The Development of Innovation for Learning Management Competency for Pre-Service Teachers of Early Childhood Education Programme By Professional Learning Community

Sirimanee Banjong[a], Pavinee Komanasin[b], Nattaka Suddhidhanakool[c], Yothin Sawangdee[d]

[a,b,c] Suan Sunandha Rajaphat University
[d] Institute for Population and Social Research, Mahidol University

Abstract

This research was based on the quasi-experimental method, and the purpose of this study was to study learning management competency in Pre-service teacher through Professional Learning Community and to compare learning management competency in Pre-service teacher before and after using Professional Learning Community. The target group for this study was the 2rd year of Early Childhood Education program's students in total 30 students were selected for this study by Cluster Random Sampling. The research instruments used in this study were Professional Learning Community learning plans which were suitable at high level, competency learning management forms and satisfaction forms with the index of congruency 0.67-1.00. The data analysis was in percentage, mean, and standard deviation. The results showed that: 1) Pre-service teachers' learning management competency through Professional Learning Community were at good level, 2) Pre-service teachers had learning management competency after receiving Professional Learning Community that were significantly at higher stage than before being treated the activities which were at fair level at a .05 level of significance.

Keywords: Learning Management Competency, Professional Learning Community, Pre-service Teachers

Introduction

For producing the Education Program teachers, this is the science to prepare and develop teachers and educational personnel before being recruited as well as promoting the development of formal and informal teachers to have knowledge and professional competency. They must be the persons who adhere to values, ideology, have the spirit of teacher and professional competency. The emphasis is put on the goal to create quality people, smart people and good people with competitive capabilities and the ability to create innovations (Ministry of Education, *2017*). Therefore, the development of teachers' learning management competency by giving knowledge through lectures or occasional training is not sufficient to promote continuous and effective development of knowledge, skills and competencies (Costa and Garmston, *2002*). For the development of teachers to have high level of knowledge and competency to develop learners to encounter various situations both presently and in the future, all countries around the world are aware of the implementation of educational reforms with the aim to improve the efficiency of education management and to have quality standards in order to produce quality manpower for the learning society. Thailand has been interested in professional development. The teacher competency is defined. This is essential for effective teaching practice towards the achievement (Pimphan Dechakup and Pornthip Kheangkhan, *2008*). Faculty of Education, Suan Sunandha Rajaphat University plays an important role in producing quality teachers with knowledge and competencies to manage learning effectively. Therefore, students must be highly competent teachers, especially in learning management through various processes. This requires continuous, holistic student development from entering the first year of study until the last year of teaching professional experience in a school that participates in the development of teacher professions at the preschool level which will have the opportunity to integrate science to manage learning in an integrated manner in accordance with the early childhood education curriculum (Songkran Khunthipthong, 2018). The 6 areas of competency are promoted; morality and ethics, knowledge, intellectual

skills, interpersonal skills and responsibilities, numerical analysis skills, communication and use of technology, and method of learning management science according to Teachers and Basic Education Personnel Development Bureau, Ministry of Education *(2017).* In the teacher development, an effective method is the use of Professional Learning Community *(PLC)* especially the development of student teachers to change their learning from isolated learning to team-based learning. The mission and commitment is to produce results for modern learning in a new era full of transformation into a learning society and to create new things through cooperation as a basis for adaptation. The community will build professionals or an instructor to be a person of learning in creating an educational institution to have an atmosphere of learning. The teachers must be the creators of culture using thinking skills and intelligence as the basis or must be the persons who use knowledge, thoughts and intellect. It is an important tool in a career as an instructor who learns with the learners they teach. Therefore, the model to develop students and teachers to enter the learning process is important as the pre-service teachers are new generation teachers who will develop learners to have knowledge, competency, and skills to live and work in the learning society in the future. This is consistent with Serviss *(*Serviss, 2021*)* stating about the usefulness of PLC that PLCs allow educators opportunities to directly improve teaching and learning. PLCs build stronger relationships between team members. PLCs help teachers stay on top of new research and emerging technology tools for the classroom. And PLCs help teachers reflect on ideas. It also agreed with the study of Donnapha Wongsiri *(*2013*: 95-98)* studying the Learning Community and Teaching Effectiveness of School Teachers under Khon Kaen Municipality, Khon Kaen Province. The research results revealed that 1*)* the learning community in school was entirely at the high level, 2*)* teachers' self-efficacy in school was entirely at the high level, and 3*)* the learning community was positively correlated with the teaching efficiency of school teachers overall and in each aspect at the moderate level with statistical significance at the .01 level.

