Status of Meeting the Competency Framework by Principals of Vietnam Primary Schools in the Context of Digital Transformation

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ABSTRACT:
Digital transformation in education has created new demands for primary school principals, requiring them not only to effectively utilize technology but also to innovate managerial thinking and instructional organization. This study aims to propose and examine the level of fulfillment of a competency framework for primary school principals in the context of digital transformation. A total of 522 principals in Ho Chi Minh City were surveyed using a questionnaire measuring six competency domains on a five-point Likert scale. The findings indicate that the overall level of competency fulfillment remains at a moderate level. Among the competency domains, professional development, the establishment of a safe and positive educational environment, and the development of school–family–community relationships were rated more highly. In contrast, competencies related to school governance, foreign language proficiency, information technology application, and especially digital transformation leadership received lower scores, reflecting a gap between policy expectations and the actual capacities of school principals. Based on these findings, the study proposes six corresponding groups of professional development solutions, emphasizing data-driven governance, digital competency enhancement, and digital transformation leadership capacity, thereby contributing to improving the quality of primary school governance and supporting the implementation of general education reform.

Keywords: competency fulfillment, competency framework, principal, primary school, digital transformation

INTRODUCTION

In recent years, digital transformation has become an inevitable trend and an urgent requirement for the education sector. Resolution No. 52-NQ/TW dated September 27, 2019, issued by the Politburo, emphasized the need to "promote digital transformation in education and training; develop online learning systems, and build and share open educational resources" (Central Committee of the Communist Party of

Vietnam, 2019). In line with this policy, Decision No. 131/QĐ-TTg dated January 25, 2022, issued by the Prime Minister, approved the Digital Transformation Program for the Education and Training Sector with the goal of "comprehensively transforming the education and training sector digitally, contributing to the development of smart education and a digital learning society" (Prime Minister, 2022).

Numerous international studies have clarified competency frameworks and the role of school administrators in the context of educational innovation and digital transformation. Navaridas-Nalda et al. (2020) demonstrated the strategic influence of principals in promoting the use of digital resources in education. Cheng and Wang (2023) analyzed the role of principals' digital leadership in removing barriers that hinder teachers from applying artificial intelligence in basic education in Hong Kong. Ridho, Wiyono, and Mustiningsih (2024) emphasized that principals' digital leadership competency is a key condition for improving teaching quality in the context of the Fourth Industrial Revolution.

In Vietnam, many studies have also addressed the development and evaluation of principal competency frameworks. In the field of school leadership research, Hallinger et al. (2017) proposed a preliminary model of instructional leadership for Vietnamese primary school principals, emphasizing instructional orientation practices and school relationship management within the local educational context. Minh Gian et al. (2015) and Ngô Xuân Đông (2017) laid the foundation for research on principal competency frameworks across educational levels. Nguyễn Văn Quang (2020) proposed innovating professional development activities for primary school principals based on a competency framework approach. Nguyễn Thị Minh Nguyệt (2022) highlighted the requirement for primary school governance associated with the implementation of the 2018 General Education Curriculum. Regarding digital transformation in school governance in Vietnam, Nguyệt et al. (2025), based on a survey of 264 school administrators, analyzed the readiness for digital transformation among management staff and emphasized the pivotal role of principals in leading and organizing digital transformation initiatives at the school level. In addition, from the perspective of school governance practices, Truong and Tran (2025) showed that the leadership styles of principals in K–12 private schools in Ho Chi Minh City are simultaneously influenced by pressures of competition and accountability as well as internal factors such as personal competencies and organizational culture, thereby reflecting the increasingly complex leadership competency requirements in the context of educational reform.

The aforementioned studies confirm that principals' leadership and management competencies are decisive factors for school success in the era of digital transformation. However, in-depth research on the current level of fulfillment of competency frameworks among primary school principals in this context remains limited, particularly in major urban areas such as Ho Chi Minh City, Vietnam. From this context, the present study focuses on developing a competency framework for primary school principals in the context of digital transformation; examining the current level of competency fulfillment among 522 primary school principals in Ho Chi Minh City during the 2024–2025 academic year; and proposing several solutions to enhance the ability of primary school principals in Ho Chi Minh City, Vietnam, to meet the competency framework requirements in the context of digital transformation.

