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The Needs Assessment for Developing Teachers to Enhance Competency-based Learning Management of Teachers under the Chiang Mai Primary Educational Service Area Office 2

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Abstract

This research aims to assess the essential needs for developing teachers who enhance competency in managing learning based on competency standards. The study surveyed 72 teachers from the Chiang Mai Primary Educational Service Area Office 2. The assessment tool used is in a dual-response format to evaluate necessary development aspects in promoting teachers' abilities in managing competency-based learning. Data analysis includes calculating and summarizing mean values, standard deviations, and the $PNI_{Modified}$ index across four dimensions of necessary development needs. The findings reveal that teachers express high essential development needs across various indicators related to enhancing competency in managing competency-based learning. $PNI_{Modified}$ values range from 0.30 to 0.80, with the highest indicating the priority area of selecting appropriate learning technologies to develop student competencies. Subsequent priorities include using assessment results to improve teaching practices and analyzing learning resources to enhance student competencies.

Keywords: Competency-based learning management, Teacher development, Needs assessment

Background and Statement of the problem

Competency-based learning management is a process of organizing experiences that focuses on developing essential life competencies in learners. It comprises content, knowledge, skills, attitudes, and necessary characteristics that lead to learners' ability to perform tasks, solve problems, and live their lives. This develops into deep learning, becoming embedded knowledge that learners can synthesize into their own wisdom. This teaching approach connects with real life, focusing on practical applications and tangible outcomes that enable learners to perform tasks effectively (Office of the Royal Society, 2015; Chamnankit, 2017; Office of the Education Council, 2020; Boonthong and Diaovilai, 2021; Wongyai and Patphol, 2020; Phoomchaiya, 2021).

For competency-based learning management, educational institutions should first analyze their conditions and contexts. Learning management must focus on learner development to respond to diverse student differences, contexts, and social environments in a rapidly changing world. Importantly, learning management must encourage learners to build knowledge and understanding through participation in thinking processes, practice, knowledge application, work, and exchanging knowledge with others. This involves teaching learners how to think and apply knowledge, skills, and attitudes in their practice, while developing essential characteristics and skills for life and work. It arranges for students to learn from the contexts around them, with teachers as guides who ask questions that prompt learners to find answers themselves. Activities must develop desirable characteristics in learners, help them practice various competencies they have learned until they become proficient, and support learners to succeed in their areas of aptitude, building self-pride and becoming good people with moral and ethical qualities. Finally, assessment and evaluation must emphasize providing feedback for improving and developing learning, reducing assessment for judgment or competition, by selecting various methods appropriate to child development principles (Wongyai and Patphol, 2020; Office of the Education Council, 2020; Phoomchaiya, 2021; Sawat and Buasont, 2022).

Educational curricula are changing to address educational problems that do not align with social, economic, and political conditions. Advancements in various sciences affect social and economic changes

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in all countries, including Thailand. If teachers have competency-based learning management abilities, they will be prepared to develop learning activities that will lead to developing learners with competency-based learning skills. Learners will be able to adapt well to current changing social and environmental conditions. Therefore, it is necessary to develop teachers' competency-based learning management abilities, which is a key mechanism for developing the country's educational quality to create Thai people who are good, intelligent, happy, and have the potential to compete and cooperate creatively on the world stage. Developing teachers' competency-based learning management abilities requires specific processes that emphasize practice and implementing actual teaching designs (Suchairat, 2015; Suriyawong, 2016; Khaemmanee, 2017). Therefore, the researcher is interested in studying the necessary requirements for teacher development that promote competency-based learning management abilities, as previous behavioral indicators reflected characteristics of general learning management from the past. As social, economic, political conditions, and scientific advancements change, they affect competency-based learning management processes. Consequently, behavioral indicators must evolve with social and economic changes. For this reason, the researcher is interested in studying the necessary requirements for teacher development to promote competency-based learning management abilities.

Teachers are important individuals for social and educational development. Teachers should be developed in competency-based teaching and learning management. Educational institutions must support teachers in continuous self and professional development (Phujib, 2016; Suwanma, 2017; Angnoi, 2020; Wongyai and Patphol, 2020; Office of the Education Council, 2020; Promlek, 2020; Suwan, 2022). Therefore, preparing teachers to have potential is an operation that attempts to enhance knowledge, skills, and abilities to create necessary competencies important for the profession. Teacher development helps improve teachers' quality and teaching methods, which will result in long-term outcomes leading to career and organizational development. Teachers must analyze their needs and requirements for development. When knowledge and skills are acquired according to objectives, that knowledge is used to develop learners to achieve the defined goals (Chumjit, 2010; Tangchitsomkit, 2014; Institute for the Development of Teachers, 2014; Office of the Royal Society, 2015; Phujib, 2016; Suwanma, 2017; Angnoi, 2020; Office of the Education Council, 2020; Suwan, 2022; Lee and Owens, 2000; Damanpour, 1991). Teachers have basic knowledge within themselves and potential through past learning experiences. Teachers are ready to learn if that knowledge can solve problems they encounter and lead to self-development (Watanawong, 2012; Sakcharoen, 2015; Bangkok Metropolitan Administration Civil Service Training Institute, 2016; Boonsanong and Sukontachit, 2017).

