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Digital Teaching Supervision Model of Educational Supervisors under the Office of Primary Educational Service Area in Northeastern Region

Pathummart Kaomaroeng[1], Chookiat Wisetsena[1] & Worasit Rattanavaraha[1]

[1] Faculty of Education, Vongchavalitkul University, Nakhon Ratchasima, Thailand

Correspondence: Chookiat Wisetsena, Faculty of Education, Vongchavalitkul University, Nakhon Ratchasima, Thailand.

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Abstract

This research aimed to: 1) Investigate the effectiveness of digital teaching guidance provided by educational supervisors affiliated with the Northeastern Primary Education Area Office. 2) Develop a model for digital teaching guidance by educational supervisors under the Northeastern Primary Education Service Area Office. 3) Evaluate the feasibility and benefits of the proposed model. The research consisted of three phases: Phase 1: Investigating the effectiveness of digital teaching guidance by educational supervisors, based on relevant documents, research, and interviews with a purposively sampled group of 30 individuals demonstrating outstanding practices (Best Practice). Phase 2: Developing a model for digital teaching guidance by educational supervisors and evaluating the model's suitability through a seminar involving 7 experts, using the Connoisseurship approach. Phase 3: Evaluating the feasibility and benefits of the digital teaching guidance model by educational supervisors. The sample group comprised 50 educational supervisors affiliated with the Northeastern Primary Education Service Area Office, selected through multi-stage random sampling. Statistical analysis used in the study included mean, percentage, and standard deviation. The research findings revealed that: 1. Effective digital teaching guidance by educational supervisors consists of four key processes: 1) Analysis of context, 2) Development of teaching guidance plans, 3) Observation of teaching practices, and 4) Reflection on outcomes. Each process involved problem analysis, needs identification, collaborative planning, and the systematic use of digital tools and online social media aligned with the teaching guidance process. The effectiveness of teaching guidance was evaluated through the assessment of teachers' knowledge, understanding, and learning management abilities, collaboratively determined and facilitated through an online Professional Learning Community (PLC). 2. The developed model comprises five components: 1) Principles and concepts, 2) Objectives, 3) Core content of the model, including the four-step digital teaching guidance process, 4) Implementation guidelines, and 5) Success conditions. The model's suitability was assessed at the highest level. 3. In the feasibility and benefits assessment, the overall evaluation indicated the highest level of feasibility and benefits.

Keywords: digital teaching guidance, educational supervisors, Northeastern Primary Education Area Office

1. Introduction

The world has rapidly transitioned from the Analog era to the Digital and Robotic era. This transformation has significantly influenced life and work in today's rapidly changing society. The global education sector has moved away from traditional teacher-centered learning approaches to a new paradigm of learning known as the Technology-Based Paradigm (Suppakarn & Intarak, 2015). In this paradigm, teachers are required to develop their own learning skills while simultaneously possessing the necessary skills to function as educators in the 21st century. This involves embracing the principle of "Teach Less, Learn More", where teachers act as facilitators and mentors, transforming learning processes into active learning experiences. Furthermore, integrating digital technology into teaching practices aims to create and utilize knowledge beneficially for students (Panich, 2013).

Supervision is a process aimed at developing and improving teachers' instructional practices to ensure efficient learning management, ultimately enhancing the quality of student outcomes (Glickman, Gordon, & Ross-Gordon, 2010). Additionally, it serves as a supportive process, providing guidance, assistance, and development opportunities to adapt to changing circumstances. It is a crucial component that supports and ensures the quality

of educational management processes and teaching practices according to national educational standards. One of the most effective methods for teachers' continuous professional development and ongoing effectiveness in student learning is through "teaching supervision," which is personalized to address teachers' and schools' specific needs and challenges (Laoriandee, 2013).

