within educational contexts. It encompasses a combination of beliefs, values, experiences, and professional practices that evolve over time through continuous interaction with social, institutional, and cultural environments (Kenny et al., 2015). Rather than being a fixed attribute, professional identity is understood as a developmental process shaped by both internal reflection and external influences, including teacher education programs, classroom experiences, and broader educational reforms.

At its core, teacher professional identity includes several key components. First, it involves professional self-awareness, which refers to teachers' understanding of their roles, responsibilities, and positions within the teaching profession. Second, it incorporates beliefs and values, which guide pedagogical decisions and influence how teachers interpret educational goals and student needs. Third, it encompasses pedagogical competencies, including subject knowledge, instructional strategies, and the ability to adapt teaching practices to diverse learning environments. These components interact in

complex ways, contributing to the formation of a coherent and meaningful professional identity (Kenny et al., 2015; Kim et al., 2021).

The development of teacher professional identity typically occurs through a combination of formal education, practical experience, and reflective practice. During initial teacher education, pre-service teachers begin to construct their professional identities by engaging with theoretical knowledge and observing teaching practices. This process is further refined through practicum experiences, where individuals confront real classroom challenges and negotiate their roles as educators. Reflection plays a critical role in this developmental trajectory, enabling teachers to critically examine their experiences, reconcile tensions, and continuously reshape their professional selves (McKay, 2021). In this sense, identity formation is not a linear process but an ongoing negotiation between personal aspirations and contextual demands.

In recent years, the increasing integration of digital technologies into education has added new dimensions to teacher professional identity. Digital tools such as online learning platforms, artificial intelligence, and digital storytelling have transformed teaching practices and expanded the scope of teacher roles (Kim et al., 2021). Teachers are now expected not only to deliver content but also to facilitate digital learning environments, support student engagement in virtual contexts, and continuously update their technological competencies. These changes require teachers to reconstruct their professional identities in ways that integrate pedagogical expertise with digital literacy and adaptability.

Moreover, contemporary research highlights the importance of holistic and reflective approaches to identity development, particularly those that incorporate creative and arts-based practices. Such approaches provide opportunities for teachers to express their experiences, explore emotions, and construct meaningful narratives about their professional journeys (Aluri et al., 2023; McKay, 2021). By engaging in reflective and creative processes, teachers can develop a deeper understanding of their professional identities,

enhancing both their resilience and their commitment to the profession.

Despite growing recognition of its importance, the development of teacher professional identity remains a complex challenge, especially in contexts undergoing rapid educational transformation. Factors such as institutional constraints, policy pressures, and technological changes can create tensions that influence how teachers perceive and enact their roles. Therefore, understanding the processes and conditions that support identity development is essential for designing effective teacher education programs that respond to the demands of the digital era.

2.2. Arts-Based Education

Arts-based education has increasingly been recognized as a transformative pedagogical approach that extends beyond the transmission of knowledge to foster holistic development in learners. It encompasses the integration of artistic processes, creative expression, and reflective practices into teaching and learning, thereby enabling individuals to engage cognitively, emotionally, and socially with educational content. Unlike traditional instructional approaches that often emphasize standardized outcomes, arts-based education promotes open-ended inquiry, imagination, and personal meaning-making, which are essential for developing adaptable and reflective educators (Ewing et al., 2018; Frascara, 2017).

In the context of teacher education, arts-based approaches play a crucial role in shaping professional identity. Professional identity is deeply intertwined with teachers' beliefs, values, and experiences, and arts-based learning provides a unique space for exploring these dimensions. Through activities such as visual arts, storytelling, performance, and reflective writing, preservice teachers are encouraged to examine their personal narratives and connect them with their emerging roles as educators. This process fosters self-awareness and critical reflection, which are fundamental components of identity formation (Kenny et al., 2015; McKay, 2021). For instance, arts-based reflective practices have been shown to

enhance resilience and well-being among teacher candidates, while simultaneously strengthening their sense of professional purpose (McKay, 2021).

