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Bridging Competency Gaps: A Mixed-Methods Study on the Development Needs of Primary School Administrators in the Bangkok Metropolitan Area

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Abstract. This research examines the competency development requirements of primary school administrators in the Bangkok Metropolitan Area through a mixed-methods methodology. The study's quantitative phase surveyed 265 administrators using questionnaires. The qualitative phase involved gathering in-depth insights from 15 administrators through comprehensive interviews and three focus groups, each with 5 participants. Results reveal significant deficiencies in leadership, digital transformation, research-based decision-making, and inclusive education. Administrators recognized the most pressing developmental requirements in sub competencies, including digital curriculum design, operational research, and inclusive learning management. Significantly, less experienced administrators indicated more substantial disparities, underscoring the necessity for tailored professional development. Qualitative data identified systemic issues, such as inadequate digital confidence, ambiguous evaluation models, insufficient mentoring frameworks, and a deficiency in training for inclusive practices. Based on these findings, the research advocates specialized, modular training initiatives, mentorship frameworks, and evidence-based planning methodologies consistent with the principles of the Office of the Basic Education Commission (OBEC). These findings provide pragmatic advice for policymakers and educational leaders seeking to establish adaptable, equity-centred leadership within Thailand's swiftly changing educational environment. Constraints and recommendations for the forthcoming study encompass broadening geographic coverage, integrating stakeholder viewpoints, and employing objective performance evaluations.

Keywords: educational leadership; professional development; digital transformation; inclusive education; Thailand

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1. Introduction

In the 21st century, the responsibilities of primary school administrators have become more intricate. To successfully guide educational institutions amid rapid socio-technological changes, administrators need a diverse array of competencies. They must manage instructional leadership, digital integration, and inclusive practices while fostering equity and professional learning environments (Dexter et al., 2022; Rangel et al., 2024; Ceballos et al., 2025).

As educational needs change, administrators must exhibit adaptability in pedagogy, technology, data-driven school improvement, and collaborative environments. Preparing school leaders for these challenges requires targeted training programs focused on equity and continuous professional growth, particularly in teaching support, technology skills, and inclusive education. Without this specialized support, many school administrators' risk being ill-equipped to meet the complex demands of modern school leadership (Cosner & De Voto, 2023; Tomc et al., 2024).

Globally, primary school administrators face complex issues arising from technological disruption, policy reforms, and the need to comply with international educational standards. These demands require leaders who can navigate intricate systems while adhering to national directives and global benchmarks (Mustoip et al., 2023; Alsalamah & Callinan, 2021). Front-line leaders must exhibit transformational leadership, effective communication, and strategic decision-making to cultivate positive school environments and promote institutional enhancement (Bush, 2020; Gurley & Dagley, 2021; Thien et al., 2023).

The integration of digital technologies into educational and administrative processes is a fundamental expectation, which points to the importance of digital literacy and adaptability among school administrators (Sergis et al., 2018; Lantela et al., 2024). Ultimately, school administrators must reconcile internal performance expectations with external accountability. Such an endeavor requires a combination of ethical reasoning, policy awareness, and strategic agility to ensure schools are both inclusive and prepared for the future (Chitpin, 2020; Kilag et al., 2023).

Our research is grounded in **competency-based management**, which provides a structured approach for identifying and addressing the specific skills and knowledge required for a role. This framework is essential for analyzing the leadership challenges within Thailand's educational system. Despite the increasing focus on leadership development, most current research concentrates on secondary or higher education, resulting in a lack of exploration of the unique competency requirements of primary school administrators.

This study aims to identify the essential competency development requirements of primary school administrators in the Bangkok Metropolitan Area. This research seeks to identify the areas where these leaders need further development to facilitate the creation of successful, context-specific professional development programs. The findings will not only contribute to a theoretical understanding of

educational leadership but also inform the development of both research agendas and practical, implementable solutions for the Thai education system.

2. Literature Review

2.1 International Competency Frameworks

Global standards for educational leadership highlight a broad range of competencies, including instructional leadership, organizational management, and community participation. These frameworks aim to equip school leaders for the intricate and dynamic requirements of 21st-century educational systems (Schleicher, 2012; Murphy & Louis, 2018).

Contemporary leadership requires more than just managing internal school functions; it also involves cultivating inclusive, relational, and collaborative atmospheres that enhance teacher development and student success. Capacity building and relationship-centered leadership are essential for maintaining strong school cultures (Murphy & Louis, 2018). The OECD framework, for instance, emphasizes providing school leaders with pedagogical knowledge, strategic acumen, and social skills to address global educational challenges and promote systemic enhancement (Schleicher, 2012).

Below is a summary of international frameworks and key emphases:

- **OECD:** Pedagogical knowledge, strategic acumen, social skills, and systemic enhancement
- **ISLLC & NPBEA:** Creating a clear vision, ethical leadership, instructional leadership, and fostering inclusive, student-focused learning environments
- **Murphy & Louis (2018):** Capacity building, relationship-centered leadership, and strong school cultures

These frameworks serve as foundational models for competency-based leadership development in many nations and have influenced wider international adaptations of educational standards (Anderson-Levitt, 2017).

2.2 Competency Development in Thailand

Research in the Thai context has underscored the urgent requirement for visionary, communicative, and flexible leadership in primary education. Studies indicate that administrators must exhibit proficiency in strategic decision-making, personnel development, and creativity to address the changing requirements of education (Thuwakham & Buranachart, 2022). The Office of the Basic Education Commission (OBEC) has vigorously advocated for reforms aimed at enabling school administrators to embrace instructional leadership, cultivate inclusive environments, and incorporate digital tools into school management (Rangubtook & Bhongsatiern, 2024).

Research also indicates that many school administrators in Thailand frequently lack the necessary abilities for the efficient integration of digital resources, management of learning environments, and promotion of teacher collaboration. This gap is particularly evident in their limited ability to use new technologies

and support teamwork, which are crucial for improving teaching quality today. Additionally, despite suggested evaluation models, there are challenges in adapting these models to meet the changing needs of digital tools and teaching methods.

These patterns align with international literature while highlighting local issues in Thailand, such as inequitable access to professional development and limited options for training customized to local educational needs. Somprach, Tang, and Popoonsak (2017) found that while professional learning communities are essential for school enhancement, variations in leadership involvement and systemic support impede their comprehensive implementation.

Kanjanamanee, Waichompu, and Rinthaisong (2025) emphasize that school leaders in Thailand's special and remote regions face distinct obstacles in obtaining contextually relevant and sustainable leadership training. These local gaps reflect broader issues identified by Ra-ngubtook & Bhongsatiern, 2024, which highlighted ongoing imbalances in the Thai education system, especially concerning resource allocation and leadership development opportunities between urban and rural regions.

2.3 From Local Challenges to Global Relevance

Despite varying competency requirements among nations, urban education systems globally face analogous challenges: rising student diversity, digital transformation, equality in school leadership, and the necessity for sustainable professional development programs. Bangkok's situation, as a city in a developing economy reconciling modernization with traditional educational frameworks, provides valuable similarities with other urban educational environments.