The researchers, therefore, were interested in researching the development of learning management competency in pre-service teachers through Professional Learning Community and studying the results of using professional learning community whether it can develop competence in learning management of students and teachers in the field of early childhood education as a guideline for teaching and learning management of teachers at the higher education level or not and how. This shall be an approach for further development of pre-service teacher's competency in other areas.

LITERATURE REVIEW

1. Learning Management Competency

Ministry of Education *(*2019*)* defined competency as behavioral traits resulted from knowledge, skills, abilities, and other attributes that enable individuals to perform outstandingly than their peers in the organization. Associated with working professionally as a primary school teacher, it can be said as the ability to work or behavior in the work of early childhood teachers who reflects the knowledge and understanding of operational activities to have constant self-improvement. This makes early childhood development work more efficient and of good quality. The Ministry of Education *(*2019*)* has set the framework for learning standards for undergraduate students in the education field in 6 aspects; morality, ethics, knowledge, intellectual skills, interpersonal skills, responsibilities in numerical analysis skills, communication and use of technology, and learning management science methods.

The learning management competency consists of the following sub-competency indicators; writing a learning management plan, preparing the items related to learning management, introduction into the lesson, roles of facilitator in organizing learning activities, creating a classroom atmosphere, media use/innovation/learning resources, measuring and evaluating student's learning, research for learning development, and knowledge to be used in the teaching profession.

2. Professional Learning Community

Sergent & Hannum *(*Sargent & Hannum, 2009*: 258)* defined the learning community as the participation in a learning network that aimed to develop teaching and learning. It was to learn techniques helping learners better apply the gained knowledge to solve problems. It resulted in positive effect on the creation of professional

culture at the school level leading to the increasing cooperation, sense of belonging, innovation development, and leadership among the group of teachers.

The key elements of professional learning community include having a shared vision, having cooperation and coordination, and having shared leadership. The friendliness is needed in order to change the corporate culture, learning and professional development.

The professional learning community process consists of five steps; team building, problem determination, planning and process design, implementation of the plan, and the reflection of performance.

RESEARCH CONCEPTUAL FRAMEWORK

The conceptual framework used in the research study with Professional Learning Community (PLC) was in 5 steps: team building, problem determination, planning and process design, implementation of the plan, and giving feedback of the operational performance. It can help developing learning management competencies in 4 areas; planning for learning management, implementing learning management, media use, innovation and learning resources, and learning evaluation.

RESEARCH OBJECTIVES

1. To study learning management competency in pre-service teachers through Professional Learning Community.

2. To compare learning management competency in pre-service teachers before and after using Professional Learning Community.

RESEARCH HYPOTHESES

1. The pre-service teachers of Early Childhood Education program being managed for learning by Professional Learning Community have learning management competency at a good level and better.

2. The pre-service teachers of Early Childhood Education program have higher learning management competency after being managed for learning by Professional Learning Community than before being managed.

RESEARCH METHODOLOGY

1. Population and sample group

The population of this research consisted of the 2nd year students of Early Childhood Education program enrolling in the 2nd semester of the academic year 2020 totaling 65 students. The sample group of this research consisted of the 2nd year students of Early Childhood Education program totaling 30 students from Cluster Random Sampling.

2. Methods of data collection

The researchers conducted this research in the academic year 2020 as the Quasi Experimental Research and One-group Pretest-Posttest design (Pissanu Fongsi, 2015: 128) in the 2nd semester of the academic year 202 for *6* weeks from December, 2020, to February, 2021.

3. Data analysis

The statistics used in this data analysis included means, standard deviation, and t-test.

RESEARCH FINDINGS

1. The learning plan using the 5-step guiding process; team building, problem determination, planning and process design, implementation of the plan, and the reflection of the performance, was appropriate. The rating scale of 5 levels was used; Highest, Medium, Low, Lowest, Least. The results of findings on the appropriateness of learning plan using professional learning communities based on expert opinions were found to be appropriate at a high level. The assessment form for the learning management performance of pre-service

The Development of Innovation for Learning Management Competency for Pre-Service Teachers of
Early Childhood Education Programme By Professional Learning Community

teachers consisted of sub-questions in 4 areas; planning for learning management, implementation of learning management, use of media, innovation and learning resources, learning evaluation. The IOC was between 0.67-1.00.

