HONG KONG JOURNAL OF SOCIAL SCIENCES

香港社會科學學報

第一的第 60 期 (2022 春/夏) Vol. 60 Autumn/Winter 2022

Open Access Article https://doi.org/10.55463/hkjss.issn.1021-3619.60.79

Upgrading the Potential with Competency-Based Learning Management Innovation Integration with Work to Enhance Students' Ability in Practice Teaching Professional Experience

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Received: December 23, 2022 ▪ Reviewed: January 25, 2023

▪ Accepted: February 2, 2023 ▪ Published: February 25, 2023

Abstract:
Purposes of the study are: (1) to develop novel approaches to competency-based learning management that are combined with activities that improve the competences of students in practice teaching professional experience and (2) to examine the outcomes of the integration of efforts to improve the competency of students in practice teaching professional experience with the transfer of competency-based learning management innovation. The sample group consisted of 50 members of the Faculty of Education of Phetchabun Rajabhat University in Thailand. Third-year-level pre-service student teaching practicum experience during the second semester of the academic year 2022 is achieved by a straightforward lottery draw. The study's methodology is research and development, and its tools include knowledge examinations, assessments for creating learning management systems, and interviews. Developing innovative learning management strategies based on competency-based work was discovered to be linked with curriculum analysis, student analysis, and competency-based learning management systems, which is the most suited. The research findings sparked innovation in competency-based learning management that was integrated with the workplace; students who had knowledge and skills of creating a competency-based learning management plan that was connected with their work were deemed to have practiced teaching professionally, after learning more than the required amount, a competency-based learning management system that is connected with work is created. Before embracing the innovation of competency-based learning management connected with work, teachers should look at how to use learning management plans to manage teaching and learning in a straight line while leveraging the research findings, promoting the learning management model should take the position of instructors who are in charge of organizing various learning activities to reach the desired goal.

Keywords: upgrading the potential, competency-based learning management innovation integration, enhancing students' ability.

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以能力为基础的学习管理创新提升潜能工作结合提升学生实践能力教学专业经验

摘要:
该研究的目的是：(1) 开发新的基于能力的学习管理方法，结合提高学生在实践教学专业经验中的能力的活动，以及(2)检查整合努力的结果，以提高 学生在实践教学中的胜任力与基于胜任力的学习管理创新的经验迁移。样本组由泰国碧差汶拉惹拔大学教育学院的 50 名成员组成。2022 学年第二学期的三年级职前学生教学实习经验是通过直接抽签获得的。该研究的方法是研究和开发，其工具包括知识考试、创建学习管理系统的评估和访谈。开发基于能力工作的创新学习管理策略被发现与最适合的课程分析、学生分析和基于能力的学习管理系统相关联。研究结果激发了与工作场所相结合的基于能力的学习管理的创新；具有创建与工作相关的基于能力的学习管理计划的知识和技能的学生被视为专业实践教学，在学习超过要求的数量后，与工作相关的基于能力的学习管理系统是 创建。在拥抱基于能力的学习管理与工作相结合的创新之前，教师应该看看如何利用学习管理计划来直线管理教与学，同时利用研究成果，促进学习管理模式应该站在教师的立场上 谁负责组织各种学习活动以达到预期目标。

关键词：提升潜能，以能力为基础的学习管理创新整合，提升学生的能力。

1. Introduction

The Secretariat of the National Strategy Committee (2018) claims that the 20-year National Strategy (2018–2037) states that human resources are a key factor in elevating the country's development in all dimensions toward the goal of becoming a developed country driven by wisdom and innovation in the following 20 years. Therefore, it is important to establish a systematic framework for the nation's human resource development, one that focuses on enhancing and advancing people of all ages, genders, and dimensions to become good, competent, and quality human resources, as well as prepared to advance the nation to its full potential. In which, "Thai people in the future must be prepared physically, mentally, and intellectually; they must also have good development in all aspects and have good health at all ages; they must have a public mind, be responsible to society and others; they must be frugal, frugal, benevolent, disciplined, maintain morals; they must be good citizens of the nation, including having the right principles, and possess the skills required for the 21st century and the ability to communicate in English and another language while maintaining the local tongue. They should also have the habit of learning new things and improving themselves constantly throughout their lives, so they can become skilled Thai people, innovators, thinkers, entrepreneurs, modern farmers, and others with careers suited to their individual specialties".

