PROPOSALS EXPANSION FOR THE REFORM OF EARLY CHILDHOOD TEACHERS, CHILD CARE PROVIDERS, AND ASSISTANT TEACHERS' PRODUCTION AND DEVELOPMENT SYSTEMS: CHIANG MAI EDUCATION SANDBOX*

การขยายผลข้อเสนอเพื่อการปฏิรูประบบการผลิตและพัฒนาครูปฐมวัย ผู้ดูแลเด็กและครูผู้ช่วย : พื้นที่นวัตกรรมการศึกษาจังหวัดเชียงใหม่

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Abstract

Faculty of Education, Chiang Mai University is the one of three universities that was selected by the Equitable Education Fund as a university to expand proposals for reforming the production and development system in early childhood teachers in case studies of Chiang Mai Education Sandbox. There are 5 phases for the research process by analyzing quantitative data using basic descriptive statistics and analyzing qualitative data by content analysis.

The findings showed as follows: 1. Most of the target groups of teachers and childcare providers have less than five years of teaching experience, and more than half have a teaching license. 2. Creating a curriculum for the core competency development affects the early childhood children's conceptual innovation development. As the teachers and childcare providers in Chiang Mai Education Sandbox were found that the main components of the curriculum have 6 modules. It is a quality course with the highest overall quality assessment results 3. The curriculum application revealed that the creation of curriculum has an overall effectiveness index higher than .50 4. Creating an academic management model to support the development of teachers' competency indicates that there are 4 phases of

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action 1) is to fulfill through hands-on practice. 2) is hand-on practice and building a learning community, 3) offers special guidance, and 4) reflects the thought leading to productivity and feedback 5. An academic management model, by overall opinions points out that teachers have better performance development results and meet the criteria.

Keywords: core competencies; reform of the early childhood teachers; education sandbox

บทคัดย่อ

คณะศึกษาศาสตร์ มหาวิทยาลัยเชียงใหม่เป็นหนึ่งในสามมหาวิทยาลัยที่ได้รับการคัดเลือกจากกองทุนเพื่อความเสมอภาคทางการศึกษาให้เป็นสถาบันในการจัดทำพัฒนาข้อเสนอในการปฏิรูประบบการผลิตและพัฒนาครูปฐมวัย ผู้ดูแลเด็ก และครูผู้ช่วยในปีงบประมาณ 2562 การวิจัยนี้มี 5 ระยะโดยทำการวิเคราะห์ข้อมูลเชิงปริมาณด้วยสถิติบรรยายพื้นฐานและวิเคราะห์ข้อมูลเชิงคุณภาพด้วยวิธีการวิเคราะห์เนื้อหาและพรรณนาความ

ผลการวิจัยพบว่า 1) กลุ่มเป้าหมายส่วนใหญ่มีประสบการณ์สอนต่ำกว่า 5 ปีและเกินครึ่งมีใบประกอบวิชาชีพครู 2) ผลการสร้างหลักสูตรการพัฒนาสมรรถนะสำคัญที่ส่งผลต่อการพัฒนานวัตกรรมทางความคิดของเด็กปฐมวัย สำหรับครูและผู้ดูแลเด็กในพื้นที่นวัตกรรมการศึกษาจังหวัดเชียงใหม่พบว่าองค์ประกอบหลักของหลักสูตรมี 6 โมดูลโดยเป็นหลักสูตรที่มีคุณภาพมีผลการประเมินคุณภาพโดยรวมอยู่ในระดับมากที่สุด 3) ผลการใช้หลักสูตรพบว่าหลักสูตรที่สร้างขึ้นมีดัชนีประสิทธิผลโดยรวมสูงกว่า .50 4) ผลการสร้างรูปแบบการบริหารจัดการทางวิชาการในการสนับสนุนการพัฒนาสมรรถนะครูมีหลักการดำเนินการ 4 ระยะคือระยะที่ 1 เติมเต็มผ่านการลงมือปฏิบัติจริงระยะที่ 2 ปฏิบัติจริงและสร้างชุมชนแห่งการเรียนรู้ ระยะที่ 3 แนะนำชี้แนะอย่างเป็นพิเศษและระยะที่ 4 สะท้อนความคิดเพื่อนำไปสู่ผลผลิตและข้อมูลป้อนกลับ 5) ผลการใช้รูปแบบการบริหารจัดการทางวิชาการ พบว่าภาพรวมสามารถทำให้ครูมีผลการพัฒนาสมรรถนะดีขึ้นและเป็นไปตามเกณฑ์