Developing teachers to have competency-based learning management abilities requires needs assessment (Wongvanich, 2015), which helps clearly identify issues for teacher development. This can lead to designing and developing effective and targeted teacher training programs. For assessing the needs for teacher development to promote competency-based learning management, the researcher has analyzed the current state of teachers by studying their ability to analyze learners and curricula, their ability to design competency-based learning management, their ability to implement competency-based learning management, and their ability to measure and evaluate learning management. The researcher has also studied teachers' needs for developing competency-based learning management abilities in each area, then analyzed the differences between the current state and the desired state to determine which areas teachers still need development in, to plan and define approaches for training or developing teachers' knowledge. This needs assessment process will help determine effective teacher development approaches, promoting teachers' ability to adapt and develop competency-focused teaching appropriate to rapidly changing social contexts, leading to long-term educational quality development (Wongvanich, 2015).

Objective
To assess the needs for developing competency-based learning management abilities of teachers under the Chiang Mai Primary Educational Service Area Office 2.

Expected benefits
To understand the needs of teachers in the Chiang Mai Primary Educational Service Area Office 2 for teacher development that promotes competency-based learning management abilities. This information will be used for planning and establishing appropriate teacher development guidelines that align with teachers' needs.

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Conceptual Framework

For the assessment of needs in teacher development to promote competency-based learning management abilities of teachers under the Chiang Mai Primary Educational Service Area Office 2, the researcher has conducted a study of related documents and research as follows:
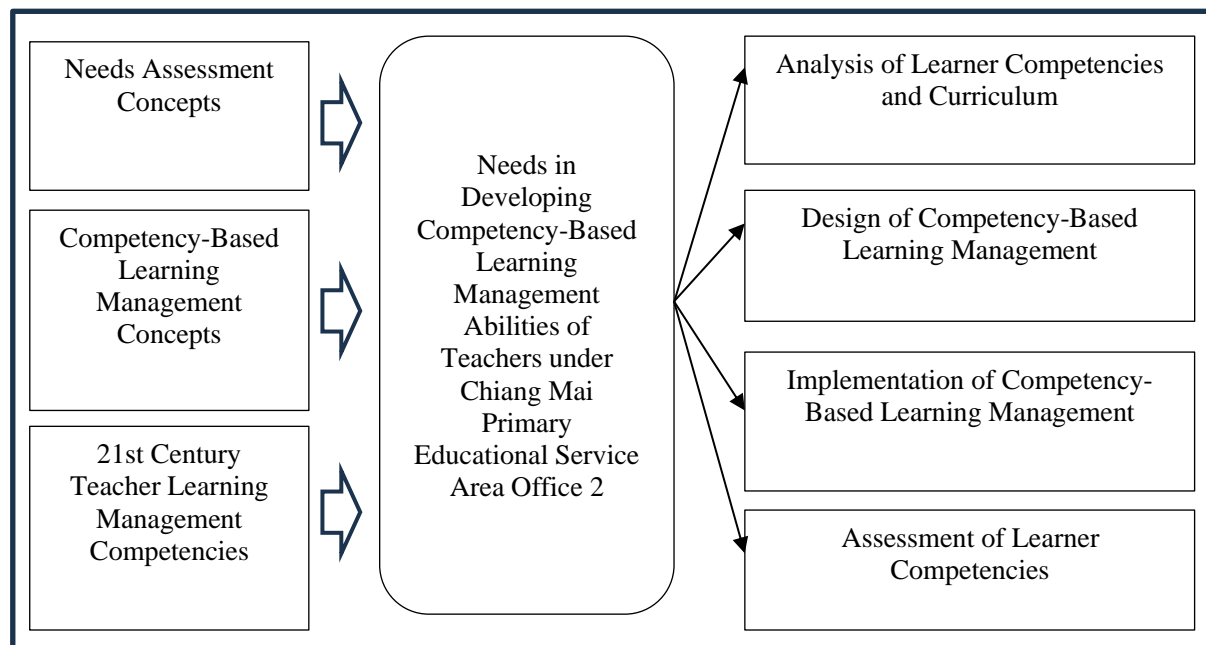
Figure 1 Research Conceptual Framework

Research Methodology

Population and Sample

Population: Teachers under the Chiang Mai Primary Educational Service Area Office 2 in the first semester of the 2024 academic year. These include teachers from 5 districts: Mae Rim District, Mae Taeng District, San Sai District, Samoeng District, and Phrao District.