Research from several countries indicates similar deficiencies in digital readiness, collaborative leadership, and instructional supervision. Studies in Southeast Asia, including Indonesia, Malaysia, Pakistan, and Vietnam, have revealed ongoing difficulties in school leaders' ability to incorporate technology, promote teacher development, and maintain instructional quality (Harris et al., 2017; Truong & Hallinger, 2017; Ikram et al., 2021; Noor & Nawab, 2022;). These common factors make Bangkok a pertinent case study for enhancing global leadership development initiatives. Localized findings can contribute to broader educational policy discussions, especially when development programs are designed to address the actual needs of administrators, a factor sometimes neglected in top-down global leadership models (Walker & Hallinger, 2015; Dimmock, 2020).

2.4 Gaps in Leadership Competency

The metropolitan school environment of Bangkok poses unique challenges that underscore the necessity for enhanced leadership competencies. Numerous studies indicate that administrators in Bangkok face challenges in overseeing educational changes and digital transitions. Hallinger and Lee (2013) found that while school leaders in Bangkok recognize reform priorities, many lack the capability and support to effectively implement instructional reforms, particularly in rapidly evolving digital contexts. Moreover, whereas Thai studies acknowledge overarching leadership deficiencies, there is a lack of research about

specific sub competencies, such as communication skills, decision-making, and technical literacy, at the elementary level. Hauwadhanasuk et al. (2019) identify overarching issues in inclusive education leadership throughout Thailand, but they do not delineate the specific competencies needed by primary school administrators. There is little research that looks at what primary school leaders in cities believe they need, which limits how well educational policies can tackle specific skill gaps.

2.5 Research Gap and Significance of the Study

Although there is increasing acknowledgment of the significance of school leadership, research about the competency development requirements of primary school administrators in Bangkok is still scarce. Current research predominantly emphasizes secondary or tertiary education, neglecting the distinct roles and developmental requirements of primary school leaders. Furthermore, there is less evidence regarding how these administrators prioritize different sub competences or assess their professional development requirements. This study is important because it delineates specific competency deficiencies in leadership, learning management, and digital abilities within primary education.

The findings elucidate particular needs, providing practical assistance for the formulation of professional development efforts that align with the objectives of the Office of the Basic Education Commission (OBEC) and the Ministry of Education. Moreover, the research presents a localized viewpoint grounded in the realities of Bangkok's educational system, providing insights that could influence national policy and regional training frameworks. This section delineates the study's research objectives and questions, building upon its relevance.

2.6. Research Objectives and Research Questions

This study seeks to comprehensively assess the professional development requirements of primary school administrators through three interconnected objectives. It aims to ascertain the essential competency development requirements of administrators in the Bangkok Metropolitan Area, specifically in the areas of school leadership and management. Secondly, it seeks to evaluate how administrators view and prioritize the significance of particular subcompetencies, encompassing fundamental competencies, learner management, and administrative skills. Finally, the study aims to identify the most pressing competency deficiencies and offers evidence-based recommendations for addressing them through focused professional development initiatives.

The following research questions meet these objectives:

1. What are the essential competency development requirements for primary school administrators in the Bangkok Metropolitan Area?
2. How do administrators rank the significance of subcompetencies associated with leadership, learner management, and administrative skills?
3. Which competency deficiencies necessitate immediate intervention, and what suggestions might be proposed to address them through focused professional development initiatives?

4. What policy implications and strategic recommendations can be derived from these findings to inform educational policy and leadership development frameworks in the Bangkok Metropolitan Area?

The subsequent methodology section elaborates on the study's use of a mixed-methods research design to successfully address these research issues.

3. Methodology

The study used a careful method that combined both quantitative and qualitative approaches to achieve its research goals and tackle the problems presented. This section outlines the study methods, which include the design, sampling strategies, data collection tools, analysis techniques, and accuracy checks that collectively ensured the reliability and usefulness of the results.

3.1 Research Design

This study utilized a sequential explanatory mixed-methods research design to examine the competency development requirements of primary school administrators in the Bangkok Metropolitan Area. The first part of the study used a survey with a set questionnaire to gather numbers, followed by a second part that included detailed interviews and group discussions. This architecture facilitated a more profound analysis of the quantitative results and the collaborative development of actionable ideas to address competency deficiencies.

3.2 Population and Samples

The study population consisted of 787 primary school administrators from the Office of the Basic Education Commission (OBEC) in the Bangkok Metropolitan Area. The study utilized a two-phase sampling process: a quantitative phase for a survey and a qualitative phase for interviews and focus groups.

The research was specifically conducted within the Bangkok Metropolitan Area, as it was commissioned by a research grant from the Office of the Governor of the Bangkok Metropolitan Area. This study is an integral part of the metropolitan government's policy initiatives to enhance the competency development of primary school administrators. As the nation's capital and a major economic hub, Bangkok represents a unique and complex urban educational environment that faces distinct challenges related to rapid digitalization, student diversity, and administrative demands. The findings are intended to directly inform local policy and tailored professional development programs.

While the findings offer helpful recommendations for policymaking within the Bangkok Metropolitan Area, a key limitation is their generalizability to other regions. The educational context of Bangkok differs significantly from that of rural or smaller urban areas in Thailand due to differences in resource allocation, access to technology, administrative support, and socio-economic demographics among the student population. Therefore, the specific competency needs and challenges identified in this study may not be directly applicable to administrators in other parts of the country without further contextual research. Future studies should

aim to broaden the geographic scope to validate and adapt these findings for diverse educational settings across Thailand.

A stratified random sample was used to select the participants for the quantitative survey. The goal was to ensure the sample of 265 administrators was representative of the population across key variables: gender, age, educational attainment, and years of administrative experience. The sample size of 265 was calculated using the Taro Yamane algorithm, based on a 95% confidence level and a 5% margin of error. After defining these strata, participants were chosen using simple random sampling within each group. This approach reduces sampling bias and improves the accuracy of the findings by ensuring all subgroups are fairly represented.

3.2.1 Qualitative Phase: Interview and Focus Groups
Following the survey, a specific, non-random method was used to select participants for the qualitative phase. A total of 15 administrators were chosen for in-depth interviews and focus groups. The process included three focus groups, each with five participants.

To ensure a rich variety of insights, maximum variation sampling was employed. This technique was used to select participants from the initial survey based on diverse experiences (e.g., new vs. experienced), job titles, school types and sizes, locations, and their survey responses (e.g., administrators who rated their skills as either high or low in certain areas).

This purposive sampling method allowed for the collection of in-depth contextual data from individuals who represent a broad range of roles and experiences. By deliberately choosing participants with varied backgrounds and survey response patterns, the qualitative data provides a more nuanced interpretation of the quantitative findings and helps triangulate the results.

3.3 Data Collection
Instruments for data collection include a questionnaire, interviews, and focus groups.

3.3.1 Questionnaire
The researcher created a structured questionnaire, "Survey on Competency Development Needs of Primary School Administrators in the Bangkok Metropolitan Area," and divided it into six sections. Section 1 collected demographic information. Sections 2 - 5 evaluated requirements in four fundamental domains: (1) Basic Competencies (e.g., communication, critical thinking, technical literacy), (2) Learning Management, (3) Management and Administration, and (4) School Leadership. Section 6 comprised open-ended inquiries to obtain initial qualitative responses. Responses to closed questions were evaluated using a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree).

The questionnaire was conducted both online and in person according to participants' convenience and accessibility. All participants were apprised of the

study's objectives, confidentiality measures, and their rights regarding participation.