LITERATURE REVIEW

Competencies of Primary School Principals

From a theoretical perspective, competency has been approached through two major perspectives: competency as capability and competency as a combination of personal attributes. From the perspective of competency as capability, the Organisation for Economic Co-operation and Development (2002) defines competency as "the ability to successfully meet

complex demands in a particular context." Similarly, Franz E. Weinert (2001) emphasizes competency as "a combination of available or acquired abilities and skills together with the willingness to act responsibly in solving problems." Morgan (2006) considers competency as core capabilities grounded in knowledge, values, and experiences developed through educational practice. From the perspective of personal attributes, Nguyễn Quang Uẩn and colleagues define competency as "a combination of unique personal attributes that correspond to the requirements of a particular activity" (Nguyên Quang Uẩn, 2007). Delamare Le Deist and Winterton conceptualize competency as a multidimensional construct consisting of knowledge, skills, and personal attributes mobilized to effectively perform tasks in specific contexts (Delamare Le Deist & Winterton, 2005).

In recent years, research trends have increasingly emphasized the role of digital leadership competency as a new component within the competency structure of school management. Navaridas-Nalda et al. (2020) pointed out that principals possessing a digital vision and the ability to lead technology integration directly influence teachers' use of digital learning resources and the innovation of teaching methods. Cheng and Wang (2023) further argued that data governance competency, information security assurance, and the ability to support teachers in integrating technology into instruction are indispensable requirements in the context of digital transformation in education. Bibliometric analyses by Karaköse et al. (2022) also confirmed that digital leadership is becoming an important criterion in evaluating principals' competencies in many countries, particularly at the primary education level, where the implementation of digital learning resources, digital administrative records, and flexible teaching requires close coordination from school leaders.

In the context of digital transformation, principals' competencies not only determine the quality of internal school management but also directly influence students' learning outcomes and holistic development. Studies on school leadership emphasize that principals with strong instructional leadership, strategic governance, and change management competencies are capable of creating a shared vision, fostering a positive learning culture, and mobilizing the participation of teachers, parents, and communities, thereby improving overall school effectiveness (Hallinger & Murphy, 2013; Bush, 2020). In digital environments, these competencies are further "amplified" by emerging demands related to data governance, technology utilization, and digital transformation leadership. Principals with strong digital competency and digital leadership competency are able to select, implement, and supervise appropriate technological solutions while supporting teachers in developing digital teaching competencies, thereby enhancing management efficiency, teaching quality, and responsiveness to the 2018 General Education Curriculum (Navaridas-Nalda et al., 2020; Cheng & Wang, 2023; Ridho et al., 2024). Therefore, developing a competency framework for primary school principals in the context of digital transformation is not only a theoretical requirement but also a prerequisite for improving school governance effectiveness and successfully implementing current educational reform policies.

In Vietnam, the Ministry of Education and Training of Vietnam has promulgated the Standards for Principals of General Education Institutions, which specify standards and criteria concerning professional qualities, school governance competency, professional development competency, and the ability to build educational environments (Ministry of Education and Training, 2018). This document serves as an important legal foundation for designing competency frameworks for primary school principals, ensuring consistency among legal requirements, practical demands, and trends in educational management reform.

Vietnamese scholars have also proposed different approaches to principal competency

frameworks. Ngô Xuân Đông argued that principals' leadership competency is "a personal attribute that enables the organization, administration, and orientation of educational activities effectively and appropriately within specific contexts" (Ngô Xuân Đông, 2017). The management competency of primary school principals is understood as the ability to comprehensively apply knowledge, skills, qualities, and educational management experience to administer, orient, and develop schools toward achieving general education objectives (Ministry of Education and Training, 2018; Hallinger & Murphy, 2013). According to Tony Bush (2020), principals are not merely administrators but also "instructional and transformational leaders" who create visions, lead educational staff, and ensure sustainable development.

Foundations for Developing a Competency Framework for Primary School Principals in the Context of Digital Transformation

The competency framework for primary school principals is a conceptual structure widely used in the field of educational management to describe the system of core competencies required for principals to effectively perform their roles in school leadership, governance, and development. Fiore argued that a principal competency framework reflects not only administrative management requirements but also pedagogical competency, instructional leadership competency, and staff development competency, all of which are closely associated with student success (Fiore, 2004).