Sample: Teachers under the Chiang Mai Primary Educational Service Area Office 2 in the first semester of the 2024 academic year, obtained through two-stage sampling. Stage 1: Stratified random sampling of schools using districts as strata, resulting in the following: Mae Rim District group, San Sai District group, Samoeng District group, and Phrao District group with 1 school from each district, and 2 schools from Mae Taeng District group. This resulted in a sample of 6 schools. Stage 2: Simple random sampling of teachers from the schools obtained in the first stage, proportional to the number of teachers in each school, resulting in a total of 72 teachers.

Research Instruments

The research instrument used in this study was a needs assessment form for teacher development to promote competency-based learning management abilities. It was divided into 4 aspects, using a 5-level rating scale with a dual-response format, consisting of 39 items. The Index of Items and Objectives Congruence (IOC) ranged from 0.60 to 1.00. The instrument development process was as follows:

1. Study concepts and theories related to components of competency-based learning management abilities and needs assessment.

2. Establish a conceptual framework and study issues in assessing the needs for teacher development to promote competency-based learning management abilities in 4 aspects: 1) Analysis of learner competencies and curriculum, 2) Design of competency-based learning, 3) Implementation of competency-based learning management, and 4) Assessment of learner competencies.

3. Create a needs assessment form for teacher development to promote competency-based learning management abilities, divided into 4 aspects, using a 5-level rating scale with a dual-response format, consisting of 39 items. Then, have 5 experts examine the content validity by finding the Index of Items and Objectives

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Congruence (IOC). It was found that the items had values ranging from 0.60 to 1.00. Each item should have an IOC value of 0.5 or higher to be considered usable in the questionnaire (Kanjanawasee, 2013). Additionally, the researcher improved the clarity and objectivity of the questions based on expert recommendations.

4. Finalize the needs assessment form for teacher development to promote competency-based learning management abilities for data collection with the sample.

Data Analysis

The results from the needs assessment form for teacher development to promote competency-based learning management abilities of the sample were coded and entered into a software program. The analysis and prioritization of data were conducted using the modified Priority Needs Index ($PNI_{Modified}$) (Wongvanich, 2015). Any assessment item with a $PNI_{Modified}$ index value of 0.3 or higher was considered a necessary need. The prioritization of needs was done by considering the items with the highest $PNI_{Modified}$ index values in descending order to the items with the lowest $PNI_{Modified}$ index values.

Research Results

The assessment of needs for teacher development to promote competency-based learning management abilities of teachers under the Chiang Mai Primary Educational Service Area Office 2 revealed that in all 4 aspects, teachers have needs for development. From the teacher survey, the aspect that requires urgent development is the design of competency-based learning management with a $PNI_{Modified}$ index of 0.48, followed by the analysis of learner competencies and curriculum with a $PNI_{Modified}$ index of 0.47, and the assessment of learner competencies with a $PNI_{Modified}$ index of 0.44. The last aspect is the implementation of competency-based learning management with a $PNI_{Modified}$ index of 0.40, respectively. The needs for teacher development to promote competency-based learning management abilities across different indicators have $PNI_{Modified}$ values ranging from 0.30 to 0.80. The indicators with the highest $PNI_{Modified}$ values, which teachers urgently need to develop, are, in order: selecting appropriate learning technologies for developing learner competencies; using assessment results to improve teachers' learning management to promote learner competencies; analyzing learning resources to help develop learner competencies; and selecting appropriate learning media for developing learner competencies. The results are shown in Table 1.

Table 1 Needs for Teacher Development to Promote Competency-based Learning Management Abilities, Classified by Main Components

Needs Aspect	D	I	$PNI_{Modified}$	Rank
1. Analysis of learner competencies and curriculum	3.12	4.58	0.47	2
2. Design of competency-based learning management	3.11	4.59	0.48	1
3. Implementation of competency-based learning management	3.31	4.64	0.40	4
4. Assessment of learner competencies	3.22	4.65	0.44	3

From Table 1, it is found that the needs for teacher development to promote competency-based learning management abilities according to the main components in all aspects have $PNI_{Modified}$ values ranging from 0.40 to 0.48. The component with the highest $PNI_{Modified}$ value, which teachers urgently need to develop, is the design of competency-based learning management, followed by the analysis of learner competencies and curriculum, and the assessment of learner competencies. The last aspect is the implementation of competency-based learning management, respectively.