3.3.2 In-depth interviews

The comprehensive interview questions aimed to investigate various aspects pertinent to personal leadership practice. The questions covered personal experiences, confidence, and what school administrators do; strategies specific to their roles and their views on professional development; how they use data and research in schools; and their beliefs, readiness, and actions related to inclusive education and technology use. This method facilitated a detailed understanding of administrators' self-evaluated competencies and developmental requirements within their institutional environments. The following are the questions.

A. Digital Transformation and ICT Integration

1. How confident do you feel using ICT tools in your leadership role? *(Explores individual skill levels and self-perception.)*
2. Can you share a specific example of a digital initiative you've implemented or led?
3. What personal challenges have you encountered when adopting educational technologies?
4. What kind of ICT-related professional development have you received, and what areas still feel lacking?

B. Learning Innovation and Assessment

1. How do you currently promote innovative teaching practices in your school?
2. What difficulties do you encounter when leading or supervising real-world, student-centred assessments?
3. How do you evaluate the effectiveness of your teacher mentoring programs?
4. What kind of PD would better equip you to support teachers in developing creative assessment strategies?

C. Research-Based Management and Evidence-Informed Leadership

1. Can you describe how you use research or data in your daily decision-making?
2. What prevents you from conducting or applying educational research in your school context?
3. Have you ever led or participated in school-based research initiative? If yes, what was the outcome?

D. Inclusive Education and Equity

1. How prepared do you feel to manage inclusive learning environments?
2. Can you describe any initiatives you've led to support students with special needs?
3. What personal or institutional barriers do you face when trying to promote equity in your school?

3.3.3 Focus groups

The focus group questions were designed to extract collective views from participants concerning essential leadership issues and developmental requirements. Their focus was on identifying common challenges and teamwork strategies to overcome them, recording shared experiences and recommending ways to build skills, exploring support systems and joint methods for professional growth, and highlighting common skill gaps along with practical solutions that fit the context. This approach sought to promote dialogue, consensus-building, and the collaborative development of effective strategies among school administrators.

A. Digital Transformation and ICT Integration

1. What are the most common challenges your schools face in implementing ICT-based learning?
2. How do you support or collaborate with peers in promoting digital transformation at the school level?
3. What types of training formats or resources do you believe work best for improving ICT literacy among administrators?

B. Learning Innovation and Assessment

1. What do you see as the biggest system-level barriers to learning innovation in your schools?
2. How can collaboration among administrators improve teacher development and creative assessment practices?
3. What types of professional learning activities have been most impactful in your schools?

C. Research-Based Management and Evidence-Informed Leadership

1. What kind of support or infrastructure is needed to embed research practices into school leadership?
2. How can data-sharing and collaboration among schools enhance evidence-based decision-making?
3. What kinds of training or networks would help strengthen research capacity across schools?

D. Inclusive Education and Equity

1. What challenges do administrators face when ensuring inclusive education across diverse school contexts?
2. What support do teachers most need to improve accessibility and equity for all students?
3. How should professional development be designed to help administrators lead more inclusive schools?

3.4 Data Analysis

Quantitative data from the Likert-scale questions were examined using descriptive statistics (frequency, mean, percentage, and standard deviation) to discern prevailing tendencies. The Modified Priority Needs Index (PNI) was employed to rank developmental priorities among subcompetencies. One-way

ANOVA assessed variations based on demographic variables (e.g., experience level, education).

Thematic analysis was employed to examine qualitative data derived from open-ended survey responses, interviews, and focus groups. Coding was performed inductively to discern common themes concerning barriers, priorities, enablers, and proposed interventions. Themes were aligned with survey domains to augment the interpretive strength of the mixed-methods results. The results were utilized to enhance professional development recommendations, guaranteeing that training programs are contextually relevant, prioritized, and feasible for implementation. Insights were also associated with policy-level ramifications, including OBEC's leadership training frameworks and 21st-century educational techniques.

3.5 Reliability and Validity

Instrument reliability was confirmed in a pilot test with 30 non-sample subjects. The Cronbach's alpha coefficients for the questionnaire were 0.79 for actual competency and 0.84 for expected competency, demonstrating robust internal consistency.

Content validity was affirmed via professional evaluation by three specialists in educational leadership. The Index of Item-Objective Congruence (IOC) varied between 0.67 and 1.00. Revisions were implemented prior to full administration. The mixed-methods strategy augmented construct validity by enabling cross-validation of survey results through comprehensive narrative inquiry. The triangulation of quantitative and qualitative data enhanced the validity of results and suggestions.

The detailed method explained above helped collect both numbers and stories, creating a strong foundation for looking into what school administrators need for professional development; the next section shares the findings organized by the study's three research questions.

4. Findings

The following sections outline the findings related to each study issue, starting with a look at the key skills needed based on both survey data and personal insights and then providing specific recommendations based on solid evidence.

4.1 Key Competency Development Needs of Primary School Administrators

This section delineates the findings pertinent to the initial study question: What are the primary competency development requirements of primary school administrators in the Bangkok Metropolitan Area? The findings are based on quantitative survey data evaluated through mean importance scores and the Priority Needs Index (PNI), supplemented with qualitative insights from interviews and focus groups. This section closes with recommendations pertaining to the initial research question.

4.1.1 Empirical data from surveys

The results are organized into two tiers: overarching competency domains and particular subcompetencies.

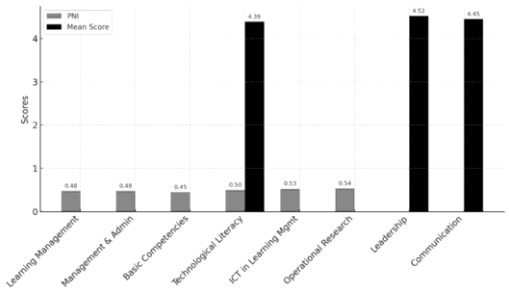

Figure 1: Key competency development needs of primary school administrators

Figure 1 illustrates the **competency development needs of primary school administrators.** This bar chart compares the Priority Needs Index (PNI) with average importance scores across seven essential competency domains. A higher PNI score indicates a greater need for development. The domains include leadership, communication, learning management, management, and administration; basic competencies; technology literacy; ICT in learning management; and operational research.

Leadership (M = 4.52) and Communication (M = 4.45) obtained the highest mean scores, signifying that administrators regard these domains as critically important. However, the PNI scores did not correlate with these areas, suggesting that they may not be considered critical development priorities. Conversely, operational research (PNI = 0.54) and ICT in learning management (PNI = 0.53) surfaced as the most significant competency deficiencies, indicating a robust need for professional development in data-driven planning and digital integration. Technology literacy exhibited a significant PNI (0.50) and a high mean score (4.39), indicating persistent difficulties in adjusting to swift technological advancements.

Learning Management and Management & Administration exhibited a PNI of 0.48, signifying moderate developmental requirements, while Basic Competencies registered the lowest PNI at 0.45. The difference between how important these skills seem and how urgently they need to be developed shows that we need targeted efforts in teaching with technology, leading based on evidence, and training focused on innovation.

Figure 1 delineates overarching competency domains for enhancement; however, a more profound comprehension of these requirements can be attained by analysing the various subskills within each domain. Figure 2 shows the top-rated individual skills based on their Priority Needs Index (PNI), giving clear guidance on the areas where professional development should be prioritized.

