



**DEVELOPING THE CAPACITY TO INTEGRATE  
LOCAL CULTURE INTO TEACHING FOR PRIMARY SCHOOL  
TEACHERS IN THE CONTEXT OF DIGITAL TRANSFORMATION  
AND MULTICULTURAL EDUCATIONAL INNOVATION**

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**Abstract:**

In the context of implementing Vietnam's General Education Program, integrating local culture into primary education has become a key requirement to foster students' identity and core competencies. At the same time, digital transformation and multicultural education are reshaping teaching practices, requiring teachers to connect cultural knowledge with technology-enhanced learning environments. This study explores the development of primary teachers' competencies in integrating local culture within this dual context. The competency is conceptualized as a multidimensional construct, including cultural awareness, pedagogical design, instructional organization, digital resource utilization, and culturally responsive assessment. Findings indicate that teachers generally hold positive attitudes and basic cultural understanding but face significant challenges in designing integrated lessons, applying digital technologies, and accessing standardized learning materials. These challenges are influenced by differences in teaching experience and regional conditions, especially in remote areas. To address these issues, the study proposes several solutions, including practice-oriented professional development, the development of open digital cultural resources, the application of VR/AR technologies, and the strengthening of professional learning communities (PLCs). Policy support is also emphasized as essential for sustainable implementation. Overall, developing teachers' competencies requires an integrated

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approach combining cultural knowledge, pedagogy, and digital skills to meet the demands of contemporary multicultural and digitally transformed education.

**Keywords:** integrating, local culture, primary education, technologies, teachers' capacity

## 1. Introduction

In the context of implementing Vietnam's General Education Program, the integration of local culture into primary education has become a fundamental requirement for fostering students' identity, cultural awareness, and core competencies. Local culture is not merely a source of instructional content but also a critical medium through which learners develop a sense of belonging, respect for diversity, and meaningful connections with their communities. A growing body of research confirms that culturally contextualized learning enhances students' engagement, comprehension, and motivation, particularly when cultural elements are embedded in familiar themes and everyday experiences (Kharisma *et al.*, 2022; Ratminingsih *et al.*, 2020; Ratri *et al.*, 2025).

At the global level, the shift toward multicultural education has underscored the importance of culturally responsive teaching (CRT), which advocates aligning instruction with learners' cultural backgrounds, lived experiences, and linguistic contexts (Gay, 2010). In culturally diverse settings—such as rural and mountainous regions—this approach is particularly essential for ensuring equity and inclusivity in education. Empirical evidence from Vietnam indicates that teachers encounter substantial challenges in implementing multicultural-oriented teaching, especially in terms of linguistic diversity, cultural understanding, and collaboration with local communities (Dinh *et al.*, 2025). Similarly, international studies emphasize that meaningful integration of local knowledge requires active engagement with community stakeholders and indigenous knowledge systems (Campos García Rojas, 2022; Vaughn & de Beer, 2020).

In parallel, digital transformation is profoundly reshaping educational practices by expanding the ways in which cultural knowledge can be accessed, represented, and experienced. Digital technologies— including multimedia resources, virtual field trips, and immersive environments such as Virtual Reality (VR) and Augmented Reality (AR)—enable the reconstruction of cultural spaces and facilitate experiential learning beyond physical constraints. Studies have demonstrated that these technologies significantly enhance students' cultural literacy, engagement, and motivation (Iasha *et al.*, 2022; Sijabat *et al.*, 2025). Furthermore, the development of digital learning materials, such as interactive repositories and digital storytelling platforms, plays a crucial role in bridging theoretical knowledge with real-life cultural contexts (Tran Thi Thang *et al.*, 2025; Zakiah *et al.*, 2025).

Despite these opportunities, the effectiveness of culturally integrated and technology-enhanced teaching largely depends on teachers' competencies. Teacher self-efficacy, defined as individuals' beliefs in their capabilities to organize and execute

actions required to achieve desired outcomes, has been identified as a key determinant of instructional quality and innovation (Bandura, 1997; Min *et al.*, 2022). However, recent studies in Vietnam reveal that although teachers demonstrate positive attitudes toward integrating local culture, they face considerable difficulties in designing integrated lessons, applying digital technologies, and accessing appropriate teaching resources (Nguyen Thi Thu Hang, 2025). These challenges are further exacerbated by disparities in teaching experience and regional conditions, particularly in disadvantaged and culturally diverse areas.