The Standards for Principals of General Education Institutions, promulgated by the Minister of Ministry of Education and Training of Vietnam in 2018, serve as an important basis for identifying the required qualities, competencies, and professional behaviors of school leaders. The standards specify that principals must demonstrate core competencies in the following domains: (1) professional qualities; (2) school governance; (3) building an educational environment; (4) developing relationships among schools, families, and society; and (5) the use of foreign languages and information technology (Ministry of Education and Training, 2018).

Digital transformation has become an inevitable trend across all sectors, including education. Decision No. 131/QD-TTg dated January 25, 2022, issued by the Prime Minister, approved the Project on "Strengthening the Application of Information Technology and Digital Transformation in Education and Training for the 2022–2025 Period, with Orientation toward 2030." The project clearly identifies the goal of developing digital school models and applying technology in management, teaching, learning, testing, and assessment (Prime Minister, 2022). In this new context, principals are required not only to possess competencies in applying information technology to school administration but also to develop digital leadership competencies. These competencies include developing school digital transformation plans, directing the implementation of online learning management systems, promoting the development of digital competencies among staff members, and ensuring information security within digital educational environments.

Competency Framework for Primary School Principals in the Context of Digital Transformation

Based on Sections 2.2.1 and 2.2.2, a competence framework for primary school principals in the context of digital transformation can be constructed. This framework comprises general competences and specific component competences, whose indicators are presented in Table 1.

Table 1. Competence framework for primary school principals in the context of digital transformation

General competences	Indicators of component competences
1. Professional and pedagogical development competence	- Identify educational objectives and the requirements for implementing the 2018 General Education Curriculum in the school. - Analyse curriculum content, teaching methods and forms of assessment. - Organize professional activities based on the lesson study approach. - Assess teachers' competences and design appropriate professional development plans. - Guide and support teachers in innovating their teaching practices and assessment activities.
2. School governance competence	- Develop the school's strategic development plan in line with educational reform orientations. - Organize and coordinate administrative, human resource, financial and asset management activities effectively. - Apply systems thinking to design internal inspection and supervision procedures. - Analyse management data to make appropriate administrative decisions. - Evaluate the effectiveness of professional activities and make timely adjustments.
3. Competence in building an educational environment	- Identify factors that affect a safe and healthy educational environment. - Implement measures to build school culture and educate students in core values. - Encourage teachers and students to participate in building a democratic and creative school environment. - Monitor compliance with school rules and behavioural standards. - Assess levels of safety and the extent to which students' psychosocial needs are met.
4. Competence in developing relationships between school, family and society	- Establish effective coordination mechanisms between the school and parents. - Organize activities that connect the school with the community, businesses and social organizations. - Mobilize social resources for education and diversify support forms for students. - Promote the school's image through various communication channels. - Analyse the effectiveness of cooperation among educational

	stakeholders to adjust partnership strategies appropriately.
5. Competence in using foreign language and information technology	- Use basic English to read and understand professional documents and exchange information. - Apply management software, online teaching platforms and IT tools to school administration. - Analyse and select technological tools appropriate to teaching and learning requirements. - Guide teachers and students to effectively exploit digital learning resources. - Ensure data and information security within the school's digital management systems.
6. Digital transformation leadership competence in education	- Identify the objectives and roadmap for digital transformation in the primary school. - Design digital transformation action plans linked to core educational activities. - Direct the digitization of records, data and school management processes - Organize training and guidance to enhance teachers' digital competence. - Monitor the implementation of technological solutions and evaluate their impact on educational quality.

RESEARCH METHODS

Survey respondents

The survey respondents were principals of primary schools in Ho Chi Minh City. The quantitative sample consisted of 522 principals. The gender distribution was 77.2% female (403) and 22.8% male (119). Most respondents had 10–15 years of work experience (46.6%, 243 principals) or more than 16 years (53.4%, 279 principals).

Survey contents and instruments

Survey contents: The current situation regarding primary school principals' attainment of the competence framework in Ho Chi Minh City.

