



The Development of Supervision Model to Enhance Research Competencies of Basic Education Teachers in Thailand: The Incasing of the Chonburi-Rayong Secondary Educational Service Area Office

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Abstract:- This study used the Research and Development (R&D) design to develop a supervision model and investigate its effects on the research competencies improvement of basic education teachers in Thailand. Sixty-seven teachers and educational personnel from Angsilapittayakom School, which is part of the Chonburi-Rayong Secondary Educational Service Area Office, were chosen as the study's samples using the volunteer sampling method in the academic year 2021. The findings revealed that the investigation and analysis of teachers' needs were carried out during the early stages of developing a supervision model and that 92.14 percent of the samples had difficulty determining their research problems. The researcher synthesized and developed the "SAHARAT Supervisory Model." There were 7 cyclic steps as follows, 1) Strength Relationship, 2) Attainments of Research, 3) Head-together Plan, 4) Audit of Classroom and Research, 5) Reflection Conference, 6) Award and Reinforcement, and 7) Trumpet the Best Practices. According to expert and specialist evaluations, the supervision model synthesized and developed by the researcher received the highest level of appropriateness and was deemed suitable for use. According to the effects of using the developed supervision model on teachers' research competencies, at a.01 level of statistical significance, the samples' research competencies level after the implementation of the SAHARAT Supervisory Model was higher than the research competencies level before the implementation. Taking into account the satisfaction of the overview samples with the SAHARAT Supervisory Model, the overall sample satisfaction with the researcher-synthesized supervision model was at the highest level. The findings of the study will be used as a guideline for educational supervision, with an emphasis on improving teachers' research competencies.

Keywords: Supervision Model; SAHARAT Supervisory Model; Research Competencies; Basic Education Teachers; Thailand

Introduction

Education is intended to aid in the development of countries for them to prosper. Teachers play critical roles in overseeing and directing the teaching and learning process in all aspects. Teacher professional development is emphasized in the National Education Act B.E. 2562 (2019) because it affects the development of education and the community of nations. It is safe to say that teachers have the responsibility of ensuring that the community as a whole develops and prospers. However, according to the Office of the Education Council's assessment, there is still an urgent challenge in developing in-service teachers that must be addressed (Office of the Education Council, 2020). Nowadays, Thai people in all sectors place a high value on education, but they almost never consider the importance of teachers, as a result of which Thailand's overall education quality has been steadily declining over the last decades (Chetha, 2021). Furthermore, recent research findings on educational reformation revealed that Thailand's teachers required development and enhancement in terms of teaching profession competencies in a variety of areas, the most critical of which was the development of classroom action research competencies, which were required of all teachers to effectively develop teachers as well as students in both short-term and long-term developments (Waranyaporn, 2021).

Classroom action research is widely acknowledged as a valuable and necessary tool for the advancement of the teaching profession. However, the findings of numerous studies on teachers' classroom action research revealed that more continuous and efficient development of classroom action research competencies was required. In fact, conducting classroom action research on teachers was not done to improve the quality or effectiveness of teaching and learning, but rather to respond to the

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assigned policy of educational administrators. Inaccurate research report writing, *as well as a lack of knowledge and competencies in conducting classroom action research*, are examples of current challenges in the development of teacher research competencies. Although some teachers are equipped with the knowledge and competencies to conduct classroom action research, they are unable to do so entirely on their own because what they know and what they can do about classroom action research is insufficient; they require the assistance of advisors or coaches throughout the research process. Furthermore, Thai teachers today require more research competencies training; otherwise, they appear to struggle with conducting research in the classroom and tend to give up on doing classroom research because they lack the necessary knowledge and competencies to complete the classroom action research (Thanikarn, 2017). To develop and equip teachers with sufficient research competencies to allow them to conduct correct and qualified classroom action research, a systematic development procedure known as educational supervision is required and needed because it can assist in identifying and solving any problems and challenges that occur in the classroom and at school, such as problems in applying school curriculums, problems in teacher's teaching and learning, and problems in student learning (Glickman, Gordon & Ross-Gordon, 2007).