Drawing from the researchers' findings and the current status of each educational service area office, it is evident that educational supervisors play a crucial role in enhancing the quality of teaching and management practices among teachers and educational institutions. However, the current state of educational supervision remains inadequate due to the limited number of educational supervisors compared to the demands of teaching staff in schools. Additionally, there is a lack of diverse approaches to supervision, resulting in unsatisfactory outcomes (Office of the Basic Education Commission, OBEC Supervisory Division, 2021). Furthermore, the impact of the COVID-19 pandemic has underscored significant changes in teaching and learning practices. Therefore, it has become imperative to integrate digital tools into the supervision process. The implementation of digital tools facilitates effective communication and perception between supervisors and those under supervision. It requires the establishment of appropriate supervision methods, activities, and tools tailored to the identified issues and needs. These may include seminars, knowledge exchange sessions, classroom observations, post-teaching reflections, learning management plan analysis, video recording, photography, interviews, coaching, and mentoring. The emphasis is on integrating various digital tools and communication platforms such as Line, Clip Video, Video Conference, YouTube, Facebook Live, Facebook Group Zoom, Google Meet, Google Sites, Google Classroom, among others, to drive the supervision process. This approach is crucial to align educational practices with the modern educational system, which increasingly relies on digital tools for learning under various evolving circumstances (Lekawipat, 2020).

Based on the aforementioned observations, the researchers have conceived the idea of developing a model for digital teaching guidance by educational supervisors affiliated with the Northeastern Primary Education Service Area Office. This model aims to provide educational supervisors with a framework for integrating distance supervision concepts using digital tools to drive the supervision process alongside real-world teaching supervision methods and activities. Consequently, the research aims to develop a digital teaching guidance model for educational supervisors under the Northeastern Primary Education Service Area Office, serving as a guideline for more effective digital teaching guidance practices in the future.

2. Research Objectives

1) To investigate the effectiveness of digital teaching guidance provided by educational supervisors affiliated with the Northeastern Primary Education Service Area Office in the Northeastern region

2) To develop a model for digital teaching guidance by educational supervisors under the Northeastern Primary Education Service Area Office

3) To evaluate the feasibility and benefits of the proposed model of digital teaching guidance by educational supervisors affiliated with the Northeastern Primary Education Service Area Office

3. Research Methodology

The research is divided into three phases as follows:

Phase 1: Investigating effective digital teaching guidance among educational supervisors. This phase involves three steps:

Step1: Reviewing literature related to effective teaching guidance models, processes, and techniques, digital learning tools aligned with teaching guidance, and factors influencing the success of digital teaching guidance. The research tools used include content analysis forms.

Step2: Studying digital teaching guidance practices among exemplary educational supervisors. A purposive sample of 30 educational supervisors, consisting of school administrators and primary school teachers, from three prototype educational districts in the Northeastern region was selected for this phase. The research tool used is the interview.

Step3: Verifying the consistency of data and analyzing the data obtained from Step 1 and 2.

Phase 2: Developing a digital teaching guidance model for educational supervisors affiliated with the Northeastern Primary Education Service Area Office.

This phase involved synthesizing the findings from Phase 1, Step 3, to form a draft model. The model's appropriateness and alignment were then evaluated through a seminar with 7 experts using the Connoisseurship approach. The research tools used included seminar observation forms and model appropriateness evaluation forms.

Phase 3: Evaluating the feasibility and benefits of the model. A sample group of 50 educational supervisors affiliated with the Northeastern Primary Education Service Area Office in the Northeastern region was selected for this phase.

The population consists of educational supervisors from the Primary Education Service Area Offices in the Northeastern region, covering 20 provinces and 61 educational service areas. The sample includes 50 educational supervisors from the Primary Education Service Area Offices in the Northeastern region, selected through multi-stage random sampling. The minimum sample size was determined using Yamane's (1973) formula with a 95% confidence level. The sampling process involved the following steps: 1) The 61 Primary Education Service Area Offices in the Northeastern region were considered as the primary sampling units. 2) Simple random sampling (lottery method) was used to divide the sample into 5 clusters based on the inspectorate regions. 3) From each of the 5 inspectorate regions, 5 Primary Education Service Area Offices were randomly selected. And 4) From each of the 25 selected service areas, 2 educational supervisors were chosen, resulting in a total sample size of 50 supervisors. The research tool used was a model feasibility and benefits assessment form. Statistical analysis used in the research included mean, percentage, and standard deviation. The criteria for interpreting data from the Evaluation of the Components of Excellent Service (Srisa-at. 2013) are as follows:

4.51–5.00 means the highest level

3.51–4.50 means high level

2.51–3.50 means middle level

1.51–2.50 means low level

1.00–1.50 means the lowest

4. Research Results

Research findings revealed that:

Findings from the study of digital teaching guidance by educational supervisors affiliated with the Northeastern Primary Education Service Area Office showed that effective digital teaching guidance consists of four key processes: 1) Analysis of context, 2) Development of teaching guidance plans, 3) Observation of teaching practices, and 4) Reflection on outcomes. During each process, educational supervisors, school administrators, and teachers collaboratively analyzed problems, identified needs, planned, and worked together cordially. They systematically employed digital tools and online social media aligned with each teaching guidance process. Teaching guidance effectiveness was evaluated through an assessment of teachers' knowledge, understanding, and learning management abilities, collaboratively conducted through an online Professional Learning Community (PLC).

The digital teaching guidance model developed by educational supervisors consists of five components: 1) Principles and concepts, 2) Objectives, 3) Content of the model comprising digital teaching guidance processes: Context analysis, Development of teaching guidance plans, Observation of teaching practices, and Reflection on outcomes, 4) Implementation of the model, and 5) Success conditions. Evaluation of the model's suitability by qualified experts revealed that the digital teaching guidance model is highly suitable, at the highest level. Details are illustrated in Figure 1 below.

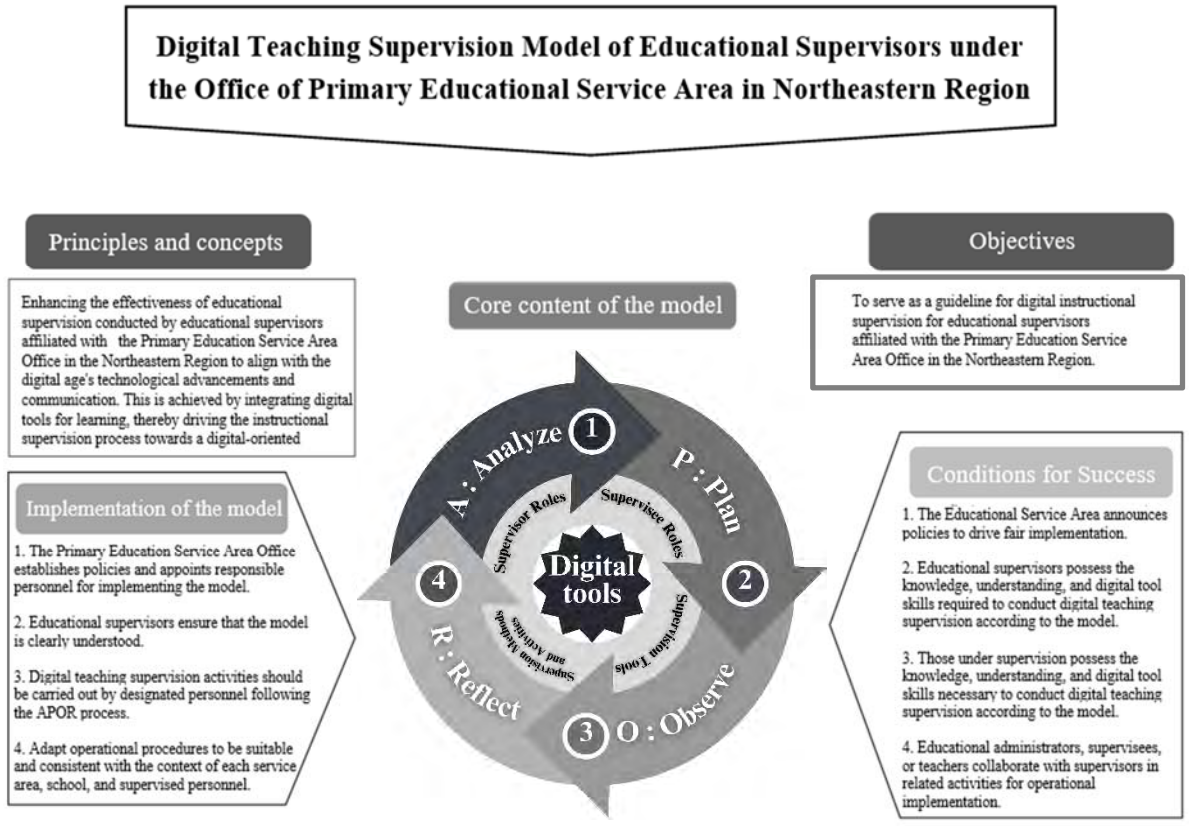

Figure 1. Digital Teaching Supervision Model of Educational Supervisors under the Office of Primary Educational Service Area in Northeastern Region