Survey instruments included a questionnaire and an interview schedule (for primary school principals). The quantitative questionnaire was developed on the basis of the theoretical framework of the study and the Professional Standards for Principals of General Education Institutions. The interview schedule for primary school principals covered issues related to the extent to which they meet the requirements of the competence framework.

Data processing

Quantitative data were coded and processed using Excel and SPSS 21.0 with descriptive statistical techniques. The scales consisted of five levels from 1 to 5. The interval value between levels is (5–1)/5 = 0.8 (From 1–1.8: Not implemented/No results; From 1.81–2.6: Rarely implemented/Weak; From 2.61–3.40: Moderately implemented/Average; From 3.41–4.2: Frequently implemented/Fair; From 4.21–5: Consistently implemented/Good). The parameters used for analysis included mean (M) and standard deviation (SD).

The interviews were conducted with six principals, coded from HT1 to HT6.

RESULTS AND DISCUSSION

Professional and pedagogical development competence of primary school principals

The professional development competency of primary school principals was examined based on the following criteria: identifying educational objectives and requirements for implementing the 2018 General Education Curriculum within schools; analyzing curriculum content, teaching methods, and assessment approaches; organizing professional activities based on lesson study; evaluating teachers' competencies and designing appropriate professional development plans; and guiding and supporting teachers in innovating teaching and assessment practices.

Overall, the level of implementation (M = 3.86, SD = 0.71) and the outcomes achieved (M = 3.79, SD = 0.74) regarding principals' professional development competency were assessed at a "moderate/average" level.

At the level of individual criteria, the criterion "Identifying educational objectives and requirements for implementing the 2018 General Education Curriculum within schools" received the highest mean scores (implementation: M = 4.05; outcomes: M = 3.95), reflecting principals' strengths in understanding curriculum orientations and educational objectives. The criteria "Analyzing curriculum content, teaching methods, and assessment approaches," "Evaluating teachers' competencies and designing appropriate professional development plans," and "Guiding and supporting teachers in innovating teaching and assessment activities" all achieved mean scores ranging from 3.76 to 3.84, indicating that professional development activities have been maintained at a relatively stable level.

However, the criterion "Organizing professional activities based on lesson study" obtained lower mean scores (implementation: M = 3.78; outcomes: M = 3.72, with SD ranging from approximately 0.79 to 0.80), indicating disparities among schools in implementing lesson study–based professional activities. In general, principals' professional development competency has been relatively well established and implemented; nevertheless, activities related to lesson study and the evaluation of professional development impacts on teaching quality remain areas that require further attention and capacity building in the future.

These findings reflect the reality that professional activities based on lesson study continue to encounter difficulties due to limitations in time allocation, the research competency of some teachers, and the lack of consistency in implementation across primary schools.

Current Status of School Governance Competency among Primary School Principals

The school governance competency of primary school principals was examined based on the following criteria: developing school development strategies aligned with educational reform orientations; organizing and coordinating administrative, personnel, financial, and asset management activities effectively; applying systems thinking to design internal inspection and supervision processes; analyzing governance data to make appropriate managerial decisions; and evaluating the effectiveness of professional activities and making timely adjustments.

Based on the overall mean scores, both the level of implementation (M = 3.73, SD = 0.73) and the outcomes achieved (M = 3.65, SD = 0.74) regarding school governance competency were assessed at a "moderate/average" level.

At the criterion level, "Developing school development strategies aligned with educational reform orientations" achieved the highest mean scores (implementation: M = 3.78, SD = 0.68; outcomes: M = 3.70, SD = 0.70), reflecting principals' relatively strong capacity to orient school development in accordance with educational reform requirements.

The criteria "Organizing and coordinating administrative, personnel, financial, and asset management activities effectively" and "Applying systems thinking to design internal inspection and supervision processes" obtained mean scores ranging from approximately 3.70 to 3.75 for implementation and from 3.64 to 3.67 for outcomes. These findings indicate that

principals have maintained school administration and internal control activities at an acceptable level, although there remains room for improvement.