2. The results of the development on learning management competencies of students and teachers

Table *1* Mean and standard deviation of learning management competency of the pre-service teachers after the professional learning community trial

Learning management competency	Mean	Standard Deviation	Level
1. Learning management planning	*4.06*	*0.52*	Good
2. Implementation of learning management	*3.90*	*0.40*	Good
3. Use of media, innovation and learning resources	*3.99*	*0.35*	Good
4. Learning assessment	*3.88*	*0.56*	Good
Total	**3.95**	**0.49**	**Good**

According to Table *1*, it was found that the learning management competency of the pre-service teachers after the professional learning community trial was at the good level. Such findings could be concluded to be resulted from the use of professional learning community. When considering each aspect, the competency was found to be at the good level in all aspects. The aspect with the best competency was in the learning management planning followed by the use of media, innovation and learning resources. The least was in the learning assessment.

Table *2* Comparison on the learning management competency in pre-service teachers before and after using Professional Learning Community

Learning management competency	Before the trial			After the trial		
	Mean	Standard Deviation	Level	Mean	Standard Deviation	Level
1. Learning management planning	*2.47*	*0.61*	Fair	*4.06*	*0.52*	Good
2. Implementation of learning management	*2.32*	*0.43*	Fair	*3.90*	*0.40*	Good
3. Use of media, innovation and learning resources	*2.73*	*0.35*	Moderate	*3.99*	*0.35*	Good
4. Learning assessment	*1.76*	*0.49*	Fair	*3.88*	*0.56*	Good
Total	*2.36*	*0.60*	**Fair**	*3.95*	*0.49*	**Good**

According to Table 2, it was found that the learning management competency of the pre-service teachers after the professional learning community trial was entirely at the good level. This was developed from before the professional learning community trial having the learning management competency at the fair level. When considering each aspect, it was found that before the professional learning community trial, the learning management competency of the pre-service teachers was at the fair to moderate level. This was developed to be in good level in all aspects after the professional learning community trial. The highly developed learning

management competency from the fair to good level was in the learning management planning, implementation of learning management, and learning assessment. Regarding the use of media, innovation and learning resources, it was developed from the fair to good level.

Table *3* Results of comparison for the mean and standard deviation of the learning management competency before and after using Professional Learning Community

Learning management competency (N=3*0*)	Number of students	Mean	Standard Deviation (S.D.)	T-value
Before the trial	3*0*	2.*36*	*0.60*	-16.57**
After the trial	3*0*	3.*95*	0.49	

T-value at df =29 = -16.57   **With statistical significance at .05 level

According to Table 3, it was found that after using Professional Learning Community, the pre-service teachers had higher learning management competency with statistical significance at .0*5* level. It could be concluded that this was resulted from the use of Professional Learning Community.

CONCLUSION AND DISCUSSION OF RESEARCH FINDINGS

The reseachers discussed the findings according to the research objectives as follows*:*

1. The research findings of the analysis on learning management competency of the pre-service teachers of Early Childhood Education program using of Professional Learning Community revealed that the learning management competency of the pre-service teachers was entirely at the good level. It could be concluded that the use of Professional Learning Community could develop the learning management competency of the pre-service teachers of Early Childhood Education program. This was because the learning management process using the Professional Learning Community was the process assisting the learning management planning, implementation of learning management, use of media, innovations and learning resources, and learning assessment in the form of building learning network which is an important learning society in the present and in the future. This helped students develop themselves in 5 steps; team building, problem determination, planning and process design, implementation of the plan, and giving feedback of the operational performance. It was for the students to unite, join, cooperate, coordinate, and learn altogether among the students and teachers based on the culture of friendship towards the quality of learning management that emphasizes the achievement or effectiveness of the learners and the joy of working altogether among members of the learning community. This enabled students to develop critical thinking, get to know themselves, and develop the 21st century learning skills. The students do not feel alone with their peers. There are teachers and experts as advisors. Therefore, the use of Professional Learning Community should provide continual meetings to exchange learning so that students can develop their learning management competency. This agreed with the concept of Meyer *(*2002*:* 27-42*)* studying the use of Professional Learning Community. It was found that by becoming a member of the learning community, teachers without teaching experience will benefit from membership in the learning community. This is because Professional Learning Community is the voluntary group of teachers for learning purposes about learning and teaching. In collaborating on teaching plans, the inexperienced teachers will learn from hearing and seeing what the mentors do. On the other hand, while the inexperienced teachers developped learning units, the mentors can also learn about new course contents or teaching approach from the inexperienced teachers by observing their teaching and giving the recommendations to support teacher learning. Both teachers with teaching experience and inexperienced teachers will affect teaching changes because the learning community of teachers will encourage learning exchange and collaborative reflection for student learning *(*Vescio, V. Ross, D and Adams, A., 2008*)*. However, the teaching and learning management of the integrated learning experience in early childhood education for children under *3* years showed that the students had high anxiety because it was a course that required students to practice teaching in the classroom and they had no experience in organizing activities for children under *3* years old. The learning design method is different