The feasibility and benefits assessment of the digital teaching supervision model by educational supervisors under the jurisdiction of the Primary Education Service Area Office in the Northeastern region, as per the opinions of the educational supervisors in the jurisdiction, were found to be at the highest level of feasibility and benefit, as shown in Table 1.

Table 1. Feasibility and benefits assessment of the digital teaching supervision model by educational supervisors under the jurisdiction of the Primary Education Service Area Office in the Northeastern Region (n = 50)

The Digital Teaching Supervision Model for Educational Supervisors	Level of Probability			Level of Benefit		
	$\bar{X}$	S.D.	Level	$\bar{X}$	S.D.	Level
1. Principles and concepts	**4.58**	**0.57**	**Highest**	**4.54**	**0.50**	**Highest**
2. Objectives	**4.32**	**0.55**	**High**	**4.52**	**0.50**	**Highest**
3. Core content of the model	**4.65**	**0.49**	**Highest**	**4.65**	**0.48**	**Highest**
Step 1: Context Analysis (A: Analyze)	4.62	0.51	Highest	4.61	0.51	Highest
1.1 Collect information and data relevant to the supervision process.	4.56	0.54	Highest	4.64	0.53	Highest
1.2 Gather and analyze data, prioritize issues, and develop solutions to inform the supervision plan.	4.68	0.47	Highest	4.58	0.50	Highest
Step 2: Planning the Supervision (P: Plan)	4.68	0.47	Highest	4.69	0.46	Highest
2.1 Foster a shared understanding among school administrators and supervisees.	4.66	0.52	Highest	4.68	0.47	Highest
2.2 Form a supervision team tailored to the context of each school.	4.70	0.46	Highest	4.72	0.45	Highest
2.3 Set clear objectives.	4.72	0.45	Highest	4.70	0.46	Highest
2.4 Determine alternatives and identify the target groups.	4.72	0.45	Highest	4.64	0.48	Highest
2.5 Jointly define the content and scope of the supervision.	4.64	0.48	Highest	4.68	0.47	Highest
2.6 Develop supervision materials and tools.	4.64	0.48	Highest	4.72	0.45	Highest
2.7 Coordinate the supervision process.	4.70	0.46	Highest	4.66	0.48	Highest
Step 3: Observing Instruction (O: Observe)	4.68	0.50	Highest	4.63	0.50	Highest
3.1 Explain the procedures for observing instruction.	4.46	0.58	High	4.48	0.54	High
3.2 Observe teaching in the classroom.	4.76	0.43	Highest	4.74	0.44	Highest
3.3 Document observations in detail.	4.82	0.39	Highest	4.68	0.47	Highest
Step 4: Reflection (R: Reflect)	4.60	0.49	Highest	4.63	0.48	Highest
4.1 Reflect on the observations made during the instructional supervision.	4.64	0.48	Highest	4.72	0.45	Highest
4.2 Organize online platforms for knowledge exchange.	4.48	0.50	High	4.62	0.49	Highest
4.3 Collect, analyze, and interpret the supervision data.	4.72	0.45	Highest	4.66	0.48	Highest
4.4 Summarize and report the supervision findings.	4.48	0.50	High	4.48	0.50	High
4.5 Improve supervision procedures and activities, supervision tools, and digital tools to align with the supervision process.	4.68	0.47	Highest	4.66	0.48	Highest
4. Implementation of the model	4.57	0.50	Highest	4.58	0.50	Highest
4.1 The Primary Education Service Area Offices should establish policies to promote digital instructional supervision.	4.46	0.50	High	4.46	0.50	High
4.2 Supervisors need to thoroughly study and clearly understand this supervision model.	4.40	0.49	High	4.44	0.50	High
4.3 Implement digital instructional supervision following the APOR process.	4.72	0.45	Highest	4.68	0.47	Highest
4.4 Supervisors and those being supervised may adjust the methods to suit the context of each education area, school, and individual being supervised.	4.70	0.46	Highest	4.72	0.45	Highest
5. Success conditions	4.65	0.48	Highest	4.67	0.47	Highest
5.1 The Primary Education Service Area Offices must declare policies to concretely drive digital instructional supervision into practice.	4.64	0.48	Highest	4.68	0.47	Highest
5.2 Supervisors need to understand and possess skills in conducting instructional supervision according to the model, such as technology use, digital communication skills, instructional supervision skills, attitudes towards supervision, and academic leadership.	4.62	0.49	Highest	4.66	0.48	Highest
5.3 Those being supervised must have knowledge, understanding, and skills in implementing the model, including computer skills, internet usage, various digital tools, and using social media for educational purposes.	4.60	0.49	Highest	4.60	0.49	Highest
5.4 School administrators and the supervised teachers must cooperate with the supervisors in the related activities.	4.72	0.45	Highest	4.74	0.44	Highest
Overall	4.62	0.50	Highest	4.63	0.49	Highest