The two criteria with lower scores were "Analyzing governance data to make appropriate managerial decisions" (implementation: M = 3.70; outcomes: M = 3.62) and especially "Evaluating the effectiveness of professional activities and making timely adjustments" (implementation: M = 3.68; outcomes: M = 3.60, SD = 0.77–0.78). These results suggest that data-driven decision-making and evaluation–adjustment activities remain relatively weak aspects of school governance.

In addition, the consistent gap between the "implementation" and "outcomes" scores (approximately 0.07–0.10 points), together with standard deviations ranging from 0.68 to 0.78, reflects both a discrepancy between implementation efforts and actual effectiveness, as well as uneven school governance competency levels among primary school principals across schools.

These findings highlight the difficulties principals encounter in applying data analysis tools and conducting professional evaluations. The lack of integrated databases, together with limitations in utilizing school management software, has reduced the accuracy and timeliness of managerial decision-making processes. This indicates that principals need greater support in developing modern governance skills, as well as increased investment in information technology tools and digital platforms for primary schools.

Current Status of the Competency to Build an Educational Environment among Primary School Principals

The competency to build an educational environment among primary school principals was examined based on the following criteria: identifying factors affecting a safe and healthy educational environment; implementing measures to develop school culture and values education; encouraging teachers and students to participate in building a democratic and creative environment; monitoring the implementation of school regulations and behavioral standards; and evaluating school safety and students' psychosocial support needs.

The level of implementation (M = 3.92, SD = 0.69) and the outcomes achieved (M = 3.86, SD = 0.70) regarding the competency to build an educational environment were both assessed at a "moderate/average" level and were slightly higher than those related to school governance competency (Table 3).

Across individual criteria, principals received the highest ratings for the competency to encourage teachers and students to participate in building a democratic and creative environment (implementation: 3.95; outcomes: 3.89). This was followed by monitoring the implementation of school regulations and behavioral standards (3.93; 3.87) and implementing measures to develop school culture and values education (3.92; 3.86). The two criteria concerning the identification of factors affecting a safe and healthy educational environment and the evaluation of school safety and students' psychosocial support needs received slightly lower mean scores (3.89–3.91 for implementation; 3.83–3.85 for outcomes). These findings suggest that deeper assessment of potential risks and students' psychological needs remains less emphasized than the organization of visible school activities.

The relatively small gap between implementation and outcomes scores (0.06–0.08 points) indicates that principals' efforts in building educational environments have generally been translated into tangible results. Nevertheless, there remains room for improvement, particularly in strengthening school safety assessment and psychosocial support for students.

These findings reflect that principals currently prioritize fostering democracy, creativity, and proactive participation among teachers and students in building school culture. However, the comprehensive assessment of psychosocial

factors and the assurance of school safety continue to face challenges due to the shortage of specialized support personnel, as well as limitations in resources for implementing life skills education and psychological counseling programs for students.

Current Status of the Competency to Develop Relationships among Schools, Families, and Society among Primary School Principals

The competency to develop relationships among schools, families, and society among primary school principals was examined based on the following criteria: establishing effective coordination mechanisms between schools and parents; organizing activities connecting schools with communities, businesses, and social organizations; mobilizing socialized educational resources and promoting various forms of student support; promoting the school's image through diverse communication channels; and analyzing the effectiveness of collaboration among educational stakeholders in order to adjust strategies appropriately.

The level of implementation (M = 3.82, SD = 0.68) and the outcomes achieved (M = 3.78, SD = 0.67) regarding this competency were assessed at a "moderate/average" level. Compared with the three previously analyzed competency groups, this competency demonstrated relatively stable scores with less variation, reflecting both its important role and the challenges involved in implementation.

The most notable aspect was the criterion "Analyzing the effectiveness of collaboration among educational stakeholders in order to adjust strategies appropriately," which achieved mean scores of 3.86 for implementation and 3.82 for outcomes. This finding indicates that many principals have moved beyond merely establishing formal connections and have begun to focus on the actual quality and impact of collaborative activities. The criteria "Establishing effective coordination mechanisms between schools and parents" (3.84; 3.80) and "Promoting the school's image through diverse communication channels" (3.82; 3.78) also received relatively high ratings, reflecting efforts to expand communication channels, enhance transparency, and strengthen public trust in schools.

