

# The Development of Knowledge Management Model in Supervision, Monitoring and Evaluation of Educational Management of the Primary Education Service Area Office

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**ABSTRACT:** *The purpose of this research was to develop the knowledge management model in supervision, monitor and evaluate educational management of the Primary Education Service Area Office including to evaluate the application of the knowledge management model in supervision, monitor and evaluate educational management of the Primary Education Service Area Office. This study was conducted with research and development with 3 phases of implementation, namely: Phase 1 Study of current conditions, problems and needs; Phase 2 Development of the knowledge management model in supervision; and Phase 3 Evaluation of applying the knowledge management model in supervision. The findings indicated that the knowledge management model in supervision, monitor and evaluate educational management of the Primary Education Service Area Office consists of 2 steps which are knowledge building; knowledge gathering; knowledge applying; knowledge sharing and exchanging; and knowledge evaluation. Framework of supervision, monitoring and educational evaluation comprises 5 aspects, namely: research system; supervision system; learning resource and innovative media systems; facilitation system; and participation system. The implementation plan features an action meeting for studying the current conditions, problems and needs; defining teams based on learning; activity implementation in accordance with the knowledge management handbook; seminar on implementation summary and revision of knowledge base; and presentation of implementation of each knowledge base. The evaluation of consistency, suitability, feasibility on practice and usefulness of the knowledge management in supervision was at the highest level. In addition, the evaluation of applying the knowledge management in supervision gained efficiency of process and effectiveness of the result as 85.44/80.25. The research team had satisfaction towards the implementation at the highest level.*

**Keywords:** *Model Development, Knowledge Management, Supervision Monitoring and Evaluation.*

## I. BACKGROUND OF THE STUDY

Knowledge management is considered as a very important factor for organization development on good performance and progression (Jermstittiparsert & Boonratanakittiphumi, 2019; Saengchai, Sawasdee, & Jermstittiparsert, 2019). By linking information to improve operations so that others can search for knowledge and share that knowledge with colleagues in order to apply that knowledge with most benefit (Thamthatsananon, 2011). Process of knowledge management consists of people, technology, and knowledge process. This is a management process to bring knowledge from knowledge sources to users in order to make improvement and innovation (National Productivity Institute, 2005). At present, it is a learning society with many sources of knowledge. Learning would advance various academic developments and directly affect well-being and lifestyle of human beings (Runcharoen, 2007). Knowledge management is a tool of drawing out hidden potential with variety of dimensions by bringing Tacit Knowledge from experiences to exchange in creating and applying. As well as personal experiences to create knowledge or innovation so as to apply in development of work, people and organization (Chansombat, 2010).

Buriram Primary Educational Service Area Office 3 has defined a vision as "Provide quality and standardized education, adhere to good governance, advance towards excellence based on Thainess, and be prepared for the ASEAN Community ". Problems in quality of education from the National Quality Assessment (O-NET) in the 2017