Regarding the table, it is found that the evaluation of the feasibility and usefulness of the digital instructional supervision model for supervisors under the Primary Education Service Area Office in the Northeastern Region

overall shows that the model is highly feasible and beneficial.

5. Discussion

The study on the effectiveness of digital teaching supervision by educational supervisors affiliated with the Primary Education Service Area Office in the Northeastern Region found that they have effectively adjusted their work approaches and transformed their teaching supervision methods to emphasize the use of digital media and tools to enhance teaching supervision efficiency. They have implemented a systematic digital teaching supervision process comprising four steps: 1) Analysis of context, 2) Development of teaching guidance plans, 3) Observation of teaching practices, and 4) Reflection on outcomes. Each step specifies: 1) the roles of supervisors, 2) the roles of supervisees, 3) teaching supervision methods/activities, 4) teaching supervision tools, and 5) digital media and tools clearly according to their contexts. The school administrators serve as academic leaders, and the educational service areas have established clear policies stating that digital technology must be used to manage schools effectively, involving all stakeholders. Perhaps this is because the Basic Education Committee Office has set clear operational focuses, requiring educational supervisors affiliated with the Primary Education Service Area Office to drive the basic education system toward internationally standardized quality. This aims to develop teachers and educational personnel so that they can develop themselves according to each individual's potential in various formats. They have utilized modern media, information technology, and digital communication to develop and meet the demands of the modern education system, which employs digital tools for diverse learning. The study revealed that: 1) The teachers have received knowledge and skills development and communication skills competency for effective teaching. 2) The teachers can enhance the quality of education by appropriately utilizing information and communication systems. 3) The teachers have been friendly supervised by the educational service area offices, school administrators, and teachers, both within and between schools or other departments, according to the readiness of each school. Effective digital teaching supervision was achieved through effective collaborative problem analysis, needs assessment, planning, and cooperative work among educational supervisors, school administrators, and teachers. Professional Learning Communities (PLCs) have been employed to facilitate supervision. Qualified individuals have participated in the supervision process, utilizing digital tools and online social media that align with each step of the teaching supervision process to drive the supervision process. This approach aims to reduce time, space, and budget constraints and minimize face-to-face interactions, thereby enhancing teachers' confidence in managing teaching more effectively. This aligns with Romsri (2016), who studied the development of remote supervision processes to enhance the quality of education in schools under the jurisdiction of the Roi-Et Primary Education Service Area Office 1 and 2. The study identified guidelines for developing remote supervision processes, including: 1) Problem and needs assessment, 2) Policy and action plan development, 3) Knowledge base creation, 4) Media production, 5) Training on accessing knowledge sets and using media, 6) Supervision, and 7) Evaluation. These guidelines aim to enhance the effectiveness of remote supervision processes for educational improvement. Furthermore, the results are consistent with research conducted by Promsuwan et al. (2015), which explored the future prospects of educational supervision for basic education schools in the next decade (2013–2022). The study revealed that preparedness for changes in educational supervision for schools in the next decade primarily focuses on the following major areas: 1) Research-based supervision, 2) Utilization of media and information technology (ICT & Online Technology), 3) Network-based supervision, and 4) Supervision for directing, controlling, and evaluation. These areas aim to enhance the effectiveness of educational supervision processes to meet the evolving needs of schools in the next decade. Additionally, this is aligned with international research, such as the study conducted by Clark and Olumese (2013), which explored collaborative work and direct supervisory experiences. The research findings revealed that effective supervision leads to mutual trust, openness, and sincerity, which are essential for establishing human relationships. Good interpersonal relationships among colleagues contribute to collaborative work and direct supervision. Furthermore, Rizzo (2004) conducted a study on the perspectives of teachers and educational supervisors regarding current supervisory concepts and performance evaluation. The study employed a questionnaire to collect data. The findings revealed that there is a consensus between teachers and educational supervisors on current supervisory practices. This consensus includes an understanding of the areas of responsibility, knowledge of current school conditions and differences, trust in knowledgeable advisory roles, utilization of diverse supervisory methods, the teacher-supervisor relationship, and teacher involvement. These findings indicate differences in supervisory development, school diversity awareness, increased frequency of visits, which lead to clearer differences in practice standards at schools, and teacher well-being being part of the supervisory process.