According to the researcher's surveys and interviews, the overall educational supervision in the researcher's school and other schools under the Chonburi-Rayong Secondary Educational Service Area Office is currently being performed, with a focus on teachers' teaching and learning processes in classrooms. It does not appear to have any educational supervisions that are primarily focused on teacher classroom action research, which is thought to be a tool to help improve both teachers and students at the same time. The most obvious need expressed by the teachers polled and interviewed is a lack of overall understanding and competencies in conducting research. For these reasons, the researcher is interested in conducting a study to develop a supervision model to improve the research competencies of basic education teachers in Thailand, under the auspices of the Chonburi-Rayong Secondary Educational Service Area Office. The study's findings will serve as a guideline for educational supervision, with a focus on improving teachers' research competencies.

Objectives

1. To develop a supervision model to enhance the research competencies of basic education teachers in the Chonburi-Rayong Secondary Educational Service Area Office.
2. To investigate the effects of utilizing the developed supervision model on the teachers' research competencies.

Hypothesis

The samples' research competencies level after the implementation of the researcher-developed supervisory model was higher than the research competencies level before the implementation.

Research conceptual framework

The research conceptual framework in developing a supervision model to enhance research competencies of basic education teachers in the Chonburi-Rayong Secondary Educational Service Area Office was established based on various concepts, theories, and pieces of research papers related to the principles of educational supervision and classroom action research as follows, 1) Clinical Supervisory Model, which is a collaborative and supportive approach to teacher professional development that fosters meaningful relationships with co-workers (Wiedmer, 1995), 2) the Concept of a Collaborative Network, which held that networking is a collaborative working model in which the horizontal line connects people in positions of power in order to overcome any pedagogical weaknesses (Hanson, 2003), 3) Martin's Supervisory Model, which held that cooperation leads to helping one another in order to ensure that everyone benefits collectively (Martin, 1999), 4) the Theory of Developmental Supervision, which stated that all teachers can develop to their full potential with the proper and appropriate support, as well as the skill level of each (Glickman et al., 2004), and 5) the Interpersonal

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Theory, which stated that human relations are motivational processes (David, 1997). The following is the researcher's summary of the research conceptual framework:

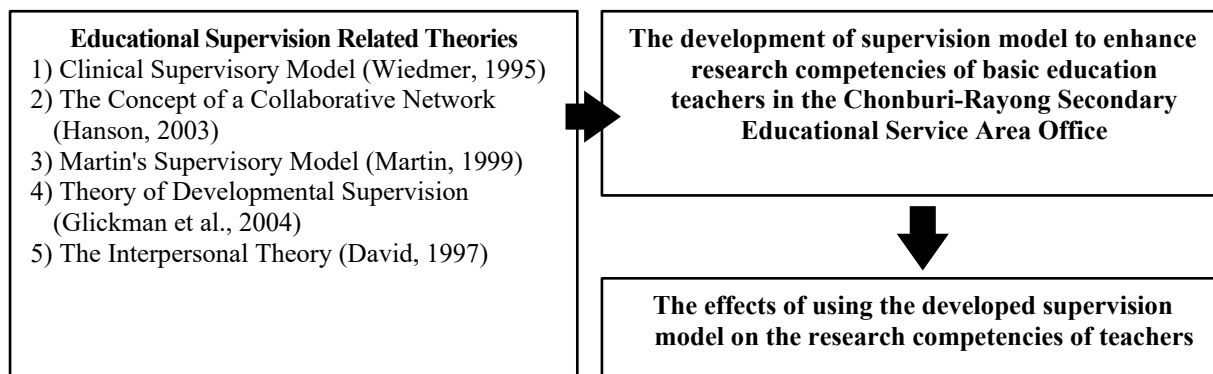


Figure 1: Research Conceptual Framework

Methodology

The research was carried out using the Research and Development (R&D) design, which consisted of four major stages: 1) the investigation and analysis of teachers' needs, 2) the development of a supervision model and its quality evaluation, 3) the testing of teachers' research competencies, and 4) the examination of teachers' satisfaction with the developed supervision model. Each stage is described in detail below.