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showed that learning achievement of both Mathayomsuksa 3 and 6 decreased. The evaluation of performance on reading and writing is lower than 50 percent which the learners have low reading and writing ability. Consistent with the result of the study of problems and needs on development of teachers, administrators, supervisors, students and communities of Buriram Primary Educational Service Area Office 3, which revealed that the students lack knowledge and skill in using technology for learning. They are also lack of analysis skill, calculation, problem solving, and integration of ideas in each course. In addition, they lack confidence and awareness in learning. Moreover, the teachers lack basic skills of using technology for teaching, as well as techniques regarding learning activities that enhance/encourage learners on learning. The school does not have an effective technology management system, still, support from related organizations is not enough. Due to the problem of educational management efficiency, it indicated that the information system is unclear and does not match the reality. It is not enough for management and lack of public relations on information use. Electronic network system regarding communication, service and coordination is not as effective as they should be, also, the supervision, monitoring and evaluation of educational management is discontinuous and lack of connection and participation from all sectors. Supervisors are not able to truly perform their duty for promoting teaching and learning activity (Buriram Primary Education Area Office 3, 2018). Therefore, the meeting has agreed that educational supervision should be used as an important mechanism for improving the quality of education in research task, educational supervision, learning sources and innovative media, facilitation system and participation. Educational Supervision is considered as significant process affecting the quality of education as it is a process that helps improve and develop the efficiency of learning management to lead the quality of educational management and educational development at every step. Also, it is the reason causing behavior into the desired way and achieve aspiring goal because the supervision is a process aimed to develop people, work, and the quality of education to overtake changes. In addition, it is an important element assisting and supporting the administration and teaching process for quality and to achieve goals. There is operation that focuses on directly maintaining educational standards (Nattle, 1899), which brings about the educational development on improvement and selection of the best things as the purposes of education, response the people's needs, and results in improvement of learning management and methods for better education (Nakhon Pathom Educational Service Area Office 2, 2003), through supporting system of the supervision, monitoring and supervising of the educational service areas, networks of school administrators and community, parents and management by focusing on coordination for participation in all sectors in 4 M: (Man; Money; Material; Management). Based on the importance as mentioned above, the researcher believes that building the community of learning creates a shared learning community requires a process of knowledge management that makes the supervision, monitoring, and evaluation of knowledge management with participation to be able to implement and lead the organization to be the learning organization with long-term problem solving. Therefore, the researcher would like to develop the knowledge management model in supervision, monitoring and evaluating educational management of Buriram Primary Educational Service Area Office 3 in order to study the current conditions, problems and needs regarding knowledge management on supervision, monitoring and evaluating educational management of the Primary Education Service Area Office, and to evaluate the application of the knowledge management model in supervision, monitoring and evaluating educational management of the Primary Education Service Area Office for being a guideline for the educational service area offices to use for managing further supervision, monitoring and evaluation of the knowledge management with achievement.

## II. CONCEPTUAL FRAMEWORK

The concepts related to the study consist of the Tuna Model of Phasuk-yeud (2004), which is the knowledge management, with 3 parts namely: 1) Knowledge Vision (KV) refers to target, vision or direction. of knowledge management; 2) Knowledge Sharing (KS) is a part of learning exchange which is considered an important part; and 3) Knowledge Assets (KA) is a part of "knowledge source" obtained from the collection of "tips" from the process of

Knowledge Sharing. Knowledge management concept of Panich (2005) includes 1) Creating a vision of knowledge; 2) Build a team of knowledge management; 3) Starting with existing intellectual asset; 4) Creating an atmosphere of intensive learning exchange; 5) Managing knowledge together with product development activities or new methods; 6) Organizing with mid-level employees; 7) Changing the organizations with multiple contexts; 8) Building shared networks with the outside world; 9) Straight culture that freely communicates in all directions; 10) Creating taking note culture; and 11) Evaluating knowledge management operation. The concept of Chansombat (2007) consists of 6 concepts of knowledge management of community organizations which are 1) knowledge creation; 2) knowledge classification; 3) knowledge storage; 4) application of knowledge; 5) Learning exchange; 6) Evaluation. In addition, the concept of Chansombat (2008) has the concept of learning from practice, with 5 steps which are: defining challenging issues and learning opportunities; shared planning; implementation according to the plan with improvement and development; Summary and reflection of the results; and exchanging knowledge in the community and extracting knowledge. The concept of the model and model development consists of synthesis of the elements and model development, that is, Keeves (1988) classifies the model of educational and social sciences into 4 categories, which are: Analogue Model; Semantic Model; Mathematical Model; and Causal Model. Brown and Moberg (1980), which synthesized the model based on System Approach and Contingency Approach, consists of the following components: Environment; Technology; Structure; Management Process; and Decision Making. Furthermore, Willer (1967) divided into 2 parts: Construct and Validity.