Given these complexities, there is a pressing need for a systematic and comprehensive approach to developing teachers' competencies for integrating local culture into teaching within the context of digital transformation and multicultural education.

This study adopts a qualitative research approach, drawing primarily on the synthesis of existing literature and the analysis of secondary empirical data, particularly the findings of Nguyen Thi Thu Hang (2025) and related national and international studies. Through a thematic and comparative analysis, the study seeks to identify key competency components, examine current practices and challenges, and propose evidence-based solutions for sustainable professional development of primary school teachers.

Accordingly, the study aims to:

- 1) clarify the conceptual framework of competencies for culturally integrated teaching,
- 2) analyze the current situation of teachers' competencies in practice, and
- 3) propose strategic solutions to enhance these competencies in alignment with the demands of digital transformation and multicultural education.

## **2. Research Methodology**

### **2.1 Research Approach**

Qualitative, literature-based synthesis.

### **2.2 Data Sources**

Previous empirical studies (Vietnam + international).

### **2.3 Analytical Method**

Thematic analysis / comparative analysis.

### 3. Theoretical Framework

#### 3.1 Culturally Responsive Teaching (CRT)

Culturally Responsive Teaching (CRT) is grounded in the principle that effective instruction must be closely aligned with students' cultural backgrounds, lived experiences, languages, and community values. According to Gay (2010), CRT enhances learning by making academic content meaningful and relevant to learners' sociocultural contexts, thereby promoting engagement, equity, and academic success (Gay, 2010). In multicultural educational settings, CRT functions as a critical pedagogical approach to bridge the gap between standardized curricula and diverse student identities.

Recent research further highlights the importance of integrating local and indigenous knowledge into formal education. For example, Budiastira and Sardjijo (2020) argue that embedding local cultural values into subject teaching not only improves conceptual understanding but also fosters moral and social development (Budiastira & Sardjijo, 2020). Similarly, Parmiti *et al.* (2021) demonstrate that project-based learning integrated with local culture significantly enhances students' scientific attitudes and process skills (Parmiti *et al.*, 2021).

In addition, intercultural dialogue and community engagement play a central role in effective CRT implementation. Campos García Rojas (2022) emphasizes that collaboration with community members and the reinterpretation of traditional knowledge strengthen the relevance and authenticity of educational practices (Campos García Rojas, 2022). However, empirical evidence indicates that teachers often face challenges in implementing CRT due to limitations in cultural knowledge, linguistic competencies, and institutional support (Masalimova *et al.*, 2024). These findings suggest that CRT requires not only pedagogical awareness but also systemic support in teacher education and professional development.

#### 3.2 Competency for Teaching Integrated with Local Culture

The competency for integrating local culture into teaching is conceptualized as a multidimensional construct that encompasses cultural, pedagogical, and technological domains. It reflects teachers' ability to design and implement meaningful learning experiences that connect academic knowledge with cultural contexts.

Based on the synthesis of previous studies, this competency consists of five core components:

First, cultural awareness and multicultural orientation, which refer to teachers' understanding of local traditions, values, and diversity, as well as their commitment to inclusive and culturally responsive education. Although teachers generally demonstrate positive attitudes, the depth and systematic nature of their cultural understanding remain uneven (Nguyen Thi Thu Hang, 2025).

Second, designing culturally integrated lesson plans, which involves embedding cultural elements into curriculum content in a structured and pedagogically appropriate

manner. Structured approaches, such as genre-based frameworks, have been shown to support effective integration and enhance learning outcomes (Ratri *et al.*, 2025).

Third, organizing and facilitating learning activities, which emphasise experiential and student-centered pedagogies, including project-based learning, storytelling, and community-based learning. These approaches have been proven effective in promoting engagement and deeper cultural understanding (Halimah & Abdillah, 2021; Kharisma *et al.*, 2022).