Keywords: สมรรถนะสำคัญของครูปฐมวัย; การปฏิรูประบบการผลิตและพัฒนาครูปฐมวัย; พื้นที่นวัตกรรมการศึกษา

Introduction

Although all aspects of the world society have been developed, whether it is science, technology, economy, society, or education, some populations cannot access varied educational services organized by the government. Then, it causes an education inequality situation, access to education, and educational management issues at all levels around the world; mainly, the problem of early childhood education and primary education level is a problem many countries have encountered and are seeking solutions (OECD, 2019). Thailand cannot refrain from such problems, as evidenced by Article 54 of the Constitution of the Kingdom of Thailand B.E. 2560(2017). Therefore, it emphasizes proactive educational reform by establishing an independent organization to solve the educational management problem. This organization is the Education Equality Fund, also known as the EEF, which is the agency with the core authority to create equality in education, assist the students who need money, reduce educational disparities, and strengthen and develop the quality and efficiency of teachers. the EEF has announced to accept proposals for research projects to develop proposals for reforming the production and developing systems of early childhood teachers, child care providers, and assistant teachers for higher education institutions since the fiscal year 2019 (Education Equality Fund, 2018).

Faculty of Education, Chiang Mai University is one of three universities that have been selected by the Equitable Education Fund as a university for developing a proposal for reforming early childhood teachers, child care providers, and teaching assistants production and development systems in the fiscal year 2019. Faculty of Education prepared a proposal for reforming the production of early childhood teachers using the research-based learning in the preparation of reform proposals, which includes: (1) Institutions for teachers and early childhood teachers, child care providers, and teacher assistants production should adjust the early childhood teacher production paradigm by using spatial education management concepts and conceptual innovation through the introduction of social phenomena, spatial identity and

futuristic images of children in each area as the basis for learning management in academic service; (2) Ministry of Higher Education, the Teachers Council of Thailand and higher education institutions producing early childhood teachers should promote and create understanding for teachers who produce early childhood teachers have knowledge and process skills integrated into the students' primary context and spatial identity context to the classrooms as well as to promote the thinking process and be able to integrate thinking into the classroom suitable for early childhood. Moreover, they should possess appropriate communication skills for early childhood and have discretion in expressing appropriately with early childhood children; (3) Ministry of Higher Education, the Teachers Council of Thailand and higher education institutions producing early childhood teachers should promote and develop competence in measuring and assessing learning outcomes in modern classrooms, as well as developing research skills of early childhood teachers and instructors in early childhood teacher production institutions (4) Early childhood teachers Production Institutions should prepare in terms of resources such as information technology systems, media, and technology for searching modern and suitable for use in organizing experiences with early childhood, as well as having information systems, learning resources or local wisdom sources, and culture and lifestyle of the community sources. In addition, learning materials on indigenous identities or local waste materials should be appropriate for the early childhood experience management; (5) Early childhood teachers Production Institutions should select educational institutes for vocational training with high potential mentors, who must be highly equipped in teaching, have knowledge and experience in the classroom; (6) Early childhood teachers Production Institutions should adjust the selection system for those enrolled in the new program specifically by selecting people with suitable basic qualifications for being primary school teachers, and (7)Early childhood teachers Production Institutions should have a system to supervise and develop early childhood teachers, child care teachers, and assistant teachers. After students graduate in the first two years, there should be supervision to develop knowledge about spatial education

management, ideas for developing conceptual innovation, and apply active learning management continuously (Kiatsuda Srisuk et al., 2020).