from the learning management for children aged 3-6 years resulting in a low evaluation of pre-school learning management competency. Apart from the use of Professional Learning Community based on the needs of individual learners, teachers are therefore encouraged to provide assistance through the guiding process approach. Teachers and students use online meetings primarily for large group meetings. As for small group meetings, students can choose to use as appropriate for the group. Having a manual to report on the results of using the professional learning community can help encouraging students to perform better activities and help developing pre-service teachers' learning management competency systematically. This was consistent with the research findings of Rewanee Chaichaowarat *(20*17*: 143-164)* studying the teaching design competency of pre-service teachers who were members of the Professional Learning Community. It was found that the pre-service teachers who participated as members of the process-based Professional Learning Community had the competency in instructional design at the higher level. This agreed with the research results of Nopporn Prompang *(2018: 1-38)* who studied the model of teacher competency development by Professional Learning Community *(*PLC*)* for organizing activities for student development in sufficiency education institutions. This influenced the results and success of Jumchang Uppakorn Charoenwet School, in the academic year *2018*, finding that teachers agreed with the model of teacher competency development by Professional Learning Community *(*PLC*)* for student development activities sufficiency education institutions on the results and image of success. The overall performance level was at the highest level. The teachers understood and accepted the method of administration and drove to develop teacher competency by using Professional Learning Community *(*PLC*)* and understanding their duties as part of building the learning community in the school. They could bring their knowledge and abilities to use in order to organize activities to develop learners effectively. As a result, the Professional Learning Community *(*PLC*)* helps improving teachers' performance at the highest level agreeing with the hypotheses.

2. The findings of the analysis to compare the learning management competency in pre-service teachers of Early Childhood Education program before and after using Professional Learning Community revealed that the learning management competency in pre-service teachers of Early Childhood Education program after the Professional Learning Community trial was higher than before using Professional Learning Community having the learning management competency at the fair level. This agreed with the set hypotheses. Before using the Professional Learning Community, the learning management competency of the pre-service teachers was at the fair to moderate level. This was developed to be in good level in all aspects after the professional learning community trial. The highly developed learning management competency from the fair to good level was in the learning management planning, implementation of learning management, and learning assessment. Regarding the use of media, innovation and learning resources, it was developed from the fair to good level. Moreover, it was also found that all students had higher development of learning management competency because most of the pre-service teachers realized the importance of providing experiences for early childhood. They had enthusiasm for learning, enjoyed, and did not feel alone. They could consult with friends, tutors, experts who were invited in the group. The students were free to learn and develop themselves. It can be seen from the questionnaires that the satisfaction towards the learning management using the Professional Learning Community was at the highest level. As a result, most of the pre-service teachers had the learning management results at the good level. This was correspondent with the research results of Kanlaya Chanapai, Wimonrat Chaturanon, and Aphanchanit Jenchit *(*2019*: 1)* studying the development of Professional Learning Community model on the learning management competency for the pre-service teachers. The results showed that the pre-service teachers had the mean on learning management competency in instructional design and teaching management in the 3rd and the 4th sessions with the mean of 3.62 and 4.01, respectively. These were higher than those in the 1st and the 2nd sessions. The pre-service teachers were able to practice on their own meeting the efficacy criteria of the predetermined model. It was in accordance with the research results of Donnapha Wongsiri *(*2013*: 256)* studying the relationship of the learning community and teaching efficiency of teachers in the schools under Khon Kaen Municipality. The results showed that *(*1*)* being the learning community in schools was entirely at the high level. When considering each aspect, it was found that being the learning community in schools was at the high level in all aspects. The aspect with the highest mean was value creation and shared vision, followed by shared learning, knowledge application, and supporting conditions, respectively. *(*2*)* For the self-efficacy of school teachers, it was entirely at the high level. When considering each aspect, it was found that the self-efficacy of school teachers with the highest mean was the aspect of promoting students'