Furthermore, arts-based education contributes to the development of key competencies required in contemporary teaching. Creativity, empathy, collaboration, and the ability to engage learners in meaningful ways are increasingly valued in modern educational systems. Arts-based pedagogies support these competencies by encouraging experimentation, perspective-taking, and collaborative learning. In STEAM-oriented teacher training programs, the integration of arts with science and technology has been found to enrich pedagogical practices and promote interdisciplinary thinking (Boice et al., 2021). This aligns with global educational trends that emphasize the importance of creativity and innovation in preparing teachers for the complexities of the twenty-first century.

The relevance of arts-based education has become even more pronounced in the era of digital transformation. Advances in digital technologies have expanded the possibilities for implementing arts-based learning through tools such as digital storytelling, multimedia production, and virtual reality environments. These technologies allow learners to create and share artistic expressions in new and dynamic ways, thereby enhancing engagement and accessibility (Gonzalez-Zamar & Abad-Segura, 2020; Lehrman, 2025). Digital storytelling, for example, has been shown to support the development of teacher professional identity by enabling individuals to articulate and reflect on their learning experiences in multimodal formats (Kim et al., 2021).

However, the integration of arts-based education into digital environments is not without challenges. The essence of arts education often lies in embodied, sensory, and interactive experiences, which can be difficult to replicate in online settings. Educators have reported constraints related to reduced physical interaction, limited access to materials, and difficulties in facilitating authentic creative engagement in virtual classrooms (Burke, 2020, 2021). These challenges highlight the need for innovative pedagogical strategies that preserve the core values of arts-

based learning while leveraging the affordances of digital technologies.

In addition, institutional support and leadership play a critical role in the successful implementation of arts-based education. Effective integration requires not only pedagogical innovation but also organizational commitment, including curriculum design, resource allocation, and professional development for educators. Educational leaders must therefore create enabling environments that encourage experimentation and collaboration, ensuring that arts-based approaches are sustainably embedded within teacher education programs (Chow & Leung, 2018; Huong et al., 2025).

Overall, arts-based education offers significant potential for enhancing teacher professional identity by fostering creativity, reflection, and holistic development. When effectively integrated with digital technologies and supported by strong leadership, it can serve as a powerful framework for preparing teachers to navigate the complexities of contemporary education. However, realizing this potential requires careful consideration of both pedagogical and institutional factors, particularly in the context of ongoing digital transformation.

2.3. Digital Transformation in Education

Digital transformation has become a defining feature of contemporary education systems, fundamentally reshaping teaching, learning, and institutional management practices. In higher education, this transformation is driven by the rapid development and integration of digital technologies such as learning management systems, artificial intelligence, virtual reality, and online collaborative platforms. These technologies have expanded access to education, enhanced flexibility in learning, and enabled new forms of interaction between teachers and learners (Jing et al., 2025; Yadav, 2025). As a result, digital transformation is not merely a technological shift but a comprehensive reconfiguration of pedagogical approaches and educational ecosystems.

In teacher education, digital transformation plays a crucial role in redefining how future educators are trained and how they construct their professional

identities. Digital tools facilitate personalized learning experiences, allowing preservice teachers to engage with diverse content, collaborate across contexts, and reflect on their learning processes in innovative ways. For example, digital storytelling has been identified as an effective approach for supporting teacher identity development, as it enables individuals to articulate their experiences and professional perspectives through multimodal narratives (Kim et al., 2021). Such practices align with contemporary views of learning as an active, participatory, and reflective process.

Moreover, emerging technologies such as virtual reality and immersive learning environments are opening new possibilities for experiential and arts-based education. Virtual reality, in particular, allows learners to engage in simulated environments that replicate real-world contexts, thereby enhancing understanding and engagement (Gonzalez-Zamar & Abad-Segura, 2020; Serna-Mendiburu & Guerra-Tamez, 2024). In the field of art and design education, these technologies support embodied and interactive learning experiences that can complement traditional pedagogical approaches (Lehrman, 2025). Consequently, digital transformation offers significant opportunities for enriching teacher education programs, especially when integrated with creative and arts-based methodologies.