Nevertheless, the results of the proposed reform proposals are consistent with research findings both in Thailand and abroad, indicating recommendations for early childhood teacher development in the following areas: (1) Organizing experiences that integrate academic principles with daily life, local customs, cultures, or social phenomena; (2) The ability to provide students' experiences promoting higher thinking, such as critical thinking, creative thinking, conceptual innovation, and (3) Promoting a learning community and supervising the development of early childhood teachers after graduation with participation in many sectors, such as production institutions, educational institutions, faculty members, administrators, teachers, communities, parents, students, etc. (Warali Kosai, et al. (2018); Kantawan Meesomsarn, 2017; Keung et al., 2020; Polly et al., 2017).

It can be seen that the proposal for reforming the early childhood teachers, child care providers, and assistant teachers' production and developing systems in the above of the Faculty of Education, Chiang Mai University is a proposal that is consistent with the current educational context. It is a proposal that has a positive impact and has a high impact on the production of early childhood teachers. It also promotes the development and upgrading of the country's early childhood education management. Therefore, the research team has a guideline to bring the proposal for such reform to expand the development and lead it into practice with the research objectives as follows.

Research Objectives

To expand the proposals for the reform of early childhood teachers, child care providers, and assistant teachers' production and development systems of Chiang Mai Education Sandbox. However, this research consists of five sub-objectives as follows:

1) To study the problems in the early childhood context, teachers, and child care providers of targeted schools;

2) To create and develop a curriculum for core competency development affecting the early childhood children's conceptual innovation development for teachers and child care providers in Chiang Mai Education Sandbox;

3) To study the results of the curriculum application for core competency development affecting the early childhood children's conceptual innovation development for teachers and child care teachers in Chiang Mai Education Sandbox;

4) To create an academic management model to support the core competency development affecting the early childhood children's conceptual innovation development Chiang Mai Education Sandbox;

5) To study the results of an academic management model application to support the teachers' competency development affecting the early childhood children's conceptual innovation development in Chiang Mai Education Sandbox.

Methodology

research process, target group, research methodology, research tools, statistics and methods of research analysis.

Phase 1: Study of conditions, problems, contexts of early childhood, teachers, and child care providers of the target schools

Target Group: 35 primary school teachers from six schools consisted of 1) Ban Mae Or Nai School. 2) Ban Pa Tan School, 3) Veeraya Chiang Mai School, 4) Ban Pong Noi School, 5) Ban Choeng Doi Suthep School, and 6) Chiang Mai University Demonstration School

Research Methodology: 1) To have a meeting of teachers and early childhood care providers from all six schools was held to explain and create an understanding of data collection. 2) To conduct group discussions and ask three sets of questionnaires 3) To analyze conditions, problems, and learning contexts of early childhood, and problem condition and context of the teacher's learning experience management, and child care providers, as well as synthesize content from proposals for early childhood teachers, child care

providers, and assistant teachers the production and developing systems reform of Kiatsuda Srisuk and research team (2020) 4) To analyze teachers and child care providers competencies affecting the early childhood children's conceptual innovation development

Research Tools: 1) Individual early childhood child record form 2) A Teacher and child care providers questionnaire to analyze basic information about the provision of learning experiences for early childhood children 3) A questionnaire to analyze key competencies affecting the early childhood children's conceptual innovation development

Statistics and Methods of Research Analysis: Analysis of the conditions, problems, and learning contexts of early childhood children, problem, conditions, and context of learning experiences among early childhood teachers, and core competencies of child care providers, and teacher assistants using basic descriptive statistics consisting of frequency, percentage, mode, mean and standard deviation, qualitative data analysis, content analysis, and description