### **III. METHODOLOGY**

Population and sample group in the study were: Group 1 – 27 Supervisors, directors of Primary Educational Service Area Office, director of supervision monitoring and evaluation of knowledge management group, school directors, and teachers in academic affairs by workshop. Group 2 consists of 6 directors and supervisors of the Education Service Area Office with excellent supervision, monitoring and evaluation of educational management by interview; 7 experts on supervision for examining the model; and 9 experts for affirming the model by focus group. Lastly, Group 3 consists of 45 supervisors, school administrators, and volunteer teachers for the model trial. Data analysis and Synthesis was conducted on the current conditions, problems and needs regarding knowledge management of supervision, monitoring and evaluation of educational management of the Primary Educational Service Area Office by content analysis. Analyzing and synthesizing qualitative data from open-ended questions and interview. Analyzing the evaluation of knowledge management model in supervision was conducted by using SPSS for Window and analyzing for Mean and Standard Deviation. Moreover, analyzing the data of applying the model of knowledge management in supervision of effective Thai language learning activity in the private elementary schools was done by using SPSS for Window, Mean and Standard Deviation.

### **IV. CONCLUSION**

The Office of Primary Education Service Area has provided the knowledge management, monitoring and evaluation of the educational management by building a clear knowledge and shown in books documents and computers. Still, knowledge of the people has not been organized into systems or categories and cannot be written as rules or texts. However, it can be instruct and shared by observing and imitating. In addition, the schools do not have enough knowledge and understanding regarding the knowledge management, unsystematic management and inefficient application. The Office of Primary Education Service Area and schools do not give precedence to the systematic knowledge management process. The teachers and educational personnel lack knowledge, expertise and motivation. Also, a number of teachers is inadequate, unrelated to the fields, and lack of continuous development. Budget is not enough for implementing the educational management, learning resource and local wisdom development, and lack of systematic and continuous management. Therefore, the teachers and educational personnel need improvement for knowledge and understanding of the curriculum, curriculum analysis, and curriculum

management in order to be able to apply in organizing learning activities with learning standards. There has been the creation of modern knowledge and innovation, the system of knowledge that is convenient for use, forming a group for sharing and exchange knowledge during learning activities by focusing on the students' learning. Moreover, there is media development and technology to be able to respond to students' learning and community at all times, to help the students eliminate problems and obstacles, and to promote and support the teacher to conduct classroom research, together with decreasing other unnecessary workloads including regular and continuous monitoring and supervision.

The knowledge management model on supervision, monitoring and evaluation of educational management of Primary Educational Service Area Office gained consistency, suitability, feasibility and usefulness at the highest level in all aspects, as shown in Table 1.

**Table 1** The evaluation of the knowledge management model on supervision, monitoring and evaluation of educational management of Primary Educational Service Area Office

Components	Consistency			Suitability			Feasibility			Usefulness		
	$\bar{X}$	SD.	Level	$\bar{X}$	SD.	Level	$\bar{X}$	SD.	Level	$\bar{X}$	SD.	Level
1.Principle	4.56	0.55	Highest	4.56	0.53	Highest	4.67	0.50	Highest	4.78	0.44	Highest
2. Objective	4.78	0.44	Highest	4.78	0.44	Highest	4.89	0.33	Highest	4.56	0.53	Highest
3. Knowledge Management Process	4.67	0.50	Highest	4.67	0.50	Highest	4.67	0.50	Highest	4.89	0.33	Highest
4. Framework	4.56	0.53	Highest	4.56	0.53	Highest	4.56	0.53	Highest	4.78	0.44	Highest
5. Evaluation	4.78	0.44	Highest	4.78	0.44	Highest	4.78	0.44	Highest	4.56	0.53	Highest
6. Achievement Conditions	4.67	0.50	Highest	4.67	0.50	Highest	4.67	0.50	Highest	4.89	0.33	Highest
Total Average	4.67	0.48	Highest	4.67	0.48	Highest	4.71	0.46	Highest	4.76	0.43	Highest

By which the evaluations of the knowledge management model on supervision, monitoring and evaluation of educational management of Primary Educational Service Area Office are as following:

1. Principle features 5 aspects, namely: 1) Participation means providing the related persons to participate in various roles, as appropriate, by providing information, sharing ideas, proposing and planning, performing, making decision and being responsible for the implementation in order to achieving the objectives defined. 2) Principle of Teamwork means creating and developing a team, which is a collaborative effort of relevant parties in order to work and achieve the goals. This relies on understanding, relationships and cooperation among the group members so as to be able to work together as a team until achieving success and the ultimate goals of the team. 3) Principle of Human Relations means techniques for encouraging people and groups to get involved both in work and personal matter until able to do any activities and to achieve the goal by cooperation. This is for making fluency for working and building good understanding and unity causing affection and success regarding working. 4) Principle of Sharing means giving things that can be given which would be useful for learning activity. 5) Principle of networking means the connection of groups of people or organizations that voluntarily exchange information, or do the activities together, by organizing the structure of the people in the network with independence, equality under the basis of generosity.