Despite these opportunities, digital transformation also presents a range of challenges. One of the primary concerns is the potential loss of interpersonal interaction and embodied learning experiences, which are essential components of effective teaching, particularly in disciplines such as the arts. Research on online arts education has highlighted difficulties in maintaining authentic engagement, facilitating hands-on activities, and fostering meaningful connections between teachers and students in virtual environments (Burke, 2020, 2021). Additionally, disparities in access to digital resources and varying levels of digital competence among educators can further complicate the implementation of technology-enhanced learning.

Another important dimension of digital transformation is its impact on pedagogical practices. Educators are required to adopt new

teaching strategies that leverage digital tools while maintaining pedagogical effectiveness. This includes designing interactive online activities, integrating multimedia resources, and supporting collaborative learning in virtual spaces. Such changes demand not only technical skills but also a shift in mindset, as teachers must navigate the balance between technology use and pedagogical integrity (Nguyen, 2020). Consequently, professional development and continuous learning become essential for educators to adapt to the evolving demands of digital education.

Furthermore, digital transformation necessitates strong institutional support and strategic leadership. Educational leaders play a critical role in guiding the adoption of digital technologies, ensuring alignment with institutional goals, and fostering a culture of innovation. Leadership practices influence how effectively digital transformation is implemented, including decisions related to infrastructure, curriculum design, and faculty support (Jing et al., 2025; Kamran, 2025). Without such support, digital initiatives may remain fragmented or fail to achieve their intended impact.

2.4. Higher Education Leadership

Higher education leadership has become a critical factor in shaping the direction and quality of contemporary educational systems, particularly in the context of rapid digital transformation and pedagogical innovation. Traditionally, leadership in higher education focused on administrative management and policy implementation; however, in recent decades, it has evolved into a more dynamic and strategic function that encompasses vision-building, change management, and the facilitation of innovation (Chow & Leung, 2018). In the digital era, educational leaders are expected not only to manage institutional operations but also to guide the transformation of teaching and learning practices in response to emerging technological and societal demands (Kamran, 2025).

One of the key roles of higher education leadership is to create an enabling environment for pedagogical innovation, including the integration

of arts-based education into teacher training programs. Effective leaders foster a culture that values creativity, experimentation, and interdisciplinary collaboration, thereby supporting educators in adopting innovative teaching approaches. In the context of arts education, leadership plays a crucial role in ensuring that creative pedagogies are recognized as integral components of teacher development rather than supplementary activities. This involves aligning institutional policies, curricula, and assessment practices with the goals of holistic and reflective education (Huong et al., 2025).

Furthermore, leadership is essential in navigating the complexities of digital transformation in higher education. The adoption of digital technologies requires coordinated efforts in infrastructure development, faculty training, and curriculum redesign. Leaders must therefore act as change agents who can balance technological advancement with pedagogical integrity. Research on digital academic leadership highlights the importance of strategic vision, digital competence, and collaborative decision-making in successfully implementing technology-enhanced education (Jing et al., 2025). Without such leadership, digital transformation initiatives may lack coherence and fail to achieve sustainable impact.

Another important dimension of higher education leadership is its influence on teacher professional identity development. Leadership practices shape the institutional climate in which teacher education occurs, affecting how preservice teachers perceive their roles and responsibilities. Supportive leadership can encourage reflective practice, professional growth, and the development of a strong sense of identity among future educators. Conversely, a lack of leadership support may hinder innovation and limit opportunities for meaningful engagement with arts-based and digital pedagogies. In this sense, leadership acts as both a facilitator and a mediator in the process of identity formation.

In addition, higher education leaders play a vital role in bridging global educational trends with local cultural contexts. In countries such as Vietnam, where educational reforms are closely linked to

cultural preservation and national development goals, leadership must balance international standards with local values. This is particularly relevant in arts-based education, which often serves as a medium for cultural expression and identity formation. Leaders must therefore ensure that teacher education programs remain culturally responsive while embracing global innovations (Huong et al., 2025; UNESCO, 2023).