The means to improve the nation's educational management so that it complies with worldwide standards is reflected in the Education Council Secretariat's (2020) suggestion of 20 educational indicators "Thai educational competency in the international stage year 2020: IMD2020". There are recommendations for improving Thai education to increase the country's educational competitiveness and have a better level of educational competency in the global arena. This is consistent with and adheres to the national development objectives as stated in the master plan under the following national strategy; (1) it should place emphasis on the teaching and learning of mathematics, science, and reading, as well as on the development of children's critical thinking abilities, including their mastery of digital technology, it should also place emphasis on the creation and use of AI, and (2) at the vocational and higher education levels, a competency-based learning management system that connects problem-solving abilities with language proficiency, digital literacy, and technological proficiency should be established, in order to make Thai people excellent human resources and boost the nation's competitiveness, educational institutions and businesses or industries should work together to this end.

In addition, it is important for students to be ready to practice professional teaching experience to successfully manage teaching and learning in educational institutions in line with the rules of the Ministry of Education and satisfy the requirements of students and schools. By developing knowledge and understanding of competency-based learning management integrated with work before leaving the student teaching experience, by being able to apply the knowledge gained to teaching and learning to meet the needs of students effectively, and by doing so, to produce positive outcomes for educational institutions. In this regard, the researcher visited the area to participate in a learning exchange meeting with the school's administrators and teachers, by jointly analyzing the situation, problems, and needs for

educational development of small schools in Phetchabun Province in Thailand, the researcher discovered that there were issues with teachers not finishing classes, teachers not teaching in accordance with majors, students leaving before the end of the semester, and a lack of technology to develop teaching and learning. The learner's goal is to transform from a passive consumer of information to a motivated consumer of knowledge who actively seeks out practice opportunities to develop ideas and skills that are in line with aptitude and comprehension. However, this is consistent with the policies and plans of the Policy and Planning Group (2022) of the Phetchabun Primary Educational Service Area Office 3 with the following significant aims; (1) it addresses the issue of student dropout brought on by learning methods that are not appropriate for students in order to motivate them to pick up future abilities, (2) create possibilities, start a career, earn money while you're learning, and once you graduate, students may use the skills they've learned to support their family through a profession, (3) Creating a network between schools and communities would enable them to collaborate more effectively, this network will also enable information to be shared with kids by parents, experts, and community sages, inspiring them to become community innovators, (4) growth of reading and writing skills intensifies efforts to improve O-NET students' academic performance, (5) reducing educational disparities through learning management that emphasizes students' competences that develop in accordance with future skills is item number five, (6) establish a foundation for teacher development to meet educational standards as a learning manager to a professional teacher, with a focus on the necessity for teachers to transform into facilitators and promoters, to achieve effective learning, be a good model for learning, share ideas, share learning, solve problems, stimulate, guide, and organize learning exchanges for learners to create knowledge as well as themselves, to improve the quality of students with 2 years of school, and (7) improve the effectiveness of the school by offering competency-based learning management combined with work to provide measurable outcomes and serve as a good example for raising educational standards in order to accomplish the defined objectives.

Because of the aforementioned issues, the researchers became interested in exploring potential improvements through competency-based learning management innovation combined with work to improve the competency of students in practice teaching professional experience; this raises the quality of education and better satisfies the needs of learners for increased effectiveness.

1.1. Research Objectives

1) To create and develop innovation of competency-based learning management integrated with work to enhance the competency of students in practice teaching professional experience;

2) To study the results of the transfer of competency-based learning management innovation integrated with work to enhance the competency of students in practice teaching professional experience.

2. Research Methodology

The following research approaches were used in this study:

Step 1: Creating cutting-edge competence-based learning management integrated with the task of improving the competency of students in practice teaching professional experience, which are outlined as follows:

2.1. Key Informants

Key informant, namely two supervisors and three instructors, who were chosen using particular random techniques, which must have the following qualifications: (1) to study supervisors with special expertise and have experience as an educational supervisor for not less than 10 years and (2) a teacher with special expertise and teaching experience of not less than 10 years. Purposive sampling, on the other hand, refers to the selection of a sample based on the researcher's own opinion and whose features are picked in line with the research's aims, which is purposeful sampling necessitates knowing the researcher's own skills and experience; therefore, the researchers must have a great deal of expertise and information for that subject. However, because of the restrictions placed on purposive selection, it is impossible to tell if the features of the chosen sample will remain constant over time.

2.2. Research Tools

1) Interview form for competency-based learning management needs that is integrated with one copy of the work; content validity is 0.66–1.00;

2) An innovative learning management system for competence-based learning management combined with work to improve the competency of students in practice teaching professional experience, 5-lesson plan for 10 h.