Stage 1: the investigation and analysis of teachers' needs

The researcher examined concepts, theories, and research papers related to educational supervision and classroom action research principles. The researcher then used an online questionnaire via the Google Form system to investigate the problem conditions as well as the need to promote the development of teachers' research competencies. The five-point questionnaire passed the Index of Consistency check (IOC) by 5 experts in the supervision of education and classroom action research with a consistency index ranging from 0.80 to 1.00. In the academic year of 2021, sixty-seven teachers and educational personnel in Angsilapittayakom School under the Chonburi-Rayong Secondary Educational Service Area Office were determined with the volunteer sampling method as the samples of this research. Following the collection of data from the questionnaire, the researcher analyzed the data using the frequency distribution, mean, and content analysis, and used it as the basis for planning and developing a supervision model that can respond to the problems and needs of teachers in the development of research competencies.

Stage 2: the development of a supervision model and its quality evaluation

The researcher synthesized and created a draft supervision model based on the analyzed data of the problems and needs of teachers in the development of research competencies in the earlier stage. It was presented to a group of nine experts and specialists, which included higher education instructors, educational supervisors, and educational administrators. The appropriateness of the presented supervision model was determined using a five-point questionnaire, followed by standardized criteria proposed by the Joint Committee on Standards for Educational Evaluation (JCSEE). The criteria included four major topics to be considered: 1) accuracy, 2) propriety, 3) feasibility, and 4) utility (Wongwanich, 2006). According to the expert and specialist evaluations analyzed with mean and standard deviation, the supervision model synthesized and developed by the researcher was rated at the highest level of appropriateness ($\bar{x} = 4.39$, $S.D. = 0.64$) and considered suitable for use. Furthermore, some minor modifications were implemented to improve the overall quality of the supervision model before trying it out.



Stage 3: the testing of teachers' research competencies

The One Group Pretest – Posttest Design was employed throughout this stage to investigate and confirm the results of using the developed supervision model. Prior to implementing the researcher-developed supervision model, forty items from the multiple-choice pretest were used to assess the current state or level of the samples' research competencies. All pretest test items passed the Index of Consistency check (IOC) performed by 5 experts in education and classroom action research, with a consistency index ranging from 0.80 to 1.00. Following that, the research samples engaged with the researcher-created supervision model. After completing the supervision model implementation, the samples' research competencies were tested again using the same method as the pretest. The data from the pretest and post-test were analyzed using mean, standard deviation, and paired-samples t-test to determine whether the results of using the developed supervision model were statistically significantly different or not.

Stage 4: the examination of teachers' satisfaction with the supervision model

The five-point satisfaction questionnaire, which passed the Index of Consistency check (IOC) performed by 5 experts in education and classroom action research with a consistency index ranging from 0.80 to 1.00, was used at the end of the researcher-developed supervision model to investigate the samples' satisfaction with the implementation of the researcher-developed supervision model. There were five aspects to be evaluated in the satisfaction questionnaire: 1) supervision principles and objectives, 2) supervision content, 3) supervision process, 4) supervision tools, and 5) acquired knowledge and experience. The data from the satisfaction questionnaire was analyzed using the mean and standard deviation.

Results

The research findings were presented following the following research objectives:

1) The investigation and analysis of teachers' needs were conducted during the initial stage of the process of developing a supervision model to enhance the research competencies of basic education teachers in the Chonburi-Rayong Secondary Educational Service Area Office and revealed that 92.14 percent of the samples found difficulty in determining their research problems, 87.64 percent of them appeared to be unable to design and develop their research instruments, When it came to selecting statistics to be used for their research data analysis, 73.47 percent of them were perplexed, 70.92 percent lacked abilities and understanding in writing their research reports, and 64.28 percent had difficulty reviewing related pieces of literature and research.

The researcher synthesized and developed the “SAHARAT Supervisory Model” based on data from problems and needs of teachers in the development of research competencies, as well as the reviewed concepts, theories, and research papers related to educational supervision and classroom action research principles. There were 7 cyclic steps in the implementation of the SAHARAT Supervisory Model as follows,

Step 1: Strength Relationship (S) referred to establishing and maintaining a positive supervisor-supervisee relationship that resulted in mutual trust and openness while supervising and monitoring the supervisee's classrooms and research operations.

Step 2: Attainments of Research (A) referred to the development of supervisees' research competencies by upskilling what they already knew and reskilling what they needed to know about conducting classroom action research on their own. E-learning, seminars, and workshops, to name a few, were organized as tools for developing the supervisee's research competencies. This was done to ensure that supervisees had adequate research skills.