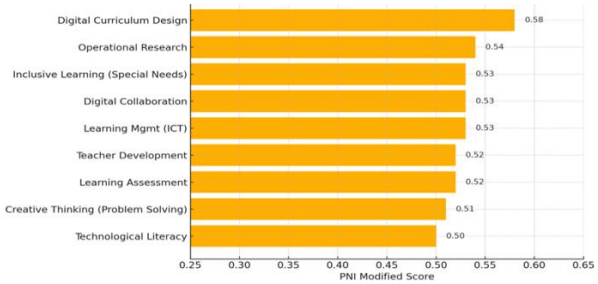

Figure 2: Top competency development needs of primary school administrators

Figure 2 illustrates the most pressing individual skill requirements of primary school administrators according to their Priority Needs Index (PNI). The top-ranked domain is **Digital Curriculum Design** (PNI = 0.58), signifying a robust need for expertise in creating technology-integrated educational materials. Subsequently, **Operational Research** (PNI = 0.54) and **Inclusive Learning for Special Needs** (PNI = 0.53) underscore an urgent necessity for data-informed decision-making and equity-focused leadership. Other important skills, like working together online, managing learning with technology, and helping teachers grow, have high PNI ratings (0.52–0.53), showing a lack of digital integration and support for teaching. The overall distribution highlights the significance of **digital fluency, inclusive practices, and evidence-based leadership** in the changing educational environment of Bangkok's primary schools.

In summary, Figures 1 and 2 demonstrate a consistent pattern of skill requirements across primary school administrators, emphasizing digital curriculum design, inclusive education, and research-based leadership as the most pressing issues. These quantitative findings highlight the necessity for focused, context-sensitive professional growth. The subsequent part elucidates the underlying causes and practical issues related to these gaps, including data from comprehensive interviews and focus group discussions with school administrators. These qualitative insights enhance the statistical trends by anchoring them in the lived experiences of educational leaders.

Summary of Key Findings: Research Question 1

- **Quantitative Results:** Administrators value leadership and communication most highly, but the most urgent development needs (based on PNI) are in operational research and **ICT in** learning management.
- **Top** Subcompetencies**:** The most significant gaps are in digital curriculum design, operational research, and inclusive learning for special needs.
- **Qualitative Insights:** Administrators expressed a lack of confidence in using digital tools, challenges in mentoring staff, difficulties in translating data into action, and inadequate training for supporting students with special needs.

4.1.2 Insights from In-Depth Interviews and Focus Groups

Qualitative data from comprehensive interviews and focus group discussions corroborated and enhanced the survey results, especially with the pressing developmental requirements in digital transformation, inclusive education, and evidence-based leadership. Numerous administrators expressed a lack of confidence in utilizing ICT technologies, with one participant remarking, "I frequently depend on younger staff to establish online platforms—I require more systematic training to feel autonomous." The finding indicates a greater necessity for fundamental assistance in digital curriculum development and technological incorporation.

Concerning innovation and educator development, administrators often reported challenges in overseeing student-centred evaluations and mentoring novice teachers. One person remarked, "We promote creativity, yet we often lack effective measurement methods." These insights expose deficiencies in both assessment literacy and strategic instructional leadership. Participants recognized the importance of utilizing data for decision-making in research-based management, yet they identified time limitations, inadequate training, and insufficient resources as ongoing obstacles. A principal remarked, "We consistently gather data; however, translating it into tangible change is challenging without explicit direction."

Ultimately, numerous administrators in inclusive education indicated ambivalence about their ability to assist students with special needs. A focus group participant stated, "I aspire to assist all students, yet we require enhanced training and increased collaboration with specialists." This sentiment highlights the urgent necessity for capacity-building that aligns policy aspirations with actual reality.

Collectively, these qualitative insights elucidate the personal, institutional, and systemic obstacles that influence professional development requirements, creating a robust basis for the subsequent targeted recommendations.

4.1.3 Recommendations for Research Question 1

A series of focused recommendations is suggested to help primary school administrators in the Bangkok Metropolitan Area meet the essential competency development requirements, specifically in digital curriculum design, inclusive learning, operational research, and fundamental leadership skills. Schools should initiate digital curriculum design workshops that focus on the incorporation of ICT tools and individualized learning methodologies into classroom practices and overall school operations.

Secondly, inclusive leadership development initiatives are to be implemented to cultivate competencies in strategic planning, effective communication, and the establishment of fair learning environments, particularly for children with special needs.

Thirdly, modular training programs centred on operational research and evidence-based decision-making are crucial for augmenting administrators' capabilities in innovation, strategic planning, and educational quality assurance.

Furthermore, initial evaluations of digital competencies should be performed to customize professional growth trajectories based on differing degrees of technology literacy and trust in ICT utilization.

Using continuous learning methods like microlearning and blended learning will help improve skills in teaching leadership, teamwork with technology, and making decisions based on data in school management.

Summary of Key Findings: Research Question 1

This research aimed to identify the key competency development needs of primary school administrators in the Bangkok Metropolitan Area. The findings from both the quantitative survey and qualitative interviews revealed a consistent set of priorities. Table 1 summarizes the relevance of the objectives of teaching subjects at the university.

Table 1: Relevance of objectives of teaching subjects at the university

	Quantitative Results	**Qualitative Insights**
High Importance	Administrators highly value Leadership (M = 4.52) and Communication (M = 4.45), but these aren't the most urgent needs.	Administrators expressed a desire to improve their leadership skills but noted a lack of confidence and systematic training in certain areas.
Urgent Needs	The most urgent needs, identified by the Priority Needs Index (PNI), are in Operational Research (PNI = 0.54) and ICT in Learning Management (PNI = 0.53).	They reported feeling unprepared to use data for decision-making and expressed a need for more systematic training in digital tools and curriculum design.
Top Subcompetencies	The most significant gaps are in Digital Curriculum Design (PNI = 0.58), Operational Research (PNI = 0.54), and Inclusive Learning for Special Needs (PNI = 0.53).	They reported challenges in creating technology-integrated lessons and felt they lacked the necessary skills to support students with special needs effectively.

4.2 Priority Subcompetencies for Administrator Development

This section delineates the various subcompetencies that primary school administrators in the Bangkok Metropolitan Area have identified as essential for their professional development, building upon the comprehensive competency requirements detailed in Section 4.1. These subcompetencies embody the

changing requirements of school leadership amid digital transformation, inclusive education, and data-informed decision-making.

This section breaks down the broader competency areas from Section 4.1 into specific subcompetencies, providing a clearer understanding of where to focus capacity-building activities. This examination commences with quantitative results derived from survey data, emphasizing the subskills that administrators recognize as both critical and significant.

4.2.1 Empirical data from surveys

The empirical findings below delineate the sub-competency priorities assessed by PNI along with their mean scores.