Fourth, utilizing digital resources and applying technology, which highlights the importance of digital competence in contemporary education. The use of multimedia resources, digital repositories, and immersive technologies such as VR and AR enables the reconstruction of cultural experiences in classroom settings (Iasha *et al.*, 2022; Sijabat *et al.*, 2025). Additionally, digital learning materials facilitate the connection between theoretical knowledge and real-world contexts (Tran Thi Thang *et al.*, 2025)

Fifth, assessment of cultural competence, which involves evaluating students' knowledge, attitudes, and abilities to apply cultural understanding in authentic contexts. This aligns with competency-based education frameworks and supports holistic student development.

Together, these components demonstrate that teaching integrated with local culture is a complex and dynamic competency requiring interdisciplinary integration and continuous professional development.

### 3.3 The TPACK Model in Cultural Education

In the context of digital transformation, the Technological Pedagogical Content Knowledge (TPACK) framework provides a comprehensive model for understanding how teachers integrate technology into teaching. This study extends the TPACK framework by incorporating cultural knowledge as a central dimension, forming an integrated model of Cultural–Pedagogical–Technological Knowledge.

Within this framework, effective teaching of local culture requires the intersection of three domains:

- 1) cultural content knowledge, including local traditions, heritage, and values;
- 2) pedagogical knowledge, including culturally responsive and experiential teaching strategies; and
- 3) technological knowledge, including the ability to utilize digital tools and platforms to enhance learning.

Empirical studies support this integrated perspective. Suparya *et al.* (2024) demonstrate that culturally integrated textbooks enhance students' scientific literacy by contextualizing abstract concepts (Suparya *et al.*, 2024). Similarly, Sijabat *et al.* (2025) show that AR-based learning models effectively promote cultural appreciation and engagement (Sijabat *et al.*, 2025). Moreover, teacher self-efficacy has been identified as a key factor influencing the successful integration of these domains, as teachers with higher confidence are more likely to adopt innovative practices (Bandura, 1997; Min *et al.*, 2022).

Therefore, the application of the TPACK framework in cultural education underscores the necessity of a holistic approach to teacher competency development, where cultural, pedagogical, and technological dimensions are developed in an interconnected and balanced manner.

#### **4. Current Situation of Primary School Teachers' Competencies**

##### **4.1 Teachers' Awareness and Attitudes**

Empirical findings indicate that primary school teachers generally demonstrate positive attitudes toward integrating local culture into teaching. They recognize its importance in fostering students' identity, enhancing learning relevance, and supporting competency-based education. Teachers also show a willingness to innovate and adapt their practices in response to educational reforms.

However, their understanding of local culture often remains at a descriptive level and is not systematically translated into pedagogically meaningful learning experiences (Nguyen Thi Thu Hang, 2025). This gap between awareness and practice is consistent with international findings, which indicate that teachers may value culturally responsive teaching but lack the necessary depth of knowledge and instructional strategies for effective implementation (Masalimova *et al.*, 2024).

##### **4.2 Practical Skills and Technology Integration**

Despite positive attitudes, teachers face significant challenges in translating cultural knowledge into effective teaching practices. One of the most notable limitations lies in the design of culturally integrated lesson plans. In many cases, teaching activities focus primarily on the "representation" of cultural elements- such as introducing local festivals, customs, or artifacts- rather than fostering deeper engagement through community-based learning or critical cultural reflection. This suggests a gap between awareness and practical pedagogical competence.

Furthermore, teachers' digital competencies remain uneven, particularly in the application of advanced technologies. While basic digital tools such as videos and presentation software are increasingly used, the integration of more sophisticated technologies, including Virtual Reality (VR) and Augmented Reality (AR), is still limited. This constraint reduces the potential for creating immersive and experiential cultural learning environments, as highlighted in studies (Iasha *et al.*, 2022; Sijabat *et al.*, 2025).

Another critical issue is the limited ability to access, adapt, and develop digital learning materials related to local culture. The lack of standardized and high-quality digital resources further constrains teachers' capacity to implement innovative teaching approaches (Tran Thi Thang *et al.*, 2025). As a result, teaching practices often remain traditional and less responsive to the demands of digital transformation.

### 4.3 Disparities in Competency Development

The study also reveals significant disparities in teachers' competencies based on teaching experience and regional context. Younger teachers tend to demonstrate stronger digital skills and greater adaptability to new technologies, whereas more experienced teachers often possess richer cultural knowledge but face challenges in integrating digital tools into their teaching. This generational gap creates uneven implementation of culturally integrated and technology-enhanced instruction.