Phase 2: Creating and developing a curriculum for developing core competencies affecting the early childhood children's conceptual innovation development for teachers, and child care providers in Chiang Mai Education Sandbox

Target Group: Nine experts in checking course quality consisting of 1) Two university instructors who produce early childhood teachers 2) Three directors of public schools for kindergarten or early childhood classes 3) One director of private school 4) Three teachers at the preschool level

Research Methodology: 1) To choose suitable experts to comment on the creation and development of the curriculum, emphasis is placed on the qualifications of experts that are relevant to the research content 2) To contact for assistance as experts and deliver the course to consider first and then invite to join the focus group through the Zoom Meeting program 3) To ask for experts' assistance providing opinions and working on a quality assessment for the core competency development courses affecting the

early childhood children's conceptual innovation development for teachers and child care providers in the Chiang Mai Education Sandbox

Research Tools: 1) The five-rating scales curriculum quality assessment on key competencies affecting the development of conceptual innovation of early childhood for teachers and child care providers in the Chiang Mai Education Sandbox

Statistics and Methods of Research Analysis: Qualitative data analysis, content analysis, and description, including analysis of the curriculum quality assessment results using descriptive statistics, mean, and standard deviation, determination of the acceptable quality criteria at the higher quality level (average 3.50 and above)

Phase 3: Study of application results on the curriculum for developing core competencies affecting the early childhood children's conceptual innovation development for teachers, and child care providers in Chiang Mai Education Sandbox

Target Group: 35 primary school teachers from six schools consisted of 1) Ban Mae Or Nai School, 2) Ban Pa Tan School, 3) Veeraya Chiang Mai School, 4) Ban Pong Noi School, 5) Ban Choeng Doi Suthep School, and 6) Chiang Mai University Demonstration School

Research Methodology: 1) To have a meeting to explain data collection and activity participation 2) To organize workshops using courses created and developed in Phase 2 3) To observe the competencies and test the competencies of the target group of early childhood teachers before and after training

Research Tools: 1) Early childhood teachers' competency assessment is based on experience provision, plans of experience provision, activity participation, answering questions, and reflecting.

Statistics and Methods of Research Analysis: An analysis of early childhood teachers' competency using the efficiency index of Pachoen Kidrakarn. (2003) setting an acceptable criterion at .50.

Phase 4: Developing an academic management model to support the teachers' competency development of affecting the early childhood

children's conceptual innovation development in Chiang Mai Education Sandbox

Target Group: 12 experts consisting of 6 schools' directors as the representatives of teachers or child care providers from six schools as 1) Ban Mae Or Nai School, 2) Ban Pa Tan School, 3) Veeraya Chiang Mai School, 4) Ban Pong Noi School, 5) Ban Choeng Doi Suthep School, and 6) Chiang Mai University Demonstration School

Research Methodology: 1) To choose suitable experts to comment on the creation and development of the curriculum, emphasis is placed on the qualifications of experts that are relevant to the research content 2) To contact for assistance as experts and deliver the course to consider first and then invite to join the focus group through the Zoom Meeting program 3) To ask for experts' assistance providing opinions and working on a quality assessment for the core competency development courses affecting the early childhood children's conceptual innovation development for teachers and child care providers in the Chiang Mai Education Sandbox

Research Tools: 1) Academic Management Model Quality Assessment on supporting teachers' competency development affecting the early childhood children's conceptual innovation development in Chiang Mai Education Sandbox

Statistics and Methods of Research Analysis: Qualitative data analysis, content analysis, and description, including analysis of the curriculum quality assessment results using descriptive statistics, mean, and standard deviation, determination of the acceptable quality criteria at the higher quality level (average 3.50 and above)

Phase 5: Study of an academic management model application results on supporting teachers' competency development affecting the early childhood children's conceptual innovation development in Chiang Mai Education Sandbox