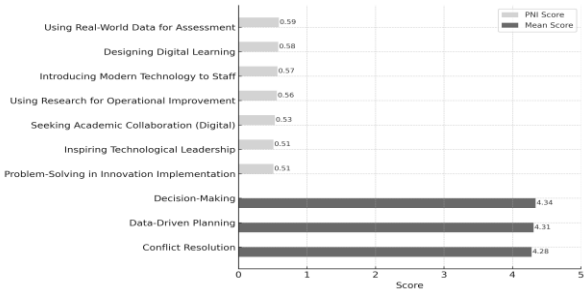

Figure 3: Sub-competency priorities rated by PNI and mean scores

Figure 3. Sub-competency priorities rated by PNI and mean scores. This horizontal bar chart compares the Priority Needs Index (PNI) scores with the average importance scores of essential subcompetencies. The chart emphasizes domains where the need for development is greatest, such as Utilizing Real-World Data for Evaluation, Crafting Digital Learning, and Introducing Modern Technology to Staff. Table 2 below presents top sub-competency priorities in details.

Table 2: Top sub-competency priorities by PNI and mean scores

Sub-Competency	**PNI Score**	**Mean Score (1-5)**
Utilizing Real-World Data for Evaluation	0.59	4.31
Crafting Digital Learning	0.58	4.25
Introducing Modern Technology to Staff	0.57	4.21
Utilizing Research for Operational Improvement	0.56	4.19
Seeking Digital Collaboration	0.53	4.12
Fostering Technological Leadership	0.51	4.08
Decision-Making	0.50	4.34
Conflict Resolution	0.49	4.28
Data-Driven Planning	0.49	4.31

At the apex of the table, utilizing real-world fata for evaluation (PNI = 0.59) and crafting digital learning (PNI = 0.58) are identified as the most pressing developmental requirements. Subsequently, there is the introduction of modern technology to staff (PNI = 0.57) and the utilization of research for operational improvement (PNI = 0.56), indicating a robust need for professional expertise in digital transformation and data-informed school management. Additional significant talents encompass pursuing academic collaboration through digital platforms (PNI = 0.53) and fostering technological leadership (PNI = 0.51), indicating the value of peer networking and innovative leadership.

The three highest mean scores—decision-making (M = 4.34), data-driven planning (M = 4.31), and conflict resolution (M = 4.28)—underscore the significance of these abilities among administrators, despite lower PNI ratings reflecting perceived proficiency. In summary, there is a strong need for improvement and a high importance placed on skills related to **digital integration, strategic leadership, and making decisions based on research**.

Although survey responses offer a data-driven perspective on development priorities, comprehending the lived experiences and institutional frameworks underlying these trends is equally crucial. The subsequent subsection provides essential insights derived from comprehensive interviews and focus group discussions with primary school administrators, enhancing the empirical findings.

4.2.2 Insights from In-Depth Interviews and Focus Groups

Qualitative data obtained from comprehensive interviews and focus groups provided substantial contextual information to enhance and elaborate on the survey findings about sub-competency priorities. A predominant concern that surfaced was the lack of strategic foresight in digital transformation. Although some administrators showed a degree of confidence in utilizing ICT technologies, they acknowledged a deficiency in leadership capability to facilitate comprehensive institutional transformation. A participant stated, "We possess the tools yet lack the vision—we require direction on how to spearhead digital transformation, rather than merely utilizing technology." This discovery corroborates the survey's focus on subcompetencies such as designing digital learning and inspiring technological leadership.

Administrators recognized the challenges associated with transitioning to real-world, student-centred evaluation methodologies in the context of learning innovation and assessment. A participant in the focus group remarked, "We aim to transition from rote learning, yet we lack a clear method for assessing innovative teaching." Others noted that teacher mentoring programs are deficient in continuous follow-up and evaluation methodologies. These gaps strongly reinforce the prioritization of utilizing real-world data for assessment and decision-making as essential sub-competency domains.

In the realm of research-driven management, administrators frequently highlighted the difficulty of utilizing data for decision-making. One interviewee

stated, “We continuously gather data, yet lack the ability to convert it into actionable plans or enhancements.” This highlights the imperative of competencies like utilizing research for operational enhancement and data-driven strategic planning.

Participants articulated a pronounced preference for professional development approaches that are integrated into everyday practice and customized to their circumstances. Instead of discrete workshops, they promoted collaborative, continuous learning experiences. One response underscored the necessity of collaboration, stating, “We require time to work together—not merely to attend seminars.” Others advocated peer mentoring and networking to promote innovation and collaborative problem-solving in practical contexts.

Qualitative insights support the survey results and highlight the need to develop specific skills in digital leadership, assessment, and planning based on research. They emphasize the importance of varied, practical, and sustainable professional learning methods. The qualitative findings corroborate the survey results and highlight the intricacy of administrators' professional development requirements. Using this thorough research as a base, the following suggestions aim to fix the identified gaps with practical, diverse, and long-lasting methods.

4.2.3 Recommendations for Research Question 2

To address the critical sub-competency requirements discovered among primary school administrators, numerous specific proposals are made. Initially, competency-based training modules must be created to emphasize highly rated sub-skills, like digital curriculum design, authentic assessment, innovative problem-solving, and operational research.

Secondly, learning pathways must be customized for novice, mid-career, and senior administrators, enabling development to align with distinct sub-competency profiles and educational environments.

Thirdly, school-based innovation initiatives should be supported to enable administrators to apply these subcompetencies in practical contexts, promoting leadership development in accordance with institutional aims.

Fourthly, we must integrate professional development into standard administrative practices through peer mentorship, collaborative planning, and data-sharing programs to facilitate ongoing, context-sensitive learning. These solutions emphasize the necessity for professional development that is both strategic and practical, specifically targeting the subcompetency deficiencies most acutely identified by school leaders.

The examination of subcompetency priorities underscores both urgent and strategically important domains for administrator development. The subsequent part expands upon this foundation by pinpointing the most significant competency deficiencies across all domains and providing system-wide recommendations to guide policy and training frameworks at a macro level.

Summary of Key Findings: Research Question 2

- **Quantitative Results:** The most urgent subcompetency for development are **utilizing real-world data for evaluation** (PNI = 0.59), **crafting digital learning** (PNI = 0.58), and **introducing modern sechnology to Staff** (PNI = 0.57).
- **Qualitative Insights:** Administrators lack strategic vision for digital transformation, struggle to assess innovative teaching methods, and find it difficult to translate raw data into actionable plans.
- **Administrator Preferences:** Participants expressed a strong preference for continuous, collaborative, and context-specific professional development rather than one-off workshops.

4.3 Urgent Competency Gaps and Recommendations

This section addresses the most pressing gaps for rapid professional development intervention after the identification of general and specific subcompetencies in Sections 4.1 and 4.2. The report, based on quantitative survey data and qualitative interviews, shows significant deficiencies in digital transformation, evidence-based decision-making, instructional leadership, and inclusive education. Administrators lived experiences and reflective narratives consistently highlight these regions, which have elevated Priority Needs Index (PNI) scores.

4.3.1 Empirical data from surveys

The analysis reveals critical competency deficiencies necessitating prompt action. These encompass **digital transformation, instructional leadership, research-informed administration,** and **inclusive education**, as illustrated in Figure 4.