2. Objectives: 1) to develop the supervisors, monitor and evaluate the educational management so as to gain knowledge, to understand and to apply the model to the supervision; 2) to provide the supervisors for monitoring and evaluating the educational management according to the model implementation and applying to teaching development.

3. Knowledge Management Process consists of 1) Knowledge Creation that refers to learning by practicing, searching, creating new knowledge related to motivation, perception and thorough understanding in each person. 2) Knowledge Storage refers to the knowledge gained from creation and development to determine important things for storing as knowledge and have to consider methods of storage and applying with benefit as needed. The organizations need to maintain the best practices whether information, reflection of the research, experiment and storage related to

techniques. 3) Knowledge Implementation means instruction and use of knowledge with distribution and broadcast quickly and appropriately throughout the organizations. 4) Knowledge Sharing and Exchange means knowledge sharing process between individuals or groups of people through two-way communication process between individual and media or between individuals with the use of technology as an aid. 5) Knowledge Assessment means examining knowledge or existing system in accordance with criteria and indicators of success.

4. Supervision Framework consists of 1) research system, which means providing supervision, monitoring to create knowledge, and understanding the research process with the aim of using the findings to solve classroom teaching problems. 2) Supervision System means the process of educational quality development through collaboration between supervisors and teachers for the effective educational management and quality of students. 3) Learning Source and Innovative Media System refers to the direct use of internal and external learning media for learning activities in order to understand the things that are transmitted to each other with effectiveness as intended. 4) Convenience System means using of developed technology in the supervision and monitoring. 5) Participation System of all agencies means participation in decision making process or the administration process for completing the mission.

5. Evaluation which the evaluation model is a meeting for clarified to create clear understanding about the implementation of the supervision, monitoring and evaluation of educational management of the Office of Primary Educational Service Area. There has been appointing a committee to evaluate the implementation of the knowledge management model on supervision, monitoring and evaluation of the educational management. The evaluation is conducted to evaluate cognition of the participants before and after the development in accordance with the manual, to evaluate the participants' competency during the development process according to the manual, to evaluate the satisfaction of the participants after the development according to the manual whether in the individual level, team level, and organization level including summarizing and reporting.

6. Achievement Conditions refers to factors, conditions, or important practices that would lead to the knowledge management model in supervision, monitoring and evaluation of the educational management of the Office of Primary Educational Service Area to achieve the objectives defined, which consist of the supervisor is confident of supervision, monitoring and evaluation of the educational management with clear, appropriate and feasible implementation, as well as flexibly performing in accordance with the defined plan as appropriate. The teachers also participate in applying the evaluation to improve the quality of the learners and they have higher learning achievement.

**Figure 1** the knowledge management model on supervision, monitoring and evaluation of educational management of Primary Educational Service Area Office

## Objectives

1. To develop the supervisors, monitoring and evaluation of the educational management to be knowledgeable and understandable on applying the model to the supervision.
2. To provide the supervisors for monitoring and evaluating the educational management according to the model implementation and applying to teaching development.



## Achievement Conditions

Confidence of supervision, monitoring and evaluation of the educational management.

1. Clear, appropriate and feasible implementation.
2. The teachers participate in applying the evaluation to improve the quality of the learners.
3. The students gain higher learning achievement.

From the results of the evaluation of the knowledge management model of the educational management of Office of the Primary Educational Service Area found that the participants gained higher knowledge and understanding of knowledge management in supervision monitoring and evaluation of the educational management with the statistical significance at the level of .05.