achievement, followed by the aspect of showing care and attention in teaching, the aspect of making the learning process of students effective, and the aspect of creating clarity in the lessons, respectively. The aspect with the lowest mean was the use of various learning activities. 3) Being the learning community was positively correlated with the teaching efficiency of school teachers. It was entirely and in each aspect at the moderate level with statistical significance at the .01 level.

RECOMMENDATIONS

The researchers had the following recommendations. In using Professional Learning Community, the participants in the Professional Learning Community must have time for meetings, activities and exchanges appropriate to the group context. At early stage for the use of Professional Learning Community, teachers should give advice and close support. The guiding process may be combined with the use of Professional Learning Community for students who need individual assistance.

REFERENCES

[1] Ministry of Education. (2017). Handbook of training on how to drive PLC (Professional Learning Community): "Professional Learning Community" to educational institutions at the educational service area office level. Bangkok: Teachers and Basic Education Personnel Development Bureau, Office of the Basic Education Commission, Ministry of Education.

[2] Ministry of Education. (2019). Notification of the Ministry of Education on the Standards of qualifications of Bachelor's Degree in Education (Four-Year Program) B.E.2562. Bangkok: Office of the Prime Minister.

[3] Kanlaya Chanapai, Wimonrat Chaturanon, and Aphanchanit Jenchit (2019). Developing the Professional Learning Community Model on the competency in learning management for the pre-service teachers. Academic Journal of Curriculum and Instruction, Sakon Nakhon Rajabhat University 11(31), 1-13.

[4] Nopporn Phomphaeng. (2018). Model of teacher competency development by Professional Learning Community (PLC) for student development activities in sufficiency education institutions on the results and image of success of Jumchang Uppakorn Charoenwet School in the Academic Year 2018. Jumchang Uppakorn Charoenwet School, Kalasin Province.

[5] Donnapha Wongsiri. (2013). Relationship between being the learning community and teaching efficiency of teachers in schools under Khon Kaen Municipality, Khon Kaen Province. Master of Education Thesis, Loei Rajabhat University.

[6] Phimphan Dechakup and Pornthip Khuenkan. (2008). Research report on the teacher's competency and orientation: the way of teacher development in the changing society. Bangkok: Prikwan Graphic.

[7] Phitsanu Fongsee. (2015). Classroom research: Principles and practical techniques. (10th edition). Bangkok: Dansuttha Printing.

[8] Rewanee Chaichaowarat. (2017: 143). Competency in Instructional Design of Pre-service Teachers Participating as Members of Professional Learning Community. Journal of Education. 45 (4), 143-164.

[9] Songkran Khunthipthong. (2018). The Experimental Model of Teacher Assistant Experience Training in Educational Institutions of the 5th year students of the Faculty of Education, Suan Sunandha Rajabhat University. Faculty of Education, Suan Sunandha Rajabhat University.

[10] Costa and Garmston, Costa, Arthur L., and Robert J. Garmston. (2002). Cognitive Coaching, Foundation Seminar Learing Guide. 5th ed. Highlands Ranch, Co: Center for Cognitive Coaching.

[11] Meyer, T. (2002). Novice Teacher Learning Communities: An Alternative to One-on-One Mentoring. American Secondary Education, 31(1), 27-42.

[12] Sargent, Tanja C. and Hannum, Emily. (2009). Doing More with Less Teacher Professional Learning Communities in Resource-Constrained Primary Schools in Rural China. Journal of Teacher Education, 60(3), pp. 258-276.

[13] Serviss, J. (2021). 4-Benefits of an Active Professional Learning Community. https://www.iste.org/explore/professional-development/4-benefits-active-professional-learning-community

[14] Vescio, V. Ross, D and Adams, A. (2008). A review of research on the impact of professional learning communities on teaching practice and student learning. Teaching and Teacher Education. 24 (1), pp. 80–91. https://doi.org/10.1016/j.tate.2007.01.004