In contrast, the criteria "Organizing activities connecting schools with communities, businesses, and social organizations" (3.78; 3.74) and "Mobilizing socialized educational resources and promoting various forms of student support" (3.79; 3.76) received lower mean scores. These findings suggest that when moving beyond the relatively familiar sphere of parent engagement to seek broader community resources, many principals still face difficulties in terms of both strategic planning and resource mobilization skills.

Standard deviations ranged from 0.64 to 0.71, while the small gap between implementation and outcomes scores (0.03–0.04 points) indicates limited variation among schools. At the same time, these results reflect the reality that principals have generally established and maintained basic collaborative networks with families and society at a relatively satisfactory level, yet have not fully exploited the potential for cooperation with businesses, social organizations, and broader community resources to support educational development.

These findings indicate that principals have paid considerable attention to maintaining and expanding collaborative relationships between schools, families, and society. However, the mobilization of socialized educational resources and the organization of community engagement activities have not yet achieved optimal effectiveness, as they remain dependent on local socio-economic conditions as well as the level of support and consensus among parents and social organizations.

Current Status of Foreign Language and Information Technology Competency among Primary School Principals

The current status of primary school principals' competency in foreign language and information technology use was examined based on the following criteria: using basic English to read

professional materials and exchange information; applying management software, online teaching systems, and information technology tools in school administration; analyzing and selecting technological tools appropriate for teaching and learning requirements; guiding teachers and students in effectively utilizing digital learning resources; and ensuring data and information security within the school's digital governance system.

The level of implementation (M = 3.71, SD = 0.72) and the outcomes achieved (M = 3.63, SD = 0.73) regarding foreign language and information technology competency were assessed at a "moderate/average" level. Compared with the previously discussed competency groups, this competency group obtained lower mean scores, clearly reflecting the limitations currently faced by primary school principals in the context of educational reform associated with digital transformation.

Among the individual criteria, the highest-rated criterion was "Using basic English to read professional materials and exchange information" (implementation: 3.74; outcomes: 3.69), followed by "Applying management software, online teaching systems, and information technology tools in school administration" (3.72; 3.66) and "Analyzing and selecting technological tools appropriate for teaching and learning requirements" (3.70; 3.64).

Criteria requiring more advanced digital competencies, such as "Guiding teachers and students in effectively utilizing digital learning resources" (3.69; 3.62) and "Ensuring data and information security within the school's digital governance system" (3.68; 3.61), received the lowest mean scores and exhibited higher standard deviations (0.74–0.76). These findings suggest that these areas represent significant "bottlenecks," characterized not only by relatively weak performance but also by uneven competency levels among principals.

The consistent gap between implementation and outcomes scores (approximately 0.07–0.08 points) reflects the reality that principals have begun to use foreign languages and information technology in their professional work; however, their ability to transform these skills into effective, secure digital governance practices that meaningfully support teachers and students remains limited.

These findings indicate that although principals have made efforts to apply information technology in school management and teacher support, their foreign language competency remains limited, particularly regarding the use of English in international academic contexts. Furthermore, the assurance of data security and the guidance provided to teachers and students in utilizing digital learning resources have not yet been implemented consistently, resulting in competency levels being assessed only at a moderate level.

Current Status of Digital Transformation Leadership Competency in Education among Primary School Principals

Digital transformation leadership competency in education among primary school principals was examined based on the following criteria: identifying objectives and roadmaps for digital transformation in primary schools; designing digital transformation action plans aligned with core educational activities; directing the digitization of records, data, and school management processes; training and guiding teachers to improve their digital competencies; and monitoring the implementation of technological solutions and evaluating their impacts on educational quality.

The level of implementation (M = 3.68, SD = 0.72) and the outcomes achieved (M = 3.61, SD = 0.73) regarding digital transformation leadership competency in education were assessed at a "moderate/average" level. Compared with other competency groups, this is among the lowest-scoring competencies, indicating a major challenge currently faced by principals in implementing digital transformation at the school level.