In addition, regional disparities are particularly evident between urban and remote or mountainous areas. Teachers in disadvantaged regions face multiple constraints, including limited access to technological infrastructure, insufficient professional development opportunities, and a lack of teaching resources. These challenges are further compounded by linguistic diversity and cultural complexity, which require additional competencies that many teachers have not yet fully developed (Nguyen Thi Thu Hang, 2025).

Overall, the current situation highlights a critical gap between teachers' positive perceptions and their actual competencies in practice. While awareness and motivation are strong, there is a clear need for systematic support to enhance pedagogical skills, digital capacity, and contextualized teaching practices. These findings provide an important basis for identifying key barriers and proposing targeted solutions in the following sections.

## 5. Barriers and Challenges in the Current Context

Despite the growing recognition of the importance of integrating local culture into primary education, teachers encounter multifaceted structural and pedagogical constraints that systematically hinder effective implementation that hinder effective implementation. These challenges are closely associated with limitations in resources, infrastructure, time allocation, and stakeholder collaboration, particularly within the context of digital transformation and multicultural education.

### 5.1 Shortage of Digital Learning Resources and Cultural Data

One of the most significant challenges identified is the lack of standardized and accessible digital learning resources related to local culture. Teachers often encounter difficulties in sourcing reliable materials such as images, videos, digital archives, and bilingual content that accurately represent local cultural heritage. This shortage constrains their ability to design rich, engaging, and culturally meaningful learning experiences.

Empirical evidence suggests that current teaching practices still rely heavily on printed materials or fragmented resources, which limit opportunities for experiential and technology-enhanced learning (Tran Thi Thang *et al.*, 2025). Similarly, Devinta Puspita Ratri *et al.* (2025) highlight that the absence of structured and standardized materials is a major barrier to implementing culturally integrated curricula (Ratri *et al.*, 2025). As a

result, teachers are often required to invest significant time and effort in developing their own materials, which is not always feasible in practice.

## **5.2 Limitations in Technological Infrastructure**

Another critical barrier lies in the insufficient technological infrastructure in many schools, particularly in rural and mountainous areas. Limited access to digital devices, unstable internet connectivity, and a lack of advanced technological tools significantly restrict teachers' ability to implement digital and innovative teaching methods.

This issue is especially problematic in the context of applying immersive technologies such as Virtual Reality (VR) and Augmented Reality (AR), which require specific hardware and technical support. While studies have demonstrated the effectiveness of these technologies in enhancing cultural learning experiences (Iasha *et al.*, 2022; Sijabat *et al.*, 2025), their practical adoption remains limited due to infrastructural constraints. Consequently, the potential of digital transformation in cultural education has not yet been fully realized.

## **5.3 Time Constraints and Curriculum Pressure**

Teachers also face considerable pressure related to time and curriculum demands. The requirement to cover a broad range of subject content within limited instructional time leaves little room for designing and implementing complex, culturally integrated learning activities. Developing such activities often involves extensive preparation, including researching cultural content, designing interactive tasks, and preparing supporting materials.

Nguyen Thi Thu Hang (2025) notes that many teachers struggle to balance these demands, leading to a tendency to simplify or omit cultural integration in practice. This challenge reflects a broader tension between curriculum standardization and the need for contextualized, flexible teaching approaches in multicultural education.

## **5.4 Weak School–Community Connections**

A further challenge is the lack of strong and sustainable collaboration between schools and local communities. Effective integration of local culture requires active engagement with community stakeholders, including artisans, cultural experts, and families, who serve as important sources of indigenous knowledge.

However, existing research indicates that such connections remain limited and fragmented. Teachers often lack formal mechanisms or institutional support to collaborate with community members, resulting in missed opportunities to enrich teaching with authentic cultural experiences. In contrast, studies by Speight Vaughn and Josef de Beer (2020) emphasize that community-based collaboration is a key factor in successfully contextualizing learning and promoting culturally responsive teaching (Vaughn & de Beer, 2020).

Overall, these barriers highlight the complex and multifaceted nature of implementing culturally integrated teaching in the current educational context. Addressing these challenges requires not only improving individual teacher competencies but also establishing supportive systems that include resource development, infrastructure investment, curriculum flexibility, and strengthened school–community partnerships.