Target Group: 35 primary school teachers from six schools consisted of 1) Ban Mae Or Nai School, 2) Ban Pa Tan School, 3) Veeraya Chiang Mai

School, 4) Ban Pong Noi School, 5) Ban Choeng Doi Suthep School, and 6) Chiang Mai University Demonstration School

Research Methodology: 1) To organize a meeting to explain for data collection and management model 2) Implement the academic management model as created and developed in Phase 4 3) To observe the competencies and test the competencies of the target early childhood teachers before, between, and after the academic management model

Research Tools: 1) Competency Assessment of Early childhood teachers before and after applying the academic management model

Statistics and Methods of Research Analysis: An analysis of early childhood teachers' competency using the efficiency index of Pachoen Kidrakarn (2003), setting an acceptable criterion at .50

Results

Proposals Expansion for the Reform of Early Childhood Teachers, Child Care Providers, and Assistant Teachers' Production and Development Systems: Chiang Mai Education Sandbox presented the results in order of research objectives, divided into five sections as follows:

Section 1: The results of conditions, problems, and contexts of early childhood teachers and child care providers of targeted schools

The target groups consisted of 35 teachers and child care providers, most of them having less than five years of teaching experience, and more than half have a teacher's license. Most school work has no special duties other than teaching jobs. More than half of the classrooms have media and equipment, with boards, exhibition boards, internet signal systems, and stationery. Teachers and caregivers' most used teaching methodologies were practical, followed by demonstrations, lectures, games, and rhythm-enhancing activities. The teaching strategies that teachers and child care providers used the most for organizing learning experiences were storybooks, toys, picture books, authentic media, songs, activities, and learning resources in schools for evaluation. Most of them used tests, observations, practical

exams, and portfolios. Moreover, there were relatively few evaluations and assessments based on activity-based or group activities.

Section 2: The results of creating and developing a curriculum for core competency development affecting the early childhood children's conceptual innovation development for teachers and child care teachers in Chiang Mai Education Sandbox

1) The results of creating a curriculum for competency development pointed out that the main components of the curriculum consisted of six modules, comprising Module 1: Designing a modern and suitable learning experience for the conceptual innovation development the early childhood; Module 2: Integrating the primary early childhood context and spatial community context into the classroom; Module 3: Thinking and the ability to integrate thinking into the early childhood classroom; Module 4: Appropriate communication with early childhood; Module 5: Appropriately expressive judgment with early childhood, and Module 6: Adapting immediately when new problems/impacts/incidents arise.

2) The results of a curriculum for competency development affecting the early childhood children's conceptual innovation development for teachers, and child care teachers in Chiang Mai Education Sandbox

The patterns of organizing the curriculum activities for developing core competences affecting the early childhood children's development conceptual innovation for teachers and child care providers in Chiang mai Education Sandbox were as follows in Figure 1

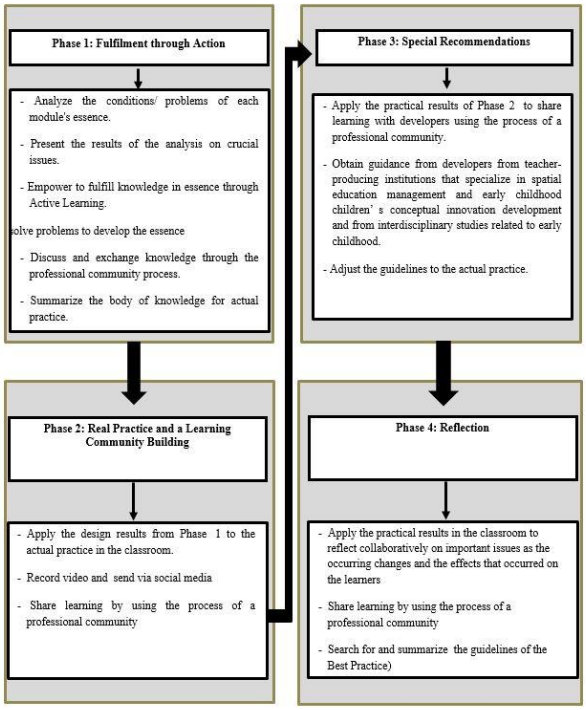

Figure 1 The patterns of organizing the curriculum activities for developing core competences affecting the early childhood

When there was an assessment of curriculum quality, the results were shown as in the table.