Step 3: Head-together Plan (H) referred to the process of meeting and brainstorming with supervisors and supervisees to plan the overall research and classroom supervision implementation for the entire current academic year. This was done to encourage both supervisors and supervisees to participate and to ensure that they shared the same information.



Step 4: Audit of Classroom and Research (A) referred to classroom and research supervision procedures, which are regarded as the heart of this researcher-developed supervisory model. According to the supervision plan from the previous step, supervisees' classrooms and research operations were supervised, followed up on, and evaluated at least twice during a semester in a specific academic year by the schools' appointed supervisors.

Step 5: Reflection Conference (R) referred to the professional learning community (PLC) that provides opportunities for both supervisors and supervisees to meet and review the overall results of the classroom and research supervision procedures that were previously implemented. In this reflection meeting, supervisees' concerns, problems, and questions were raised in order for supervisors to provide assistance and suggestions to the supervisees. However, once the step of organizing the reflection conference was completed, if the school's supervisory committee required additional evidence or data about the supervisees' classrooms and research operations, steps 4 and 5 could be reimplemented as many times as needed since they were loopable steps.

Step 6: Award and Reinforcement (A) referred to the final evaluation process of each supervisee's full-text classroom action research that was submitted to the school's supervisory committee. All full-text classroom action research pieces from supervisees that met the target criteria for evaluating classroom action research would be awarded to encourage supervisees to learn from one another and improve their classroom action research further.

Step 7: Trumpet the Best Practices (T) referred to the process of publicizing the best practices, or the top 5 of all supervisees' classroom action research pieces that received the highest scores, via various platforms and academic databases, such as the school's knowledge management system and qualified academic journals.

The SAHARAT Supervisory Model is depicted graphically below.

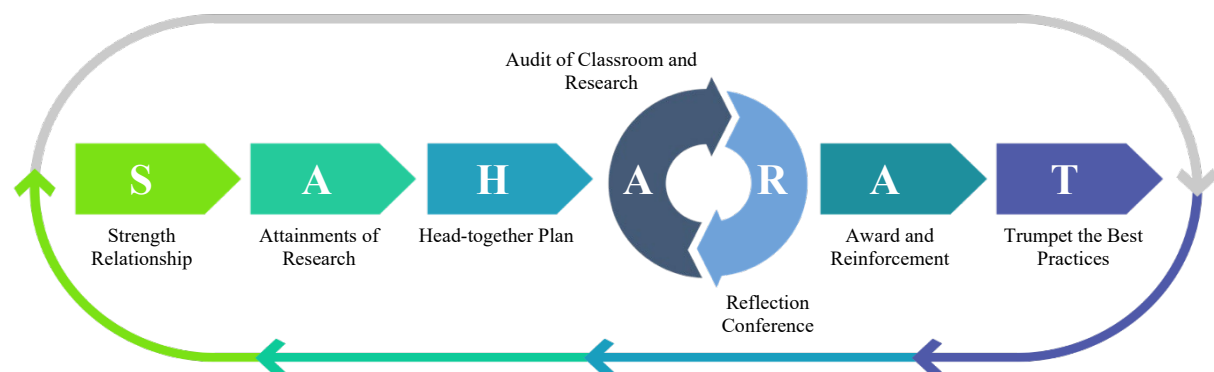


Figure 2: the SAHARAT Supervisory Model

In order to assess its appropriateness, the SAHARAT Supervisory Model was presented to a group of nine experts and specialists, which included higher education instructors, educational supervisors, and educational administrators. The supervision model synthesized and developed by the researcher received the highest level of appropriateness ($\bar{x} = 4.39$, $S.D. = 0.64$) and was considered suitable for use, according to expert and specialist evaluations. According to Table 1, the feasibility of the synthesized supervision model received the highest scores ($\bar{x} = 4.56$, $S.D. = 0.73$), while the propriety of the supervision model received the lowest scores ($\bar{x} = 4.11$, $S.D. = 0.60$).



Table 1 the outcome of the SAHARAT Supervisory Model's appropriateness evaluation.