The study found that the digital teaching supervision model developed by educational supervisors in the Primary Education Service Area Office in the Northeastern Region has five components: 1. Principles and concepts, 2.

Objectives, 3. Key content of the model, which includes four digital teaching supervision processes: 1) Context analysis, 2) Supervision plan development, 3) Teaching observation, and 4) Reflection, 4. Implementation of the model, and 5. Success conditions. The appropriateness of the digital teaching supervision model was assessed through a seminar involving seven expert connoisseurs. The findings revealed that the overall suitability of the digital teaching supervision model was at the highest level. This may be attributed to the principles, concepts, and teaching supervision processes derived from remote supervision, clinical supervision, coaching, collaborative professional development, and digital tool utilization concepts. The research on the digital teaching supervision conducted by educational supervisors in the Primary Education Service Area Office in the Northeastern Region, which has been effective, indicates that the perceptions of digital teaching supervision by educational supervisors in the Primary Education Service Area Office in the Northeastern Region are consistent with the conditions and contexts of schools and supervisees. Effective implementation depends on the emphasis placed by supervisors on using digital media and tools to enhance the efficiency of teaching supervision. Supervisors and supervisees possess computer skills, internet network operation skills, digital tool usage skills, and online social media usage skills for education. This enables a more effective digital teaching supervision process, which directly impacts students and the quality of teaching management. Aligned with the framework and process of supervision according to Suppakarn & Intarak (2015) and the digital literacy or information literacy concepts of Martin & Grudziecki (2005) to establish the desired conceptual framework, it was found that preparing students in this era involves not only developing core subject content but also aiming to foster life skills, analytical thinking skills, learning skills, and continuous lifelong learning capabilities. It also involves efficiently and creatively utilizing fundamental ICT literacy. This perspective has led researchers, acting as educational supervisors under the Primary Education Service Area Office in the Northeastern Region, to integrate data obtained from their studies to plan and design a digital teaching supervision model. Researchers have applied these concepts to develop a digital teaching supervision model. The model encompasses analysis of context, supervision planning, teaching observation, and reflection, aiming to provide feedback for improving teachers' instructional management. Collaboration in analyzing contexts, planning, observing teaching, and reflecting is facilitated through various digital tools, tailored to the suitability of each school. Subsequently, the synthesized data are used to determine the key components of the model, including digital teaching supervision processes covering the roles of supervisors and supervisees, methods/activities of supervision, supervision tools, and digital technology and tools. As a result, the supervision model demonstrates the highest level of accuracy and appropriateness. The research supporting this finding is the study by Romsri (2016), which aimed to develop an effective internal supervision model for schools under the jurisdiction of the Roi-Et Primary Education Service Area Office 1. The study identified that the effective internal supervision model for schools under the jurisdiction of the Primary Education Service Area Office in Roi-Et Primary Education Service Area Office 1, comprises seven components: 1) Personnel, 2) Strategic planning for supervision, 3) Data and information systems, 4) Supervision techniques, 5) Media, learning resources, and supervision tools, 6) Evaluation of supervision outcomes, and 7) Networking, dissemination, and expansion of supervision outcomes. The research conducted by Wuttiwanich (2020) examined an effective supervision model for managing teaching and learning in the 21st century at Wat Tha Satroi Municipality School, Mueang District, Chiang Mai Province. The study identified that the effective supervision model consists of six main components: 1) Principles, 2) Objectives, 3) Components and the SPIDER Model process, 4) Procedures, 5) Outcomes, and 6) Success criteria and a user manual. The user manual includes instructions divided into five sections: 1) Introduction, 2) Basic knowledge of supervision of teaching and learning management, 3) Effective supervision model, 4) Implementation process, and 5) Evaluation process. In the validation process by qualified experts, it was found that the model and user manual were highly accurate, appropriate, and feasible.