At the criterion level, strategic activities such as identifying digital transformation objectives and roadmaps (3.70; 3.63) and designing action plans

aligned with core educational activities (3.69; 3.62) received slightly higher mean scores than the remaining criteria. This suggests that principals have initially developed a general vision and planning orientation for school-level digital transformation. However, in more in-depth implementation stages, such as directing the digitization of records, data, and management processes (3.68; 3.61), training and guiding teachers to improve digital competencies (3.67; 3.60), and especially monitoring the implementation of technological solutions and evaluating their impacts on educational quality (3.66; 3.59), the mean scores tended to decline, while the standard deviations increased (0.73–0.76). These findings indicate that digital transformation leadership competency remains uneven and that principals still face difficulties in implementation, monitoring, and evaluation.

The consistent gap of approximately 0.07 points between the "implementation" and "outcomes" scores across all criteria reflects the reality that although efforts to implement digital transformation have been made, their translation into concrete improvements in governance quality and teaching effectiveness remains insufficient. This represents a competency gap that should be prioritized in future professional development programs.

These findings clearly indicate that principals' digital transformation leadership competency remains limited, particularly in organizing digital competency development for teachers and monitoring the effectiveness of technological solutions. Therefore, specific support measures from the education sector and local authorities are needed to enhance principals' management and leadership capacities in the context of digital transformation.

Overall Status of Primary School Principals' Fulfillment of the Competency Framework

Table 2. Summary of the current status of primary school principals' attainment of the competence framework

Criteria	Implementation		Outcome	
	Mean	**SD**	**Mean**	**SD**
Current status of principals' attainment of professional and pedagogical development competence	3.86	0.71	3.79	0.74
Current status of principals' attainment of school governance competence	3.73	0.73	3.65	0.74
Current status of principals' attainment of competence in building an educational environment	3.92	0.69	3.86	0.70
Current status of principals' attainment of competence in developing relationships between school, family and society	3.82	0.68	3.78	0.67
Current status of principals' attainment of competence in using foreign language and information technology	3.71	0.72	3.63	0.73
Current status of principals' attainment of digital transformation leadership competence in education	3.68	0.72	3.61	0.73
Total	**3.79**	**0.71**	**3.72**	**0.72**

Overall, the level of fulfillment of the competency framework among primary school principals was assessed at a "moderate/average" level, as reflected in the overall mean scores for both the "Implementation" stage (Mean = 3.79; SD = 0.71) and the "Outcomes" stage (Mean =

3.72; SD = 0.72). However, the survey findings also revealed several notable limitations.

First, competencies related to school governance, foreign language and information technology use, as well as digital transformation leadership in education, obtained lower mean scores than the other competency groups. This reflects the gap between the practical demands of educational management reform and the actual competencies of the current cohort of principals.

Second, the scores in the "Outcomes" column were consistently lower than those in the "Implementation" column, indicating that the practical implementation of these competencies continues to face numerous difficulties and has not yet achieved the expected level of effectiveness.

Third, the standard deviations (SD) ranged from 0.67 to 0.74, reflecting variations in respondents' evaluations and indicating uneven competency levels among principals.

Thus, the most significant limitation identified in the current situation is the lack of consistency and stability in governance competencies, particularly in aspects related to technology, foreign language proficiency, and digital transformation leadership. These areas should therefore be prioritized in professional development and support programs in order to better meet the requirements of the 2018 General Education Curriculum and the current context of digital transformation.

DISCUSSION

The findings indicate that the level of fulfillment of the competency framework among primary school principals in the context of digital transformation remains only at a "moderate/average" level. In particular, competencies related to school governance, foreign language and information technology use, and especially digital transformation leadership obtained lower mean scores. This trend is relatively consistent with international studies showing that many principals continue to face difficulties in data governance, selecting and monitoring technological solutions, and leading teachers in digital environments (Navaridas-Nalda et al., 2020; Cheng & Wang, 2023; Ridho et al., 2024; Karaköse et al., 2022). In Vietnam, studies on competency frameworks for general education principals (Minh Gian et al., 2015; Liên Thị Bích Nguyên et al., 2025; Ngô Xuân Đông, 2017; Dương Thị Hoàng Yến et al., 2021; Nguyệt et al., 2025) have similarly shown that leadership and governance competencies remain uneven, particularly in response to the demands of curriculum reform, instructional innovation, and digital transformation.