Aspects of Appropriateness Evaluation	\bar{x}	<i>S. D.</i>	Interpretation
1. The accuracy of the supervision model	4.44	0.53	The highest level
2. The propriety of the supervision model	4.11	0.60	The high level
3. The feasibility of the supervision model	4.56	0.73	The highest level
4. The utility of the supervision model	4.44	0.73	The highest level
The overall appropriateness	4.39	0.64	The highest level

2. The effects of using the developed supervision model on teachers' research competencies were determined by first testing teachers' research competencies and then assessing teachers' satisfaction with the supervision model. To begin, forty items from the multiple-choice pretest were used to assess and compare the level of research competencies of the samples before and after the 7-step SAHARAT Supervisory Model implementation.

With regard to the comparison of the samples' research competencies level before and after SAHARAT Supervisory Model implementation, Table 2 illustrated that the samples' research competencies level after the implementation of SAHARAT Supervisory Model ($\bar{x} = 26.25$, *S. D.* = 5.85) was higher than the research competencies level before the implementation ($\bar{x} = 18.28$, *S. D.* = 5.24) at a .01 level of statistical significance. Therefore, the research's hypothesis was confirmed.

Table 2 the comparison of the samples' research competencies levels before and after SAHARAT Supervisory Model implementation

Research Competencies Level	n	\bar{x}	<i>S. D.</i>	t	sig.
Before the implementation of SAHARAT Supervisory Model	67	18.28	5.24	11.59*	.000
After the implementation of SAHARAT Supervisory Model	67	26.25	5.85		

*Statistical significance at a .01 level.

At the end of the SAHARAT Supervisory Model implementation, a five-point satisfaction questionnaire was used to investigate the samples' satisfaction with the researcher-synthesized supervision model. The overview samples' satisfaction with the SAHARAT Supervisory Model was shown in Table 3.

Table 3 the overview samples' satisfaction with the SAHARAT Supervisory Model

Aspects of Satisfaction Evaluation	\bar{x}	<i>S. D.</i>	Interpretation
1. Supervision principles and objectives	4.08	0.58	The highest level
2. Supervision content	3.91	0.55	The high level
3. Supervision process	3.99	0.76	The high level
4. Supervision tools	4.18	0.59	The highest level
5. Acquired knowledge and experience	4.26	0.67	The highest level
Overall samples' satisfaction	4.05	0.95	The highest level

Table 3 showed that overall sample satisfaction with the researcher-synthesized supervision model was at the highest level ($\bar{x} = 4.05$, *S. D.* = 0.95). When each component of the samples' satisfaction was considered, the aspect of acquired knowledge and experience was at the highest ($\bar{x} = 4.26$, *S. D.* = 0.67), followed by supervision tools ($\bar{x} = 4.18$, *S. D.* = 0.59), supervision principles and



objectives ($\bar{x} = 4.08$, $S.D. = 0.58$), and supervision process ($\bar{x} = 3.99$, $S.D. = 0.76$). The content of supervision was at the lowest level ($\bar{x} = 3.91$, $S.D. = 0.55$).

Discussions

According to the research findings, the discussions were presented in accordance with the following research objectives below:

1) The researcher-developed supervision model, named SAHARAT Supervisory Model, was synthesized from the application of various concepts and theories as follows, 1) Clinical Supervisory Model (Wiedmer, 1995), 2) The Concept of a Collaborative Network (Hanson, 2003), 3) Martin's Supervisory Model (Martin, 1999), 4) Theory of Developmental Supervision (Glickman et al., 2004), and 5) The Interpersonal Theory (David, 1997). These made the developed supervision model systematic and well organized. There were processes and activities in place to assist, suggest, promote, and improve teachers' research competencies. The goal was to improve teaching quality by utilizing classroom action research as a tool. Supervisees would be advised on their development by their supervisors, who would also advise supervisees with little experience or who were just starting out on how to develop and promote their classroom research competencies. This was related to Chonburapun (2017), who stated that the use of various theories and methods could make educational supervision more effective because the emphasis of educational supervision was placed on the use of a variety of techniques that were appropriate to the problems and needs of the supervisees, such as the implementation of the planning, follow-up, evaluation of the teacher's development, and applying the results of supervision to monitor and elicit feedback.