Table 2 The Results of the overall quality assessment of the curriculum for the development of core competency of early childhood teachers

What to Assess	Accuracy/ Comprehensiveness		Appropriateness/ Possibility		Not against ethical principles for application		Value for actual practice	
	M (SD)	Interpret	M (SD)	Interpret	M (SD)	Interpret	M (SD)	Interpret
Goals and Objectives	4.47 (.23)	more	4.53 (.40)	most	4.61 (.33)	most	4.72 (.23)	most
Teachers' competence that wants to develop	4.53 (.23)	most	4.53 (.40)	most	4.72 (.23)	most	4.47 (.23)	more
The patterns of curriculum activities	4.61 (.33)	most	4.50 (.22)	most	4.50 (.22)	more	4.69 (.33)	most
Average total	**4.54 (.20)**	**most**	**4.52 (.28)**	**most**	**4.61 (.14)**	**most**	**4.63 (.12)**	**most**

The table indicated that experts' overall quality assessment results were at an outstanding level. Therefore, it was considered that the quality was at an acceptable level and could be used.

Section 3: The Results of the Curriculum Application a Curriculum for core competencies development affecting the early childhood children's conceptual innovation development for teachers and child care teachers in Chiang Mai Education Sandbox

Modules	Competencies in	Practice Level				Effectiveness	
		Before		After			
		M	SD	M	SD	E.I.	$\overline{D}$%
1	Designing modern learning experiences and being suitable for the early childhood children's conceptual innovation development.	3.30	.48	4.55	.32	0.74	75.53
2	Knowledge and skills for integrating basic learner context and spatial community context into the classroom.	3.72	.58	4.57	.31	0.66	66.41
3	Thinking and the ability to integrate thinking into classroom use appropriate for early childhood children.	3.55	.50	4.55	.32	0.68	68.88
4	Appropriate communication with early childhood children.	3.63	.56	4.56	.33	0.68	68.31
5	Having discretion in expressing appropriately with early childhood children.	4.25	.64	4.84	.29	0.79	78.56
6	Self-adjustment when having problems/ impacts/ new incidents arisen.	4.06	.70	4.76	.32	0.75	75.04
	Average total	**3.80**	**.51**	**4.63**	**.24**	**0.69**	**69.17**

*Remarkable E.I. means effectiveness index, "$\overline{D}$"% means percentage of development

From the table, it revealed that the created curriculum was able to develop the competencies of teachers and caregivers of all 35 children with an effectiveness index of .69 or 69.17%. Considering in each competency showed that the effectiveness index was .66 - .79, or 66.41 -78.56 percent, indicating that the improved teachers' competency increased by 66.41 to 78.56 percent, which was higher than the set threshold.

Sections 4: The results of creating an academic management model to support the teachers' competency development affecting the

early childhood children's conceptual innovation development in Chiang Mai Education Sandbox

1) The results of creating an academic management model to support the teacher' competency development, can be summarized as shown in Figure 2