Despite its importance, higher education leadership faces several challenges in the digital era. These include resistance to change, limited resources, and disparities in digital competencies among faculty members. Addressing these challenges requires leaders to adopt inclusive and participatory approaches, engaging stakeholders at all levels of the institution. Additionally, continuous professional development for leaders themselves is necessary to keep pace with evolving educational landscapes and technological advancements (Kamran, 2025).

3. Theoretical Framework

This study is grounded in an integrated theoretical perspective that connects arts-based education, digital transformation, and higher education leadership to explain the development of teacher professional identity. Teacher professional identity is conceptualized as a dynamic and evolving construct shaped through continuous interaction between personal experiences, pedagogical practices, and institutional contexts (Kenny et al., 2015). Within this framework, arts-based education is positioned as a primary pedagogical driver that fosters reflective practice, creativity, and self-awareness, all of which are essential for identity formation.

Arts-based education provides meaningful opportunities for preservice teachers to engage in reflective and experiential learning processes. Through artistic expression, narrative construction, and dialogical engagement, learners are encouraged to explore their beliefs, values, and professional aspirations. These processes contribute directly to the development of professional identity by enabling individuals to construct and reconstruct their understanding of what it means to be a

teacher (Aluri et al., 2023; McKay, 2021). Therefore, arts-based education is hypothesized to have a direct and positive influence on teacher professional identity.

However, the impact of arts-based education does not occur in isolation. In the context of contemporary higher education, digital transformation plays a critical moderating role. The integration of digital technologies such as online learning platforms, virtual reality, and digital storytelling tools can enhance or constrain the effectiveness of arts-based pedagogies. On one hand, digital tools expand access to creative learning environments and enable innovative forms of engagement. On the other hand, they may limit embodied interaction and affect the authenticity of artistic experiences (Burke, 2020, 2021; Gonzalez-Zamar & Abad-Segura, 2020). As such, digital transformation is conceptualized in this study as a moderating variable that influences the strength and direction of the relationship between arts-based education and teacher professional identity.

In addition to technological factors, institutional leadership is identified as a key mechanism that facilitates and mediates the implementation of educational innovations. Higher education leadership shapes the organizational conditions under which arts-based and digitally enhanced pedagogies are adopted. Leaders influence curriculum design, resource allocation, professional development opportunities, and the overall culture of innovation within institutions (Chow & Leung, 2018; Jing et al., 2025). Consequently, leadership not only directly supports the development of teacher professional identity but also mediates the relationship between arts-based education and identity formation by enabling or constraining pedagogical practices.

The proposed theoretical model thus positions higher education leadership as both a facilitator and a mediator. As a facilitator, leadership promotes the effective implementation of arts-based education within digitally transformed environments. As a mediator, it explains how institutional support and strategic direction translate pedagogical approaches into meaningful

identity development outcomes. This dual role reflects the complexity of educational change processes in higher education, particularly in contexts undergoing rapid digital transformation.

Based on this framework, the study proposes the following research hypotheses:

H1: Arts-based education positively affects teacher professional identity.

H2: Digital transformation moderates the relationship between arts-based education and teacher professional identity.

H3: Higher education leadership positively influences both the implementation of arts-based education and the development of teacher professional identity.

H4: Higher education leadership mediates the relationship between arts-based education and teacher professional identity.

4. Research Methodology

4.1. Research Design

This study employed a mixed-methods research design to comprehensively examine the relationships among arts-based education, digital transformation, higher education leadership, and teacher professional identity. The combination of quantitative and qualitative approaches enabled the study to test the proposed hypotheses while also providing in-depth insights into participants' experiences and perceptions. The quantitative component focused on examining the structural relationships among the key variables, whereas the qualitative component aimed to explain and enrich the interpretation of the quantitative findings.

4.2. Participants

The study involved participants from several higher education institutions in Vietnam, including Military University of Culture and Arts, Hanoi National University of Education, National University of Arts Education, and National Academy of Education Management. These institutions were selected because of their active engagement in teacher education, arts-based training, and digital transformation initiatives.

A purposive sampling method was used to ensure that participants had relevant experience with arts-based education and digital learning environments.