The assessment results of needs for teacher development to promote competency-based learning management abilities in the analysis of learner competencies and curriculum aspect are shown in Table 2.

Table 2 Needs for Teacher Development to Promote Competency-based Learning Management Abilities in the Analysis of Learner Competencies and Curriculum Aspect

Needs Aspect	D	I	$PNI_{Modified}$	Rank
1. Analysis of learner characteristics	3.03	4.45	0.47	2
2. Analysis of curriculum	3.14	4.55	0.45	3
3. Analysis of learning environment	3.16	4.69	0.48	1

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From Table 2, it is found that the needs for teacher development to promote competency-based learning management abilities according to the analysis of learner competencies and curriculum component have $PNI_{Modified}$ values ranging from 0.45 to 0.48. The indicator with the highest $PNI_{Modified}$ value, which teachers urgently need to develop, is the analysis of learning environment, followed by the analysis of learner characteristics, and finally, the analysis of curriculum, respectively.

The assessment results of needs for teacher development to promote competency-based learning management abilities in the design of competency-based learning management aspect are shown in Table 3.

Table 3 Needs for Teacher Development to Promote Competency-based Learning Management Abilities in the Design of Competency-based Learning Management Aspect

Needs Aspect	D	I	$PNI_{Modified}$	Rank
1. Setting learning goals and learner competencies	3.05	4.51	0.48	3
2. Designing formats, techniques, and methods of learning management that promote learner competencies	3.06	4.64	0.52	2
3. Determining media, learning resources, and technology for learning management	2.99	4.67	0.56	1
4. Determining methods for measuring and evaluating learning that focus on competencies	3.34	4.56	0.36	4

From Table 3, it is found that the needs for teacher development to promote competency-based learning management abilities in the design of competency-based learning management aspect for each indicator have $PNI_{Modified}$ values ranging from 0.36 to 0.56. The indicator with the highest $PNI_{Modified}$ value, which teachers urgently need to develop, is determining media, learning resources, and technology for learning management, followed by designing formats, techniques, and methods of learning management that promote learner competencies, then setting learning goals and learner competencies, and finally, determining methods for measuring and evaluating learning that focus on competencies, respectively.

The assessment results of needs for teacher development to promote competency-based learning management abilities in the implementation of competency-based learning management aspect are shown in Table 4.

Table 4 Needs for Teacher Development to Promote Competency-based Learning Management Abilities in the Implementation of Competency-based Learning Management Aspect

Needs Aspect	D	I	$PNI_{Modified}$	Rank
1. Organizing active learning processes that focus on learner competencies	3.39	4.65	0.37	3
2. Using media, learning resources, and learning management technologies that help learners achieve competencies	3.28	4.62	0.41	2
3. Integrating local identity, future scenarios, and phenomena in learning management	3.31	4.65	0.49	1

From Table 4, it is found that the needs for teacher development to promote competency-based learning management abilities in the implementation of competency-based learning management aspect for each indicator have $PNI_{Modified}$ values ranging from 0.37 to 0.65. The indicator with the highest $PNI_{Modified}$ value, which teachers urgently need to develop, is integrating local identity, future scenarios, and phenomena in learning management, followed by using media, learning resources, and learning management technologies that help learners achieve competencies, and finally, organizing active learning processes that focus on learner competencies, respectively.

Table 5 Needs for Teacher Development to Promote Competency-based Learning Management Abilities in the Assessment of Learner Competencies Aspect

Needs Aspect	D	I	$PNI_{Modified}$	Rank
1. Conducting measurement and evaluation	3.33	4.66	0.40	2
2. Evaluating results from competency measurement	3.35	4.54	0.35	3
3. Using competency assessment results to develop and improve learning	2.97	4.74	0.59	1

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From Table 5, it is found that the needs for teacher development to promote competency-based learning management abilities in the assessment of learner competencies aspect for each indicator have $PNI_{Modified}$ values ranging from 0.35 to 0.59. The indicator with the highest $PNI_{Modified}$ value, which teachers urgently need to develop, is using competency assessment results to develop and improve learning, followed by conducting measurement and evaluation, and finally, evaluating results from competency measurement, respectively.