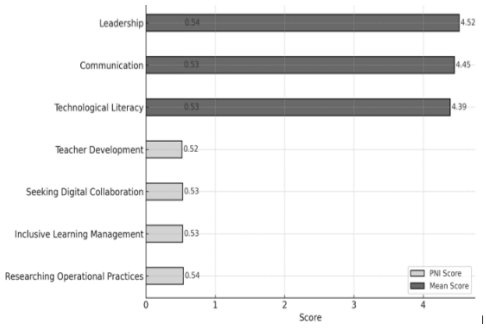

Figure 4: Urgent competency gaps rated by PNI and mean score

Figure 4. Urgent competency gaps rated by PNI and mean score

This horizontal bar chart depicts the Priority Needs Index (PNI) scores and average importance scores for specific subcompetencies. The competencies are arranged to indicate both perceived significance and developmental priority. **Leadership**, **Communication**, and **Technological Literacy** are identified as essential qualities for school administrators, emphasizing the need for strategic guidance and digital proficiency.

Leadership (PNI = 0.54, M = 4.52), **communication** (PNI = 0.53, M = 4.45), and **technological literacy** (PNI = 0.53, M = 4.39) are identified as essential qualities

for school administrators, underscoring the necessity for strategic guidance and digital proficiency. Additional significant topics encompass **teacher development** (PNI = 0.52), **seeking digital collaboration** (PNI = 0.53), **inclusive learning management** (PNI = 0.53), and **researching operational practices** (PNI = 0.54). The graphic illustrates a correlation between elevated significance ratings and urgent developmental requirements, signifying a definitive pathway for focused professional development.

Although these quantitative findings indicate priority gaps, they may not comprehensively reflect the daily reality and contextual obstacles encountered by school administrators. The researcher gathered qualitative data from comprehensive interviews and focus group discussions to better understand these pressing demands.

4.3.2 Insights from In-Depth Interviews and Focus Groups

The qualitative findings offered enhanced context to substantiate the previously reported quantitative data, particularly with **digital transformation, learning innovation, research-informed management,** and **inclusive education**.

Many administrators recognized their insufficient confidence in the successful utilization of digital tools inside their leadership positions. A participant admitted, "I frequently depend on younger staff to oversee the school's digital platforms—I recognize its significance, but I lack confidence at this stage." Another remarked, "We implemented a new learning management system, yet it remains underutilized due to our incomplete comprehension of its capabilities." These opinions highlight the need for flexible and relevant training focused on digital skills, how to use platforms, and how to effectively integrate ICT tools into teaching.

Administrators frequently reported challenges in advancing and assessing student-centred pedagogical methods. One respondent stated, "We request teachers to innovate, yet we fail to offer explicit frameworks for evaluating creativity or critical thinking." Some individuals emphasized the absence of organized mentoring programs, with one administrator stating, "We aspire to enhance our support for teachers, yet we lack the structured time and resources to assist them." These replies emphasize the necessity of establishing mentorship frameworks and offering training in instructional leadership and assessment literacy.

During discussions on research-based management and evidence-informed leadership, administrators demonstrated a keen interest in utilizing data for decision-making but perceived themselves as inadequately prepared. One articulated, "We gather substantial data—attendance, test scores, surveys—but we lack the ability to interpret it for enhancement." Another remarked, "We have never conducted genuine research in school; it seems to be an endeavour reserved for academics, not for us."

These insights underscore a distinct necessity for training in educational research methodologies and action planning that equips school leaders to make educated, strategic decisions.

Ultimately, inclusive education has become a widely recognized issue of concern. Several administrators conveyed ambiguity regarding the provision of help for students with special needs. One individual remarked, "I wish to assist students with special needs; however, we have not received any substantial training in this area." Another remarked, "We occasionally refrain from fully integrating these students due to our uncertainty in adapting our teaching methods." These remarks point out the fundamental importance of professional development workshops centred on inclusive leadership, equitable pedagogical approaches, and institutional support for diversity within educational settings.

The survey results and qualitative accounts collectively advocate for a focused and systematic approach. The subsequent recommendations aim to address the competency deficiencies detected in both data sets.

4.3.3 Recommendations for Research Question 3

The findings offer the following specific recommendations to rectify the most pressing competency deficiencies revealed by quantitative and qualitative analyses. First, we need to set up flexible training programs to improve administrators' digital skills, making sure the content matches their different levels of tech knowledge and specific needs.

Secondly, implementing mentoring frameworks will enhance the development of instructional leadership and assessment literacy, cultivating a culture of collective knowledge and peer learning.

Thirdly, training programs in educational action research and data-informed planning are crucial for equipping school leaders with the necessary tools and skills for evidence-based decision-making and ongoing school enhancement.

Ultimately, inclusive education seminars must be structured to provide administrators with effective ways for establishing equitable and supportive learning environments that address the varied needs of all students, especially those with special needs.

Collectively, these proposals provide a strategic and comprehensive framework for addressing competency deficiencies and enhancing leadership capabilities in primary schools within the Bangkok Metropolitan Area.

To effectively address the identified capability gaps, it is crucial to integrate the recommendations derived from all three study questions. This synthesis emphasizes the common priorities in leadership, digital integration, and inclusive education while establishing a foundation for comprehensive methods that can guide future policy, practice, and professional development. This section provides a comprehensive summary of the recommendations.

Summary of Key Findings: Research Question 3

- **Quantitative Results:** The most urgent gaps for professional development are in **digital transformation**, **evidence-based decision-making, instructional leadership**, and **inclusive education**. High PNI scores were found for **leadership, communication, and technological literacy.**
- **Qualitative Insights:** Administrators expressed a lack of confidence in using digital tools, a need for structured mentoring programs for teachers, and a difficulty in applying data to make strategic decisions.
- **Personal Barriers:** Many felt unprepared for inclusive education and lacked the confidence to assist students with special needs, despite a desire to do so.

4.4 Synthesis of Recommendations Across Research Questions

Based on the research findings from Research Questions 1 through 3, several key areas for intervention emerged, forming a cohesive framework for improving educational leadership in Thailand. The data consistently points out the importance of **ongoing, modular training programs** tailored to the diverse experience levels of administrators. These programs are essential for enhancing leadership ability, effectively integrating technology, and fostering inclusive learning environments.

A critical finding was the fundamental requirement for investing in **digital infrastructure and ensuring equitable access to ICT tools**. This is a prerequisite for developing digital curriculums and improving technological proficiency across all schools. The emphasis on specific subcompetencies, such as strategic decision-making, data-driven planning, and innovation leadership, underscores the importance of practical, collaborative learning experiences. The research points to strategies like **peer mentoring, communities of practice, and collaborative learning frameworks** as key mechanisms for professional development. These approaches are effective because they are directly relevant to the real-world challenges that administrators face.

Ultimately, both quantitative and qualitative data emphasize the critical need to **align OBEC goals with local school improvement initiatives**. This alignment is crucial not only for ensuring the short-term effectiveness of professional development but also for its long-term sustainability. Together, these findings offer a systematic approach to addressing identified deficiencies and create a framework for re-evaluating and improving educational leadership development within Thailand's increasingly digital school system.

The amalgamation of quantitative data with administrators' experiential insights reveals a pressing necessity for professional development that is contextually adaptable and focused on essential leadership areas. This section consolidates recommendations into actionable strategies, which the subsequent discussion will explore in terms of their implications for educational policy, institutional capacity building, and the sustainable improvement of leadership practices within Thailand's primary education system.