**Table 2** The results of knowledge and understanding of regarding the knowledge management model in supervision, monitoring and evaluation of the educational management of Office of the Primary Educational Service Area, before and after the development

Knowledge Base	N	Before		After		t	p
		$\bar{X}$	S.D.	$\bar{X}$	S.D.		
Classroom Research	9	12.89	1.27	23.78	1.09	18.52	.007*
Supervision	9	15.67	1.41	24.22	1.56	13.67	.007*
Knowledge of Learning Source and Innovative Media	9	14.67	0.71	24.44	1.01	35.20	.006*
Knowledge of Facilitation	9	14.67	0.97	24.44	1.27	21.01	.007*
Participation	9	14.33	1.00	24.78	1.39	35.53	.006*

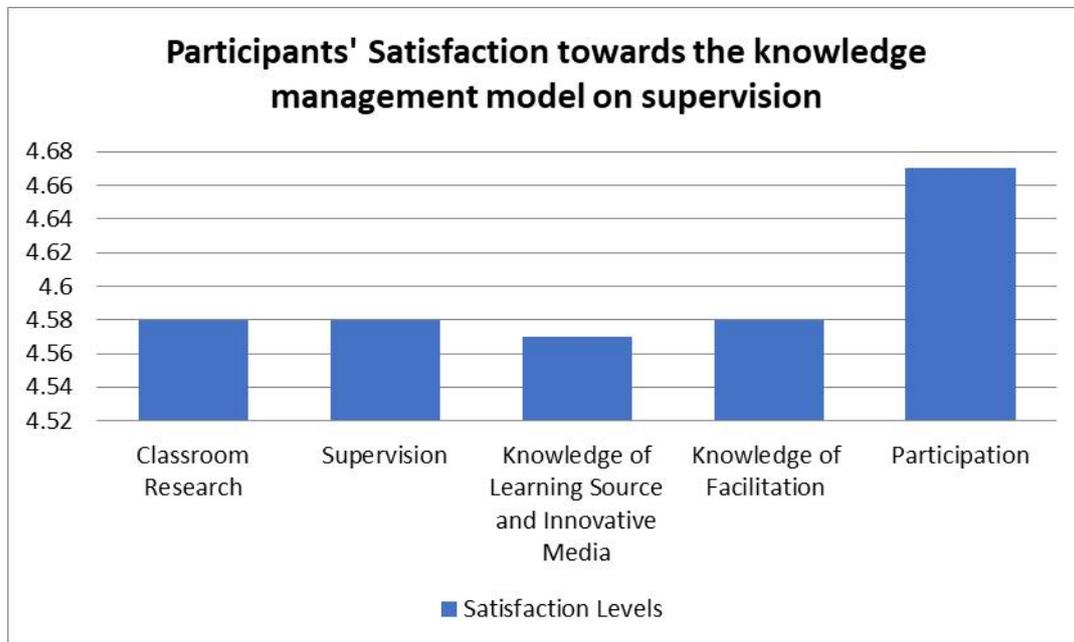
\* With the statistical significance at the level of .05

The evaluation of competency on practice of the participants during the development based on the handbook for developing the knowledge management model in supervision, monitoring and evaluation of the educational management of the Office of the Primary Educational Service Area revealed that the mean was higher after the development of the handbook based on the handbook of the knowledge management.

**Table 3** The evaluation of competency on practice of the participants during the development based on the implementation handbook

Knowledge Base	Pre test	Process Skills						Post test
		Lesson Plan (15)	Evaluation Performance (40)	Report (15)	Exhibition (15)	Presentation (15)	Total (100)	
Classroom Research	12.89	13	34.44	12.22	12.44	12.67	84.8	23.78
Supervision	15.67	12.44	34.89	13	13.33	12.78	86.4	24.22
Knowledge of Learning Source and Innovative Media	14.67	12.44	34.89	13	13.33	12.78	86.4	24.44
Knowledge of Facilitation	14.67	12.44	34.89	13	13.33	12.78	86.4	24.44
Participation	14.33	12.44	34.89	13	13.33	12.78	86.4	24.78
Total	72.23	62.76	174	64.22	65.76	63.79	431	121.66
$\bar{X}$	14.45	12.55	34.80	12.84	13.15	12.76	86.11	24.33
S.D.	1.00	0.25	0.20	0.35	0.40	0.05	0.74	0.37
Mean	48.15	83.68	87.00	85.63	87.68	85.05	86.11	81.11

The participants had satisfaction towards the implementation according to the knowledge management model on supervision, monitoring and evaluation of the educational management of the Office of the Primary Educational Service Area at the highest level.