In contrast, more "traditional" competency groups, such as professional development, building educational environments, and developing school–family–society relationships, received higher evaluations. These findings are consistent with the observations of Hallinger and Murphy (2013) and Bush (2020), who argued that principals tend to be stronger in instructional leadership and maintaining school order, yet more limited in their capacity to lead change. This suggests that the challenge is not merely to "add digital skills," but rather to systematically strengthen modern governance competencies based on existing foundational capacities.

Enhancing principals' professional competencies is therefore essential. Professional development programs should focus on the implementation of the 2018 General Education Curriculum, competency- and quality-based teaching approaches, innovative assessment practices, as well as the development of skills in school educational planning and the organization of lesson study–based professional activities. Strengthening principals' capacity to evaluate and support teachers' professional development will enable them to better fulfill their role as academic leaders in the implementation of the new curriculum.

Strengthening school governance competency among principals is essential in the context of educational reform and digital transformation. Professional development programs should

prioritize strategic governance skills, human resource management, financial and facilities management, decision-making competency, delegation and coordination skills, as well as change management within educational organizations. Such training activities should be designed in close connection with practical management situations, thereby enabling principals to apply systems thinking in designing operational procedures, conducting internal supervision, and administering educational activities in a flexible and integrated manner. This approach is expected to contribute to improving the effectiveness and sustainability of school governance.

Developing principals' competency in building safe and healthy educational environments is also considered a critical requirement. This solution focuses on enhancing principals' knowledge and skills related to school culture development, values education, school violence prevention, behavioral management, and the handling of disciplinary violations. Furthermore, principals should be equipped with the capacity to design institutional mechanisms and educational activities that encourage the active participation of teachers, students, and parents in constructing democratic and creative school environments. Such efforts are expected to foster positive psychosocial conditions that support students' holistic development.

Enhancing principals' competency in developing relationships among schools, families, and society is another important direction for professional development. Principals need to be equipped with competencies in establishing effective coordination mechanisms with parents, organizing collaborative activities with communities, businesses, and social organizations, and mobilizing socialized educational resources. In addition, the ability to analyze the effectiveness of collaborative relationships in order to adjust strategies for mobilizing and utilizing support resources is particularly important, as it helps strengthen the depth, sustainability, and long-term impact of school partnerships.

Promoting foreign language and information technology competencies among principals is equally necessary in the current educational context. Professional development programs should support principals in using basic English for reading professional materials and exchanging academic information, while simultaneously improving their proficiency in school management software, online teaching systems, data analysis tools, and the exploitation of digital learning resources. Under these conditions, foreign language proficiency and information technology competency become essential instruments for strengthening school governance, supporting teaching and learning activities, and expanding access to external knowledge resources.

Particular emphasis should be placed on developing digital transformation leadership competency among principals. This solution focuses on equipping principals with the knowledge and skills required to formulate visions, objectives, and roadmaps for school digital transformation; design action plans aligned with core educational activities; direct the digitization of records, data, and management processes; organize digital competency development for teachers and students; and monitor as well as evaluate the impacts of technological solutions on educational quality. This is regarded as a strategic and foundational solution for narrowing the gap between the demands of digital transformation and the actual competencies of primary school principals in the current educational context.

CONCLUSION

Digital transformation in education is not merely a process of applying technology to teaching and management activities, but also a process of transforming mindsets and innovating the ways schools are governed, organized, and operated toward greater flexibility, transparency, and effectiveness. In this context, primary school principals play a pivotal role in directing school development, leading educational innovation, and effectively

managing educational activities within digital environments.

Based on the analysis of both theoretical and practical foundations, this study proposed a competency framework for primary school principals in the context of digital transformation, consisting of six major competency groups. The findings revealed several strengths, particularly in maintaining safe and healthy educational environments and demonstrating professional proactiveness. At the same time, the study also identified notable limitations, especially in competencies related to foreign language use, information technology application, and digital transformation leadership among primary school principals in Ho Chi Minh City.

On this basis, six groups of solutions were proposed to enhance the effectiveness of primary school principals' fulfillment of the competency framework requirements in the context of digital transformation.

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AUTHOR DECLARATION

The authors declare that this manuscript is an original work and has not been published previously, nor is it currently under consideration for publication elsewhere. All sources and references used in the study have been appropriately acknowledged in accordance with academic and ethical standards.

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