## **6. Solutions and Trends for Competency Development**

Addressing the identified challenges requires a comprehensive and forward-looking approach to developing teachers’ competencies for integrating local culture into primary education. Based on the synthesis of empirical findings and theoretical perspectives, several key solutions and development trends are proposed.

### **6.1 Innovating Professional Development Models**

Professional development for teachers should shift from predominantly theoretical training toward practice-oriented models, such as lesson study focused on culturally integrated teaching. This approach enables teachers to collaboratively design, implement, observe, and refine instructional practices grounded in real classroom contexts. In addition, the adoption of blended learning and online professional development platforms can enhance accessibility, flexibility, and scalability, particularly for teachers in remote areas. Such models align with the need for continuous and context-sensitive professional learning, as emphasized in recent studies (Nguyen Thi Thu Hang, 2025).

### **6.2 Digitizing Local Cultural Resources**

The development of open-access digital repositories of local cultural resources is essential for supporting teachers in designing culturally responsive lessons. Platforms such as Google Sites and cloud-based storage systems can be utilized to organize and share multimedia materials, including images, videos, digital maps, and bilingual content. Furthermore, the creation of digital storytelling applications and visual dictionaries incorporating local cultural elements can enhance both teaching and learning experiences. These initiatives are consistent with the findings of Chan Thi Thang *et al.* (2025), which highlight the importance of digital learning materials in facilitating experiential and context-based learning (Tran Thi Thang *et al.*, 2025).

### **6.3 Applying Virtual and Augmented Reality Technologies (VR/AR)**

The integration of immersive technologies, such as Virtual Reality (VR) and Augmented Reality (AR), represents a significant trend in cultural education. These technologies enable the simulation of cultural spaces, allowing students to participate in virtual field trips and explore heritage sites that may otherwise be inaccessible. Research has demonstrated that VR/AR applications can enhance students’ cultural understanding,

engagement, and motivation (Iasha *et al.*, 2022; Sijabat *et al.*, 2025). Therefore, promoting the use of these technologies in teacher training and classroom practice is a critical step toward effective digital transformation in education.

#### **6.4 Developing Professional Learning Communities (PLCs)**

The establishment and strengthening of Professional Learning Communities (PLCs) play a crucial role in supporting sustainable teacher development. PLCs provide a collaborative platform for teachers to share lesson plans, teaching materials, and practical experiences related to cultural integration. They also foster peer learning, reflective practice, and innovation. Both national and international studies emphasize that collaborative and community-based approaches significantly enhance teachers' capacity to implement culturally responsive teaching (Vaughn & de Beer, 2020).

#### **6.5 Policy and Institutional Support**

Effective implementation of these solutions requires strong policy support and institutional commitment. Educational authorities should provide clear guidelines for integrating local culture into teaching, along with financial support for the digitization of cultural heritage and the development of teaching resources. In addition, policies should recognize and incentivize innovative teaching practices, thereby encouraging teachers to actively engage in professional development and pedagogical innovation. Such systemic support is essential to ensure the sustainability and scalability of competency development initiatives.

### **7. Conclusion and Recommendations**

This study confirms that teachers' competencies in integrating local cultural knowledge play a decisive role in achieving the goals of educational reform in the context of digital transformation and multicultural education. However, the development of these competencies cannot rely solely on individual efforts; it requires coordinated support from institutional, technological, and policy frameworks.

However, a significant gap persists between policy expectations and classroom practices, particularly in terms of pedagogical enactment, technological integration, and contextualized instruction.

To ensure equity and effectiveness in education, it is particularly important to prioritize resources and support for culturally and linguistically diverse regions, including rural and mountainous areas. Targeted interventions in these contexts can help reduce disparities and promote inclusive educational practices.

For future research, further studies are needed to examine the long-term impact of digital cultural integration on students' learning outcomes, including their cognitive development, cultural identity formation, and intercultural competencies. Such research

will provide valuable evidence for refining educational policies and practices in an increasingly digital and multicultural world.

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### **Conflict of Interest Statement**

We confirm that there are no conflicts of interest in this study. All data and results are presented accurately and honestly, without manipulation or distortion of information. This study was solely for academic purposes and does not involve any commercial intent or personal gain.

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