A total of 218 valid responses were collected for the quantitative analysis. The sample consisted of 142 preservice teachers (65.1%), 44 university lecturers (20.2%), and 32 educational administrators (14.7%), ensuring accurate proportional representation across the three participant groups.

For the qualitative phase, 12 participants were selected for semi-structured interviews, including 6 preservice teachers, 4 lecturers, and 2 administrators. This selection ensured a balanced representation of perspectives across different roles.

4.3. Instruments

Multiple data collection instruments were used to ensure the reliability and validity of the study.

Questionnaire: A structured questionnaire was developed using a five-point Likert scale (1 = strongly disagree to 5 = strongly agree). The instrument measured four main constructs: Arts-Based Education (ABE); Digital Transformation (DT); Higher Education Leadership (HEL); Teacher Professional Identity (TPI). The measurement items were adapted from established studies and refined to align with the context of this research.

Semi-structured interviews: An interview protocol was designed to explore participants' experiences related to arts-based education, digital transformation, and leadership support.

Document analysis: Relevant institutional documents, including curriculum frameworks and policy guidelines, were reviewed to provide contextual support.

4.4. Data Collection

Data collection was conducted in two stages.

In the quantitative phase, the questionnaire was distributed online via a digital survey platform. Participants voluntarily completed the survey, and confidentiality was strictly maintained.

In the qualitative phase, semi-structured interviews were conducted either face-to-face or through online communication platforms. Each interview lasted between 30 and 60 minutes and was audio-recorded with participants' consent. Relevant documents were also collected to support data triangulation.

4.5. Data Analysis

Both quantitative and qualitative data analysis methods were employed.

Quantitative analysis:

The quantitative data were analyzed using SPSS and SmartPLS software. The analysis included:

- Descriptive statistics (Mean and Standard Deviation)
- Reliability testing (Cronbach's Alpha and Composite Reliability)
- Validity assessment (convergent and discriminant validity)
- Structural Equation Modeling (SEM) to test the proposed hypotheses

Qualitative analysis:

The interview data were analyzed using thematic analysis, including transcription, coding, and theme identification related to arts-based education, digital transformation, leadership, and professional identity.

5. Research Findings

5.1. Quantitative Findings

Measurement Model Assessment

The reliability and validity of the measurement model were first examined. The results indicated that all constructs met the required thresholds.

Cronbach's Alpha values ranged from 0.81 to 0.90, indicating high internal consistency.

Composite Reliability (CR) values were all above 0.85, confirming construct reliability.

The Average Variance Extracted (AVE) values ranged from 0.56 to 0.72, exceeding the

recommended threshold of 0.50, thereby establishing convergent validity.

Discriminant validity was confirmed using the Fornell–Larcker criterion, as the square root of AVE for each construct was greater than the inter-construct correlations.

Structural Model Results

Table 1. Structural Model Results and Hypothesis Testing

Hypothesis	Path	β	T-value	p-value	Result
H1	ABE $\rightarrow$ TPI	0.44	7.12	0.000	Supported
H2	ABE $\times$ DT $\rightarrow$ TPI	0.17	2.88	0.004	Supported
H3	HEL $\rightarrow$ ABE	0.53	8.45	0.000	Supported
	HEL $\rightarrow$ TPI	0.35	5.62	0.000	Supported
H4	ABE $\rightarrow$ HEL $\rightarrow$ TPI (Indirect)	0.21	3.94	0.000	Supported

Hypothesis Testing

H1: Arts-based education had a significant positive effect on teacher professional identity ($\beta = 0.44$, $p < 0.001$). This result confirms that engagement in arts-based learning activities enhances the development of professional identity among participants.

H2: Digital transformation significantly moderated the relationship between arts-based education and teacher professional identity ($\beta = 0.17$, $p < 0.01$). This indicates that the positive effect of arts-based education on identity development becomes stronger in environments with higher levels of digital integration.