Summary of the Study

Overall, teachers have needs for developing competency-based learning management abilities in all aspects. Ranking the importance and urgency for teacher development from highest to lowest is as follows: 1) Design of competency-based learning management ($PNI_{Modified} = 0.48$), 2) Analysis of learner competencies and curriculum ($PNI_{Modified} = 0.47$), 3) Assessment of learner competencies ($PNI_{Modified} = 0.44$), and 4) Implementation of competency-based learning management ($PNI_{Modified} = 0.40$). From the analysis of $PNI_{Modified}$ values, all aspects have values higher than 0.30, indicating that teachers have needs for developing competency-based learning management abilities in all aspects.

Discussions

The assessment of needs for teacher development to promote competency-based learning management abilities of teachers under the Chiang Mai Primary Educational Service Area Office 2 has results that align with related theories and research, which can be discussed as follows:

From the research results, the design of competency-based learning management is the aspect with the highest necessary need for development ($PNI_{Modified} = 0.48$), reflecting that teachers still need to develop their ability to design learning that focuses on learner competencies, especially in determining media, learning resources, and technology for learning management ($PNI_{Modified} = 0.56$). This aligns with the research of Wichai Wongyai and Marut Patphol (2020), which found that competency-based learning design must connect with learners' real lives and must use diverse and modern media and technology, which is challenging for teachers today. This may be due to the rapid changes in digital technology and learning media, requiring teachers to adapt and develop skills in designing learning that uses technology to support the development of learner competencies. This aligns with the concept of Pornchonee Phoomchaiya (2021), which states that competency-based learning management requires appropriate media and technology to help learners develop competencies effectively.

For the analysis of learner competencies and curriculum aspect, it ranks second in needs ($PNI_{Modified} = 0.47$), especially in the analysis of learning environment ($PNI_{Modified} = 0.48$), reflecting that teachers need to develop their ability to analyze learning contexts that facilitate the development of learner competencies. This aligns with the research of Ronthichai Sawat and Rattana Buasont (2022), which found that competency-based learning management must consider environments conducive to learning and consistent with learners' social and cultural contexts. This is because competency-based learning management must connect with real conditions and learner contexts, making the analysis of learning environments important for designing appropriate learning activities. This aligns with the concept of the Office of the Education Council (2020), which emphasizes that competency-based learning management must respond to the differences and diversity of learners, contexts, and social environments.

For the assessment of learner competencies aspect, it ranks third in needs ($PNI_{Modified} = 0.44$), especially in using competency assessment results to develop and improve learning ($PNI_{Modified} = 0.59$), which has the highest needs index value across all sub-components. This reflects that teachers need to develop their ability to use assessment results to improve teaching and learning. This aligns with the concept of Wichai Wongyai and Marut Patphol (2020), which emphasizes assessment for learning rather than assessment for judgment. This is because competency assessment is a complex process and different from traditional assessments that focus on knowledge. Teachers therefore need to develop their ability to use assessment results to continuously improve student learning. This aligns with the concept of the Office of the Education Council (2020), which emphasizes assessment for learner development and reduces assessment for judgment or competition.

For the implementation of competency-based learning management aspect, it ranks last in needs ($PNI_{Modified} = 0.40$). However, the $PNI_{Modified}$ value is still higher than 0.30, indicating that teachers still have

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needs for development in this aspect as well, especially in integrating local identity, future scenarios, and phenomena in learning management ($PNI_{Modified}$ = 0.49). This aligns with the concept of Waraporn Boonthong and Duangchan Diaovilai (2021), which emphasizes learning management that connects with local contexts and learners' real lives. This is because competency-based learning management aims to develop learners who can apply knowledge in real life, making the integration of local identity and current situations important in creating meaningful learning for students. This aligns with the concept of Chonnatee Chamnankit (2017), which states that effective learning management must connect with learners' contexts and experiences.

Recommendations

Recommendations for Applying Research Results

1. The Chiang Mai Primary Educational Service Area Office 2 should develop a teacher development plan focusing on developing competency-based learning management abilities according to the priorities found in the research, especially developing skills in designing competency-based learning management, particularly in selecting appropriate media, learning resources, and technology, developing abilities to analyze learning environments and learner characteristics, and developing skills in using competency assessment results to improve learning.

2. Educational institutions should establish professional learning communities (PLC) to exchange knowledge and develop competency-based learning management together, support necessary resources and technological media for competency-based learning management, and promote internal supervision to develop teachers' abilities in competency-based learning management.

Recommendations for Future Research

1. There should be research and development (R&D) to create a training curriculum for developing competency-based learning management abilities for teachers that responds to the needs found in this research.

2. There should be participatory action research (PAR) to develop an internal supervision model that promotes teachers' competency-based learning management abilities.

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