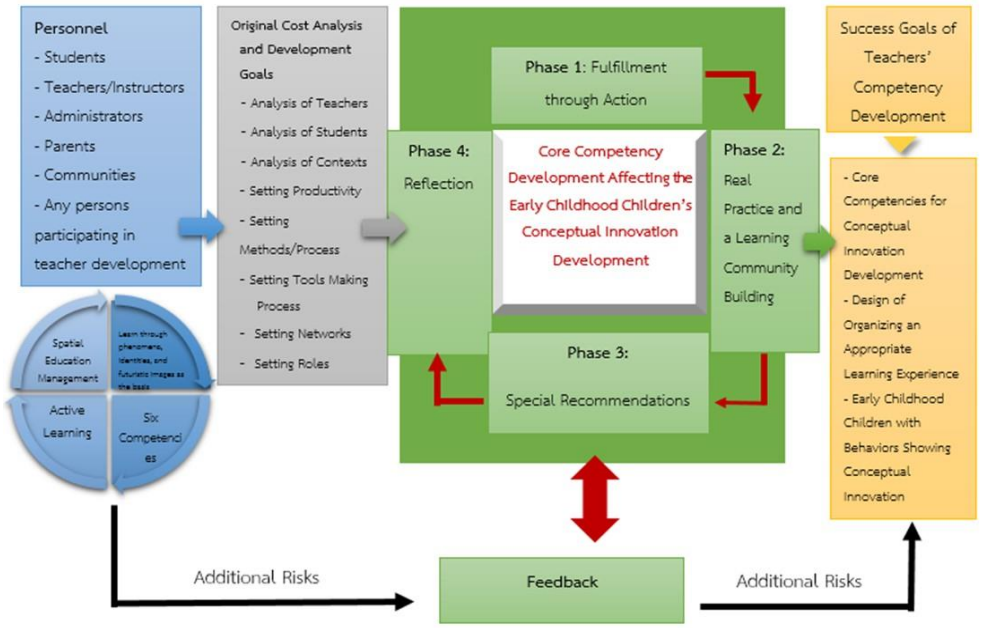

Figure 2 An Academic management model in support of teacher competency development

Sections 5: The results of an academic management model application to support the teachers' competency development affecting the early childhood children's conceptual innovation development in Chiang Mai Education Sandbox

The results of an academic management model application were found that after applying the academic management model, the teachers and child care providers' competencies both overall and classified by school, improved in all aspects, except for one city school where competency development has not yet reached the threshold. However, when analyzing the learning experience plan found that the teachers have the ability in

designing an appropriate learning experience to promote innovation in children's thinking and children can create works or behaviors expressing their conceptual innovation.

Body of Knowledge

1. The process of designing and developing an innovative curriculum that involves participation and engagement from users, graduates, and related individuals serves as a crucial basis for determining the important capacity, which accounts for the most effective guideline for the curriculum design in order to improve the capacity, whether it is a short-term or long-term curriculum.

2. In order to improve teachers' capacity, it is indispensable that university lecturers who are dedicated, understanding of teachers' responsibilities, inspiring, and empowering be chosen to perform the job. It is vital that they do not regard teachers as students, reduce documentation, and profoundly understand sustainable education development and the national policies, especially the 20-year National Plan, which will be achieved in 2036 and will be the basis for motivating teachers to enthusiastically improve themselves and consider students' benefits a top priority.

3. Institutes that produce teachers have to engage more in the field study in schools with problems, especially those in the distant areas, those around the frontiers or schools under the fundamental education. The field study will contribute to awareness of the problems teachers have to encounter, which are currently unprecedentedly urgent. Then those problems will be included in research and development of innovations and solutions to problems relevant to teachers' capacity. At the same time, they will be adopted in the adjustment of instruction development for producing teachers.

Discussion

1) Creating a curriculum for competency development showed the core components of the curriculum consisted of six modules and the overall

quality assessment results of the curriculum from experts were at an excellent level that is acceptable and can be applied. Considering the evaluation results of nine experts who act as university professors producing early childhood teachers, public and private school administrators, including teachers at the kindergarten level, it was seen that there was an evaluation of accuracy/comprehension, suitability/possibility, not violating the ethical principles in applying, and the value to be put into practice. This may be because this curriculum is for teachers to develop from their own experiences. This will result in the creation and adjustment of one's teaching knowledge at all times through experiences both inside and outside the classroom. Moreover, this curriculum also provides early childhood teachers to practice reflective thinking, a process that leads to critical thinking and to develop intellectual potential resulting in effective practice and problem solving, and reflection is also a thoughtful process of reflective thinking). This is a way for individuals to review and reflect reflective practice that help them understand and learn from experience. Then, it leads to self-improvement, improve work and solve problems more efficiently (Pasin Taengchuang, 2011; Napanet Thammaboworn, 1999; Saroj Buasri, 2001).