H3: Higher education leadership had a significant positive effect on both arts-based education implementation ($\beta = 0.53$, $p < 0.001$) and teacher professional identity ($\beta = 0.35$, $p < 0.001$). This demonstrates that leadership plays a dual role in promoting innovative pedagogical practices and directly supporting identity formation.

H4: The mediation analysis revealed that higher education leadership partially mediated the relationship between arts-based education and teacher professional identity ($\beta = 0.21, p < 0.001$). This suggests that leadership facilitates the translation of arts-based educational practices into meaningful identity development outcomes.

Model Fit and Explanatory Power

The model demonstrated strong explanatory power:

The coefficient of determination (R^2) for Teacher Professional Identity (TPI) was 0.62, indicating that 62% of the variance in TPI was explained by ABE, DT, and HEL.

The R^2 value for Arts-Based Education (ABE) was 0.28, explained by Higher Education Leadership (HEL).

These results suggest that the proposed model has substantial predictive capability in explaining teacher professional identity development.

5.2. Qualitative Findings

The qualitative data from 12 semi-structured interviews were analyzed using thematic analysis. The findings revealed three major themes that support and extend the quantitative results.

Theme 1: Arts-Based Education as a Catalyst for Identity Formation

Participants consistently reported that arts-based learning activities encouraged deep reflection on their roles, beliefs, and values as future educators. Through creative expression, they were able to connect personal experiences with professional aspirations.

“Participating in arts-based activities helped me understand my teaching philosophy more clearly and shape my identity as a teacher.” (Preservice teacher)

This finding reinforces the quantitative result supporting H1.

Theme 2: Digital Transformation as a Contextual Enhancer and Constraint

Participants highlighted that digital technologies provided flexibility, accessibility, and innovative learning experiences. However, they also emphasized challenges related to reduced interaction and limitations in delivering authentic artistic experiences.

“Digital tools allow us to learn anytime and anywhere, but sometimes it is difficult to fully engage in creative activities online.” (Lecturer)

This explains the moderating role of digital transformation identified in H2.

Theme 3: Leadership as a Key Facilitator of Educational Innovation

Participants emphasized that institutional leadership played a crucial role in enabling both arts-based education and digital transformation. Leadership support was essential for providing resources, training, and encouragement for innovation.

“The support from university leaders determines whether we can successfully apply new teaching methods.” (Administrator)

This finding strongly supports both the direct and mediating roles of leadership identified in H3 and H4.

6. Discussion

The findings of this study provide strong empirical support for the proposed framework linking arts-based education, digital transformation, higher education leadership, and teacher professional identity. By integrating quantitative and qualitative results, this study offers a comprehensive understanding of how these factors interact within contemporary higher education contexts.

First, the results confirm that arts-based education plays a significant role in the development of teacher professional identity, supporting Hypothesis 1. The positive relationship identified in the structural model indicates that engagement in creative and reflective practices enhances preservice teachers' ability to construct meaningful professional identities. This finding is consistent with prior research emphasizing the importance of arts-based pedagogies in fostering self-awareness,

reflective thinking, and personal meaning-making (Aluri et al., 2023; McKay, 2021). The qualitative findings further reinforce this result, as participants described how artistic activities enabled them to explore their beliefs, values, and teaching philosophies. This suggests that arts-based education is not merely an instructional approach but a transformative process that shapes how individuals perceive themselves as educators.

Second, the moderating effect of digital transformation highlights the contextual nature of identity development in the digital era, supporting Hypothesis 2. The results indicate that the influence of arts-based education on teacher professional identity is strengthened in digitally enriched environments. This aligns with studies showing that digital tools, such as virtual reality and multimedia platforms, can enhance engagement and expand opportunities for creative expression (Gonzalez-Zamar & Abad-Segura, 2020; Lehrman, 2025). At the same time, qualitative evidence reveals that digital transformation also introduces challenges, particularly in maintaining the authenticity and embodied nature of arts-based learning. This dual role reflects the complex dynamics identified in previous research on online arts education, where technological affordances coexist with pedagogical constraints (Burke, 2020, 2021). Therefore, digital transformation should be understood not as a purely enabling factor but as a contextual condition that shapes the effectiveness of arts-based pedagogies.