When it came to the appropriateness evaluation of the developed supervision model, the SAHARAT Supervisory Model, which was an educational supervision model to enhance teachers' research competencies, included 7 cyclic steps in the implementation as follows, 1) Strength Relationship, 2) Attainments of Research, 3) Head-together Plan, 4) Audit of Classroom and Research, 5) Reflection Conference, 6) Award and Reinforcement, and 7) Trumpet the Best Practices. The supervision model synthesized and developed by the researcher received the highest level of appropriateness ($\bar{x} = 4.39$, $S.D. = 0.64$) and was considered suitable for use, according to expert and specialist evaluations. This was due to the wide-ranged review of educational supervision documents and research that can be synthesized into integrated supervision in all aspects, as a result of which the SAHARAT Supervisory Model was the form of supervision Integration of procedures that were clear, appropriate, and efficient. This was in line with Yankomut et al. (2015), who had organized the supervision process appropriately as a result of the model's systematic implementation with concepts, theories, and principles as a framework for model development. The supervision model was recognized and qualified as effective by experts, and it was consistent with the pertinent concepts, theories, and data. According to Vasana's (2021) research, an integrated supervision model was developed to promote competence in the active learning management of teachers at the basic education levels. The supervision model developed consisted of five components: principles, objectives, content, supervision activities, and measurement and evaluation. The following were the three steps of supervision activities: Step 1: Strategic Planning step 2: Supervision Process, and step 3: Knowledge Development. The appropriateness evaluation of the integrated supervision model to promote competency in active learning management and the manual on the use of the integrated supervision model were found to be highly appropriate in all aspects of the assessment.

2) According to the effects of using the developed supervision model on teachers' research competencies, the samples' research competencies level after the implementation of SAHARAT Supervisory Model ($\bar{x} = 26.25$, $S.D. = 5.85$) was higher than the research competencies level before the implementation ($\bar{x} = 18.28$, $S.D. = 5.24$) at a .01 level of statistical significance. Therefore, the research's hypothesis was confirmed. This was consistent with Satjapiboon's (2017) assertion that supervision could be enhanced by allowing supervisors to supervise both face-to-face in the classroom



and through the concept of blended learning, and assist supervisors in performing supervision in a more convenient and timely manner because there were various consulting channels Including the ability to make suggestions for teachers and educational personnel's self-improvement. This was also related to Glickman et al. (1995), whose developmental supervision aimed to develop teachers' potential directly from low self-improvement levels to higher self-improvement abilities. As a result, the overall educational supervision operations would be more efficient.

Considering the overview samples' satisfaction with the SAHARAT Supervisory Model, the overall sample satisfaction with the researcher-synthesized supervision model was at the highest level ($\bar{x} = 4.05$, $S.D. = 0.95$). When each component of the samples' satisfaction was considered, the aspect of acquired knowledge and experience was at the highest ($\bar{x} = 4.26$, $S.D. = 0.67$), followed by supervision tools ($\bar{x} = 4.18$, $S.D. = 0.59$), supervision principles and objectives ($\bar{x} = 4.08$, $S.D. = 0.58$), and supervision process ($\bar{x} = 3.99$, $S.D. = 0.76$). The content of supervision was at the lowest level ($\bar{x} = 3.91$, $S.D. = 0.55$). This could be attributed to the use of a diverse set of techniques and methods in the form of integrated educational supervision, which was provided by credible academics who were appropriate for and consistent with the supervision content and activities. It was fascinating supervision that could be put to use in practice. Satisfaction with the supervision model, according to Kobkum (2017), could be due to the synthesis of various scholars' ideas with reliability in every element being appropriate. Furthermore, the supervision process was ongoing and interconnected, and there was a willingness to participate in it. According to Vasana's (2021) research, which studied and developed an integrated supervision model to promote competence in the active learning management of teachers at the basic education levels, teachers were most satisfied with the integrated supervision model.

Recommendations

1. Applying finding recommendation: One of the key findings was the success of this model's trial. It was the educational establishment's readiness, as well as the voluntary need of the teachers receiving supervision. This allowed the supervision to proceed smoothly and continuously until the task was completed. As a result, in order to achieve clear and concrete supervision results, it was necessary to study the conditions, needs, and availability of educational institutions, including budgets, materials, equipment, and media, as well as the cooperation of all personnel in driving continuous and serious supervision.

2. Further research recommendation: This was due to the fact that teachers' contexts for teaching and learning differed depending on their field of study or subjects. As a result, research should be conducted to develop a supervision model that promotes and develops research competency for individual teachers or small groups of teachers in the field of study or subjects in similar contexts.



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