Summary of Key Findings: Research Question 4
The fourth research question, focused on the policy implications of the study's findings, was addressed by synthesizing the recommendations from Research Questions 1 to 3. The key findings were:

- **Need for Policy Alignment:** A crucial finding is the necessity to align top-down policies from national bodies, such as the Office of the Basic Education Commission (**OBEC**), with the on-the-ground realities and needs of local schools. The data consistently showed that effective professional development requires this alignment to be long-lasting and effective.
- **Shift to a Sustainable Development Model:** The study advocates for moving away from traditional, uniform training programs. A new model should be **modular and embedded**, meaning professional development is customized to administrators' diverse experience levels and integrated into their daily work through peer mentoring and collaborative learning.
- **Prioritize Infrastructure and Support:** To meet basic needs in digital curriculum design and technology skills, policymakers must invest in **digital infrastructure** and ensure equitable access to ICT tools. Any training initiative's success hinges on this investment.
- **Focus on Collaborative Leadership:** The emphasis on subcompetence like strategic decision-making and innovation leadership highlights the importance of fostering **peer mentoring** and **communities of practice** as formal policy instruments. These frameworks would promote a culture of professional development that is consistent with school-based realities.

5. Discussion

This study's findings indicate a significant and urgent requirement for competency enhancement among primary school administrators in the Bangkok Metropolitan Area, especially in digital transformation, inclusive education, instructional leadership, and research-informed management. The research combines quantitative survey data with detailed qualitative observations to illustrate the problems and developmental requirements faced by school leaders in a complex educational landscape.

5.1 Interpreting the Findings considering Global and Local Literature

This study corroborates that instructional leadership, technology fluency, and inclusive practices are essential for 21st-century school leadership, in alignment with global leadership frameworks (Schleicher, 2012; Murphy & Louis, 2018). The paramount requirements—digital curriculum design, operational research, and inclusive learning—correspond with international trends identified in urban education systems throughout Southeast Asia (Truong & Hallinger, 2017; Ikram et al., 2021), which points to the global importance of Bangkok's experience.

The findings simultaneously underscore local differences. Although foreign frameworks highlight competencies such as ethical leadership and data-informed decision-making, Thai administrators encounter structural and contextual obstacles that impede their ability to implement these competencies successfully (Somprach et al., 2017; Kanjanamanee et al., 2025). The pervasive lack of

confidence in utilizing digital tools, inadequate training in inclusive education, and poor use of school data for enhancement indicate systemic deficiencies in leadership preparation and support.

These disparities are especially evident in basic school, a domain sometimes neglected in leadership development studies. The results corroborate previous Thai research demonstrating restricted digital integration and unequal access to professional growth (Boonkua et al., 2019; Ra-ngubtook & Bhongsatiern, 2024). This study provides more detail by pointing out specific skills, like using real-world data for assessment and incorporating modern technologies for staff, which have not received much attention from researchers.

5.2 Implications for Leadership Preparation and Professional Development

The alignment of elevated Priority Needs Index (PNI) scores with qualitative narratives indicates that current professional development frameworks fail to sufficiently address the practical issues faced by administrators. Participants consistently advocated for training that is modular, ongoing, and customized to their experience levels, reflecting global demands for diverse learning paths and integrated, context-specific leadership development (Cosner & De Voto, 2023; Jackson & Moraguez, 2025).

To strengthen the argument for modular and embedded professional development, we can consider a model where training is integrated directly into the workweek. For example, a "Digital Curriculum Design" module could consist of a short, online seminar followed by a school-based project. The administrator would then spend four weeks applying these concepts by leading a small team of teachers to create a new digital lesson plan. This hands-on application is supported by biweekly virtual check-ins with a mentor and culminates in a presentation to a peer learning community. This approach addresses specific skill gaps while creating a culture of continuous learning and collaboration, making the professional development directly relevant and impactful to their daily work.

Essential recommendations encompass the incorporation of peer mentoring, communities of practice, and applied learning initiatives that correspond with school-based contexts. These solutions not only rectify identified competency deficiencies but also cultivate collaborative, reflective environments that advance school improvement initiatives. The findings underscore a systematic disconnection between policy mandates and local capabilities, emphasizing their necessity for enhanced alignment between OBEC directives and context-sensitive leadership actions.

5.3 Addressing the Gaps in Inclusive and Digital Leadership

The focus on inclusive education and digital transformation corresponds with national reforms and international educational objectives (UNESCO, 2016). The deficiency in training for assisting special needs students and the inadequate utilization of digital platforms indicate a discrepancy between governmental expectations and institutional support systems. Such an imbalance necessitates a re-evaluation of how leadership preparation programs incorporate equity and digital literacy—not as ancillary or supplementary, but as fundamental leadership

responsibilities. Empowering administrators with the necessary tools and assurance to traverse these areas is crucial for cultivating inclusive and future-ready educational institutions.

Considering the study's findings, OBEC policies could be restructured to better support these areas. For instance, current top-down directives on digital integration could be revised to allow for more localized implementation. Instead of a single, universal learning management system, a policy could encourage administrators to pilot and adapt systems that best fit their school's specific needs and digital literacy levels (Banticharoenchod, Panya, & Suikraduang, 2017).

Furthermore, OBEC could mandate that a portion of the professional development budget be allocated to creating sustained, school-based professional learning communities. This would shift the focus from one-off training to long-term skill development and peer mentorship (Dinh, Van Nguyen, Vu, Nguyen, Nguyen, & Phan, (2025). Policies could also be revised to incentivize administrators who successfully implement inclusive practices by offering specialized funding or grants for special education resources and training, thereby aligning policy goals with tangible institutional support.

5.4 Toward a Sustainable Leadership Development Model

The study's findings indicate that a uniform approach to professional growth is no longer viable. A sustainable strategy must encompass three essential dimensions: (1) differentiation, ensuring training aligns with diverse career stages; (2) embeddedness, integrating learning within the educational system; and (3) collaboration, prioritizing peer learning and information exchange. These attributes align with global best practices and provide a framework for redefining educational leadership in Thailand.

Furthermore, a comprehensive system-wide response necessitates not just the creation of training programs but also investment in digital infrastructure, mentorship frameworks, and the implementation of local policies. The synthesis of data in Section 4.4 indicates the importance of comprehensive solutions that amalgamate technological, instructional, and equity-focused leadership domains.

6. Conclusion

This mixed-method study investigated the competency development requirements of primary school administrators in the Bangkok Metropolitan Area, pinpointing both general and specialized domains necessitating immediate capacity enhancement. Utilizing quantitative survey data and qualitative insights from comprehensive interviews and focus groups, the research uncovered a complex and systematic array of difficulties confronting educational leaders in Thailand's swiftly changing school environment.

The study identified essential competency development needs in areas like learning management, management and administration, technological literacy, and ICT-integrated pedagogy in response to Research Question 1. The High Priority Needs Index (PNI) scores in domains such as operational research and

ICT in learning management reflect an increasing necessity for data-driven decision-making and digital proficiency among educational leaders.

In response to Research Question 2, administrators identified various subcompetencies as crucial for their professional development. These encompassed designing digital learning, utilizing real-world data for assessment, introducing educational technology to personnel, and executing operational research. The congruence between these aims and the imperatives of 21st-century leadership highlights the evolving expectations for school administrators to be strategic, adaptable, and focused on innovation.