Third, the findings underscore the critical role of higher education leadership in both directly and indirectly influencing teacher professional identity, supporting Hypotheses 3 and 4. The significant effects of leadership on arts-based education implementation and identity development confirm that institutional leadership is a key driver of pedagogical innovation. This is consistent with existing literature highlighting the importance of strategic vision, resource allocation, and institutional support in facilitating educational change (Chow & Leung, 2018; Jing et al., 2025). Moreover, the mediation effect of leadership suggests that the impact of arts-based education on

identity development is partially contingent upon the extent to which institutions provide supportive conditions for its implementation. In other words, leadership acts as a bridge that translates pedagogical approaches into meaningful educational outcomes.

Importantly, the findings of this study contribute to the growing body of research on teacher education in the context of digital transformation, particularly in developing countries. In Vietnam, where higher education institutions are undergoing rapid digitalization while maintaining strong cultural and educational traditions, leadership plays a crucial role in balancing innovation with cultural preservation (Huong et al., 2025; Nguyen, 2020). The integration of arts-based education within digitally transformed environments offers a promising pathway for developing teachers who are not only technically competent but also reflective, creative, and culturally responsive. This aligns with global educational priorities that emphasize holistic and human-centered approaches to learning, as reflected in international frameworks such as UNESCO (UNESCO, 2023).

Furthermore, the study advances theoretical understanding by proposing and empirically validating an integrated model that combines pedagogical, technological, and organizational dimensions. While previous studies have examined arts-based education, digital transformation, and leadership separately, this study demonstrates how these elements interact to shape teacher professional identity. This integrated perspective provides a more nuanced understanding of teacher development in contemporary higher education and highlights the need for interdisciplinary approaches in educational research.

Despite these contributions, several limitations should be acknowledged. The study was conducted within a specific national context, which may limit the generalizability of the findings. Additionally, the cross-sectional design of the quantitative component does not capture changes in professional identity over time. Future research could adopt longitudinal approaches to examine how identity development evolves in response to sustained engagement with arts-based and digitally

enhanced learning environments. Moreover, further studies could explore additional moderating or mediating variables, such as institutional culture or individual learning styles, to deepen understanding of the factors influencing teacher professional identity.

7. Conclusion

This study set out to examine the development of teacher professional identity through arts-based education in the context of digital transformation, with a particular focus on the role of higher education leadership. The findings demonstrate that the integration of creative pedagogies, digital environments, and institutional leadership forms a coherent and effective framework for supporting teacher development in contemporary higher education.

Rather than viewing arts-based education, digital transformation, and leadership as separate dimensions, the study highlights their interconnected nature in shaping professional identity. Arts-based education provides the experiential and reflective foundation, digital transformation offers an expanded learning environment, and leadership ensures the conditions necessary for sustainable

implementation. Together, these elements contribute to a more holistic and adaptive model of teacher education.

This study makes several contributions. From a theoretical perspective, it proposes and validates an integrated framework that links pedagogical, technological, and organizational factors in understanding teacher professional identity. From a practical perspective, it offers insights for higher education institutions seeking to enhance teacher training programs by embedding arts-based approaches within digitally supported learning environments and strengthening leadership capacity. From a policy perspective, the findings underscore the importance of aligning educational innovation with broader institutional and national development strategies.

Despite these contributions, the study has certain limitations. The sample was limited to selected higher education institutions in Vietnam, and the cross-sectional design does not capture the longitudinal evolution of teacher identity. Future research could expand the scope to different educational contexts, employ longitudinal designs, and explore additional influencing factors to provide a more comprehensive understanding of teacher professional identity development.