## V. DISCUSSION

Based on the study of the current conditions, problems and needs of the knowledge management model, monitoring and evaluation of the educational management, it indicated that the Office of Primary Educational Service Area, in overall has faced the problem of inadequate personnel and lacked continuous development. The school administrators do not give priority to knowledge management process and lack knowledge to make the knowledge management successful. Meanwhile, the teachers need to develop the knowledge management model with effectiveness by participating in development planning between the Office of Primary Educational Service Area and the schools. The activities are organized in a form of self-development, individual level, group, or team, or organization levels. Furthermore, the development has to occur from learning and actions by all parties involved, which the knowledge management is the process implemented with the organizations, community group with proper knowledge creation, also, defining problems, collaborates, conducting the research, and manage the knowledge in the form of collaborative learning (Chansombat, 2007). It is the creation of knowledge and innovation of the organization in the form of knowledge creation and holistic. There is a clear improvement in the epistemological to acquire new cultural tools and operations of the organization, which the knowledge is through interaction process between tacit knowledge and explicit knowledge called SECI Cycle (Nanoka and Takeuchi, 1995). Knowledge management system are the process that involves knowledge classification, knowledge examination, validated knowledge, preparation for knowledge filtering and access preparation for users, with this important principle, providing knowledge for using, modifying and improving (Henrie and Hedgepeth, 2003).

The knowledge management model on supervision, monitoring and evaluation of the educational management of the Office of Primary Educational Service Area has been developed through the process of continuous study, analysis, development by systematic steps with principle, concepts, theories, questionnaire, and interview from related persons in order to use as the fundamental data in designing the model, as well as improve, determining, providing suggestion

for accurate improvement with appropriateness in accordance with the conceptual framework. Eventually, the final version with accuracy, appropriateness has been done for real use including the handbook which used the model from the experts regarding standard, application, feasibility, suitability, and accuracy standards was at the highest level (Stufflebeam and Shinkfield, 2007). It consisted of 6 major components, namely, principle; objective; knowledge management process with 5 stages as follows: 1) knowledge building, 2) knowledge storage; 3) knowledge application, 4) knowledge sharing and exchanging, and 5) evaluation; framework of supervision, monitoring and evaluation of the educational management with 5 aspects as following: 1) research system, 2) supervision system, learning sources and innovative media systems, 4) facilitation, and 5) participation; evaluation; and achievement conditions by defining the implementation plan with 5 stages, which are: practice meeting for studying the current conditions, problems and needs, 2) forming teams based on learning base, 3) implementing the activities in accordance with the handbook of knowledge management, 4) seminar for summary and revision of the implementation based on learning base, and 5) presentation of each learning base operation. In addition, the evaluation of the participants' implementation in individual, team, and organization levels is as following: 1) gaining knowledge and understanding regarding the knowledge management; 2) having competency on practice; 3) having satisfaction towards the knowledge management which is the concept of the knowledge management model development with organization community leading to the knowledge management (Chansombat, 2007), knowledge management cycle, essential principle that can be blended as a cycle, and integrated knowledge management (Bokowitz and Williams, 2000). The knowledge management is a system for managing the knowledge assets of organization both the implied knowledge and the obvious knowledge. It is the process that involves knowledge classification, knowledge examination, validated knowledge storage, preparation for knowledge filtering and preparation for users' accessing with this important principle, providing knowledge for using, modifying and improving (Henrie and Hedgepeth, 2003). When applying to the target group, it resulted in the participants to gain higher knowledge and understanding of the knowledge management of supervision, monitoring and evaluation of the educational management in accordance with the developed model. The participants had higher competency regarding the knowledge management of supervision, monitoring and evaluation of the educational management, and they had satisfaction towards the implementation according to the knowledge management model on supervision, monitoring and evaluation of the educational management of the Office of the Primary Educational Service Area at the highest level.

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