Results pertaining to Research Question 3 highlighted the most pressing deficiencies necessitating prompt intervention: digital transformation, inclusive education, instructional leadership, and research-informed planning. Qualitative narratives identified institutional and personal obstacles, including insufficient faith in digital tools, confusion in assisting special needs kids, and restricted ability to analyse and utilize school data. The findings were more pronounced among early-career administrators, underscoring the necessity for tailored professional development programs.

Based on the synthesis of recommendations, a clear conclusion for the fourth research question can be drawn. The study's findings reveal that a successful approach to educational leadership development in the Bangkok Metropolitan Area requires a strategic shift from top-down directives to a contextual aware framework. The core policy implication is the urgent need for the Office of the Basic Education Commission (OBEC) to strategically align national goals with local school improvement activities. This involves not only mandating specific competencies but also providing the necessary investment in digital infrastructure and establishing structured mentorship frameworks to support administrators.

The research concludes that a sustainable leadership development model **necessitates differentiated**, **embedded**, and **collaborative**. This means moving away from a one-size-fits-all training approach and instead creating policies that promote continuous, peer-led learning and professional growth that is directly integrated into the daily practice of administrators. By doing so, policymakers can effectively transform the study's insights into a tangible framework for building a resilient, adaptable, and forward-thinking educational leadership system within Thailand's primary schools.

All four research questions consistently supported modular, embedded, and context-sensitive professional growth. Participants endorsed peer mentoring, collaborative planning, and practical training rooted in their everyday experiences. Section 4.4 synthesizes ideas that bolster system-level solutions, encompassing investment in digital infrastructure, alignment of national policies with local requirements, and the development of sustainable professional learning communities.

This study enhances comprehension of the changing leadership dynamics in Thai elementary education. It necessitates a comprehensive re-evaluation of administrator training that integrates digital literacy, equity-focused leadership, and evidence-based decision-making. This research addresses the articulated priorities and lived experiences of school leaders, establishing a solid basis for the creation of professional development models that are both successful and durable. Ultimately, the findings provide a critical, evidence-based blueprint for policymakers and educational leaders to redefine Thai educational leadership, moving from broad mandates to a targeted, sustainable model of professional development tailored to the unique realities of Bangkok's primary schools.

7. Limitations of the Study

This study provides useful insights into the professional development needs of primary school administrators; yet, it has numerous limitations that require consideration. The geographic focus was restricted to the Bangkok Metropolitan Area, perhaps constraining the applicability of findings to rural or under-resourced locations with distinct contextual and administrative challenges.

Secondly, the study utilized a cross-sectional approach, offering merely a temporal snapshot and constraining the capacity to monitor changes in abilities or evaluate the enduring effects of professional development activities. Third, dependence on self-reported data presents the risk of response bias, since participants' perceptions may not correctly represent their actual behaviours or levels of competency. To address this, participant feedback on the initial findings was collected through a member-checking process to enhance the credibility of the qualitative data.

The study predominantly concentrated on administrators' opinions, excluding insights from other essential stakeholders, including teachers, parents, lawmakers, and education officials. Incorporating these other perspectives in subsequent study would enhance the validity and thoroughness of the results.

8. Recommendations for Future Research and Practice

To enhance the existing findings and rectify recognized shortcomings, multiple recommendations are suggested for forthcoming study and practice, focusing on both the specific context of Thailand and broader applicability to other education systems.

8.1 Research Recommendations

For Thailand:

- Policy Contextualization Studies: Future research should specifically investigate the interpretation and implementation of national policies, such as those from the Office of the Basic Education Commission (OBEC), at the local school level. This would involve in-depth case studies across diverse regions to identify barriers and facilitators to effective policy alignment.
- Impact Assessment of Collaborative Learning: There is a critical need to quantitatively and qualitatively measure the long-term impact of

collaborative learning models, including peer mentoring and communities of practice—on both administrator performance and student outcomes. Comparative studies between schools actively utilizing these models and those that do not provide valuable insights.

- Digital Equity Mapping: Research should comprehensively map the digital divide within Thai education, pinpointing specific regions, school types, and demographic groups that lack adequate access to digital infrastructure and ICT tools. Such studies would generate data-driven insights essential for targeted policy interventions.
- Broader Geographic Coverage & Tiered Needs: Expanding geographic coverage to encompass urban, peri-urban, and rural schools will facilitate a more nationally representative comprehension of leadership development requirements. Simultaneously, future research should explore how tiered professional development approaches can be tailored to address the varied needs of administrators at different career phases, especially considering that inexperienced leaders often encounter significant competency deficiencies and necessitate focused assistance.
- Objective Assessment Integration: Integrating objective assessment methods—such as performance evaluations, peer reviews, and observational tools—into research designs would augment the validity of competency assessments and supplement self-reported data.
- Participatory Methodologies: Engaging teachers, parents, and education supervisors through participatory and multi-stakeholder methodologies can enhance contextual comprehension and promote wider acceptance of suggested development plans.
- OBEC Policy Effectiveness Assessment: Future research should specifically assess the execution and effects of Office of the Basic Education Commission (OBEC) policies at the school level to ascertain how policy alignment affects leadership capacity and school performance outcomes.

For Other Countries:

- Adaptability of Leadership Models: Research could explore how the principles of modular and decentralized leadership development, observed as beneficial in Thailand, can be adapted and implemented in diverse cultural, economic, and educational contexts globally.
- Comparative Policy Alignment Studies: Investigate how different countries approach the alignment of national educational goals with local implementation, identifying best practices and common challenges in bridging this gap.
- Cultural Influence on Professional Learning: Conduct cross-cultural studies to understand how local cultural dynamics (e.g., emphasis on collaboration vs. individualism) can be leveraged to design more effective and sustainable professional development programs.

8.2 Practical Recommendations

For Thailand:

- Modular and Context-Aware Professional Development: Implement a new professional development framework that moves away from

traditional, uniform training programs. This new model should be modular, customized to administrators' diverse experience levels, and explicitly linked to their specific school improvement plans, ensuring contextually adaptable learning.

- Formalized Collaborative Networks: Establish official channels and platforms to foster peer mentoring and communities of practice. OBEC could play a crucial role by funding and overseeing regional networks that allow administrators to share best practices, collectively solve challenges, and formalize a system aligned with the Thai value of group harmony.
- Targeted Digital Infrastructure Investment: Policy should strategically prioritize investment in digital infrastructure for rural and underserved areas. This includes providing not just necessary hardware, but also reliable internet access and comprehensive technical support, recognizing these as foundational elements for the successful implementation of any digital curriculum initiative.

For Other Countries:

- Adopt Adaptable Leadership Models: Education systems in other countries should consider moving towards a more modular and decentralized approach to leadership development. Training programs should be designed with a core set of competencies but allow for significant adaptation to fit the unique cultural, economic, and educational contexts of different regions within the country.
- Develop Clear Policy Alignment Frameworks: Ministries of Education should develop explicit frameworks and mechanisms to ensure that national educational goals are effectively translated into actionable plans and initiatives at the local level. This will help prevent the common disconnect between high-level policy objectives and on-the-ground realities.
- Promote Community-Driven Professional Learning: Leverage local cultural values and community dynamics to build and sustain professional development initiatives. For example, in cultures that highly value collaboration, emphasize the establishment of strong communities of practice. In contexts where individual achievement is a primary driver, focus on personalized, data-driven professional growth plans. This approach ensures professional development is more deeply embedded and effective.

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