References

- Aluri, J., Ker, J., Marr, B., Kagan, H., Stouffer, K., Yenawine, P., ... & Chisolm, M. S. (2023). The role of arts-based curricula in professional identity formation: results of a qualitative analysis of learner's written reflections. *Medical Education Online*, 28(1), 2145105.
- Boice, K. L., Jackson, J. R., Alemdar, M., Rao, A. E., Grossman, S., & Usselman, M. (2021). Supporting teachers on their STEAM journey: A collaborative STEAM teacher training program. *Education Sciences*, 11(3), 105.
- Burke, K. (2020). Virtual praxis: Constraints, approaches, and innovations of online creative arts educators. *Teaching and Teacher Education*, 92, 103064. <https://doi.org/10.1016/j.tate.2020.103064>
- Burke, K. (2021). "How can the creative arts possibly be taught online?" Perspectives and experiences of online educators in higher education. *Asia-Pacific Journal of Teacher Education*, 49(3), 223–236. <https://doi.org/10.1080/1359866X.2020.1863350>
- Chow, C., & Leung, C. (2018). Redefining university leadership for the 21st century. Bentham Science Publishers. <https://doi.org/10.2174/97816810874981180101>
- Ewing, R., et al. (2018). Creative teaching or teaching creatively? Using creative arts strategies in preservice teacher education. *Waikato Journal of Education*, 23(1), 69–83. <https://doi.org/10.15663/wje.v23i1.637>

-
- Frascara, J. (2017). Design, and design education: How can they get together? *Art, Design & Communication in Higher Education*, 16(1), 125–131. https://doi.org/10.1386/adch.16.1.125_1
- Gonzalez-Zamar, M. D., & Abad-Segura, E. (2020). Implications of virtual reality in arts education: Research analysis in the context of higher education. *Education Sciences*, 10(9), 225. <https://doi.org/10.3390/educsci10090225>
- Huong, H. T., Tri, N. Q., & Hoan, T. H. (2025). Educational Leadership in Arts Teacher Training: Cultural Preservation and Managerial Competencies in Vietnam. *International Journal on Culture, History, and Religion*, 7(S12), 862-879.
- Jing, M., Guo, Z., Wu, X., Yang, Z., & Wang, X. (2025). Higher education digital academic leadership: Perceptions and practices from Chinese university leaders. *Education Sciences*, 15(5), 606. <https://doi.org/10.3390/educsci15050606>
- Kamran, M. (2025). Educational leadership in a digital era: Navigating challenges and opportunities. *AL-IMAN Research Journal*, 3(1), 188–199. <https://doi.org/10.46328/ijtes.605>
- Kenny, A., et al. (2015). Becoming an educator in and through the arts: Forming and informing emerging teachers' professional identity. *Teaching and Teacher Education*, 46, 70–79. <https://doi.org/10.1016/j.tate.2014.10.008>
- Kenny, A., Finneran, M., & Mitchell, E. (2015). Becoming an educator in and through the arts: Forming and informing emerging teachers' professional identity. *Teaching and Teacher Education*, 49, 159-167.
- Kim, D., Long, Y., Zhao, Y., Zhou, S., & Alexander, J. (2021). Teacher professional identity development through digital stories. *Computers & Education*, 162, 104040.
- Lehrman, A. L. (2025). Embodied learning through immersive virtual reality: Theoretical perspectives for art and design education. *Behavioral Sciences*, 15(7), 917. <https://doi.org/10.3390/bs15070917>
- McKay, L. (2021). Using arts-based reflection to explore preservice teacher identity development and its reciprocity with resilience and well-being during the second year of university. *Teaching and Teacher Education*, 105, 103424.
- Nguyen, S. D. (2020). Digital transformation in art pedagogical training in Vietnam today. *Vietnam Journal of Education*, 69-75.
- Serna-Mendiburu, G. M., & Guerra-Tamez, C. R. (2024). Shaping the future of creative education: The transformative power of VR in art and design learning. *Frontiers in Education*, 9, 1388483. <https://doi.org/10.3389/educ.2024.1388483>
- UNESCO. (2023). *UNESCO Framework for Culture and Arts Education*. UNESCO Publishing.
- Yadav, S. (2025). Digital pathways to excellence for bridging gaps and building competencies. In *Holistic approaches to teacher development: Leadership, pedagogical practices, and cognitive insights* (Vol. 287). IGI Global. <https://doi.org/10.4018/979-8-3373-0472-4.ch012>
-