2) An academic management model application revealed that the created curriculum is able to develop teachers and caregivers' competencies above the set criteria, possibly because the curriculum was designed in accordance with the principles of the Early Childhood Development Act B.E.2562 (2019) with the purposes in creating characteristics for early childhood children to have good characters, morality, disciplines, curiosity, creativity, and ability to absorb aesthetics, and diverse cultures. The teachers have used competencies to design real learning experiences. It can be seen that there is a connection between the children's surroundings, and the design of teaching and learning is more inconsistent than before. This may also be because this curriculum organizes activities that bring children to actually experience their own community. It also integrates phenomena, identities, and futurism as a base for integrated learning that connects knowledge, content, concepts, or skills together in a meaningful way to

achieve holistic learning. It is in line with the actual conditions of society by focusing on students as essential and can be applied in real life. In addition, a clear picture during classroom observations or from the analysis of organizing teacher experience plans is that language is used to communicate opinions by teachers only as a stimulus, have their creations such as product design, packaging bag design, labels and symbols design which represent work to express the conceptual innovation that is new for early childhood children, ask high-level thinking-provoking questions: why, how, when, are used leading children to express reasoning; therefore, it gives a visualization of connections and has more freedom of thought. Furthermore, a new atmosphere is created to provide early childhood experiences for self-seeking new knowledge, such as interviews about the elements of the home, the process of making each type of candy, etc., which is considered to create a body of knowledge themselves. In addition, bringing Big Data such as disasters, COVID-19 situations, human disasters that are actual information to share in the classroom by what is exchanged, there will be an insertion of personality building process without limiting how to present it in what form it should be. There are also activities for students to do role-plays promoting imagination, creativity, and assertiveness (Siripat Jesadawiroj, 2007; Kiatsuda Srisuk et al., 2020).

Recommendations

1) The Education Equitable Fund (EEF) should support scholarships for students in remote areas with behavioral indicators of competencies affecting the early childhood children's conceptual innovation development according to spatial education management guidelines. Therefore, they will have the opportunity to enroll in teacher-producing institutes and be appointed as school teachers in remote and disadvantaged areas to reduce educational disparities. Furthermore, EEF should promote and support development after graduation for at least two years continuously and establish a database for administration and follow-up assessment of students who have received

scholarships as a guideline to support the next generation of prospective students.

2) The Ministry of Education should reform the teachers' and child care providers' production and development systems based on six competencies in this research. This may be a policy to provide education for early childhood teachers across the country. It adheres to the context of different areas and communities to organize learning experiences for early childhood children consistent with the context in each area.

3) The Teachers Council of Thailand or related agencies should have the same standardized assessment criteria to issue a license for child care providers developed according to the curriculum of core competencies contributing to the early childhood children's conceptual innovation development according to the research-led spatial education approach.

4) Administrators at the educational service area level and school level should formulate the policy supporting and driving the teacher competency development, apply these research findings as to the foundation, have supervision, and continuous authentic assessment.

5) Schools should have policies to support educational institutions in the preparation of learning resources that are relevant to the local context, such as media and search technology, media from folk identity or local waste material media to develop problem-solving skills, media for creativity development, media of English tales, etc., to be applied in organizing the learning experience.

6) The government should establish a human resource development policy that promotes the development of the teachers and child care providers to have access to information on competency development from this research thoroughly in all areas, for teachers to implement in the development of children to grow up to be the main force in developing the country in the future.

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