The possibility and benefits assessment of the digital teaching supervision model developed by educational supervisors affiliated with the Primary Education Service Area Office in the Northeastern Region were found to be at the highest level. This could be attributed to the systematic development of the digital teaching supervision model in this study. The researchers conducted a thorough review of documents, principles, concepts, theories, and related research. They also studied digital teaching supervision guidelines through interviews with stakeholders, including educational supervisors, teachers, and school administrators affiliated with the Primary Education Service Area Office in the Northeastern Region who demonstrated best practices in digital teaching supervision. Through the exchange of knowledge between supervisors and teachers, the supervisors received new insights into developing teaching practices. This information was then used to establish a framework for creating and defining the components of the supervision model. The draft supervision model was reviewed for accuracy and suitability and was validated through expert seminars (Connoisseurship). As a result, the researchers developed a digital teaching supervision model with a clear structure and components, demonstrating high suitability and consistency. Aligned with the process of developing a model according to Sudjai's framework, as stated by

Kianpakdee (2020), it begins with studying the knowledge related to the subject of interest or the model to be developed. Subsequently, principles and components of the model are defined. Then, a prototype of the model is created and subjected to scrutiny to identify standards of usefulness, feasibility, suitability, and correctness. These standards are utilized for further development with the target group effectively. Following this process, the researcher ensured that the digital instructional model had the highest level of feasibility and utility. The research conducted by Nantamaswangnar, Semheng & Rinthaisong (2017) investigated the effective internal management model of schools under the jurisdiction of the Narathiwat Primary Education Service Area Office 1. The research findings revealed that the assessment of suitability and feasibility in applying the effective internal management model of schools under the jurisdiction of the Narathiwat Primary Education Service Area Office 1, showed the highest level of suitability and feasibility. The research conducted by Tossa, Chalakbang, Koomkhinam & Satheannopakaow (2019) investigated the development of an internal management model for small-sized schools under the jurisdiction of the Basic Education Commission Office in the Northeastern Region. The research findings revealed that the internal management model for small-sized schools under the jurisdiction of the Basic Education Commission Office in the Northeastern Region was highly accurate, suitable, and beneficial overall.

6. Suggestion

6.1 General Suggestions

1) Educational administrators, school principals, and teachers can apply the digital teaching and learning management model in conducting educational or internal management within schools, which aligns with learning in the digital technology era.

2) Digital teaching and learning management should be supplemented with other techniques, such as coaching, collaborative professional development, and clinical supervision, to enhance collegiality and collaboration in work.

3) It is essential to study the components and operational details of the teaching and learning management model clearly to ensure the success of digital teaching and learning management.

6.2 Suggestions for Further Study

1) There should be comparative research on the digital teaching and learning management models of educational supervisors under the Primary Education Service Area Office in the Northeastern Region with those of other regional Primary Education Service Area Offices.

2) It is essential to develop and create a digital teaching and learning management model handbook for educational supervisors under the Primary Education Service Area Office in the Northeastern Region to use in their practices, suitable and aligned with the context of each primary education service area.

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Data sharing statement

No additional data are available.

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