2.3. Data Collection

1) Obtaining information from interviewees on the necessity of creating a competence-based learning management system that is connected with efforts to improve the competency of students in practice teaching professional experience;

2) Synthesis of the work for students' practice teaching professional experience merged with the development needs for competency-based learning management systems;

3) Creating a creative learning management plan for competence-based learning management that is connected with the task of improving the competency of students in practice teaching professional experience, which includes 5 lesson plans and takes a total of 10 hours;

4) Bringing the cutting-edge learning management system, competence-based learning management, combined with the work to improve the competency of students in practice teaching professional experience, and having five experts evaluate its applicability;

5) Applying the innovation of competency-based learning management to integrate with the work in improving the competency of students in practice teaching professional experience that has been evaluated for efficiency (E1/E2) with the students' practice teaching professional experience group, subgroups of 9 people, and field groups of 35 people.

2.4. Data Analysis

1) Averaging and the standard deviation are used to assess whether the learning management system is suitable for the creative management of competence-based learning linked with activities to improve the competency of students in practice teaching professional experience, which has the following interpretation criteria (Wongrattana, 2007):

- Average 4.50–5.00 means most appropriate;
- Average 3.50–4.49 means very appropriate;
- Average 2.50–3.49 means moderately suitable;
- Average 1.50–2.49 means less suitable;
- Average 1.00–1.49 means least appropriate.

2) Finding the values of E1/E2 allows for the efficiency determination of the creative learning management plan, competence-based learning management linked with work in strengthening the competency of students in practice teaching professional experience.

Step 2: Implementing innovations in competency-based learning management with efforts to improve the skills of students in practice teaching professional experience.

2.5. Population and Sample

1) The population is the 100 pre-service student teachers participating in the practicum experience in the Faculty of Education of Phetchabun Rajabhat University during the third year, the second semester, and academic year 2022.

2) The sample group consisted of 50 members of the Faculty of Education of Phetchabun Rajabhat University. Third-year-level pre-service students' teaching practicum experience during the second semester of the academic year 2022 is achieved by a straightforward lottery draw.

2.6. Research Tools

1) The knowledge assessment test on competency-based learning management was constructed in a multiple-choice form with four options, 30 items, with content validity of 0.66-1.00, difficulty of 0.20-0.80, power of discrimination of 0.20-0.80, and the confidence value is 0.88.

2) The content validity ranged from 0.66 to 1.00 for one copy of the competency-based learning management plan evaluation form linked with work.

2.7. Experimental Process and Data Collection

One group pretest posttest design (Kaiyawan, 2016, p. 78), which has the following steps:

1) Taking a pre-service knowledge test with students' practice teaching professional experience at the Phetchabun Rajabhat University Faculty of Education in the second semester of the academic year 2022; there will be 50 participants, and the test will have 30 questions and a 30-minute time limit.

2) Developing knowledge and understanding of competence-based learning management while integrating activities to improve the competency of the pre-service student teaching practicum, which lasts for a total of 4 h.

3) Using a 5-lesson plan that lasts for 4 h, designing and developing a competency-based learning management plan that is connected with work to improve the skills of students in practice teaching professional experience.

4) Record development activities and competency-based learning management are integrated with work to improve the competency of students in practice teaching professional experience.

5) Evaluating the learning management plan for competency-based integration with work in the amount of 5 lesson plan, totaling 10 h.

6) After the end of the competency-based learning management integrated with the work to enhance the competency of students in practice teaching professional experience, taking a post-test of students' practice teaching professional experience in the Faculty of Education of Phetchabun Rajabhat University during the third year, second semester, and academic year 2022, a total of 50 students with a test of 30 questions, taking 30 minutes.

2.8. Data Analysis

1) To improve the competency of students in practice teaching professional experience, knowledge and comprehension of competency-based learning management have been compared before and after learning using a t-test for dependents.

2) The capacity to create a competence-based learning management plan that is integrated with activities to improve the competency of students in practice teaching professional experience was compared to the criteria of 80percent using the t-test for one sample.

This study is an example of research and development, a sort of action research that uses a methodical research approach to create new approaches or alternatives to enhance the standard of living or the quality of the workplace, which creates and develops innovative, competency-based learning management integrated with work to improve students' competency in their practice as teachers and studies the outcomes of transferring such learning management innovation

competency-based and integrated with work to improve students' capacity in their practice as teachers. The authors presented a flowchart of the study implementation and specifics of the study implementation process with an overview of each phase as follows for the study operation in all steps indicated above.

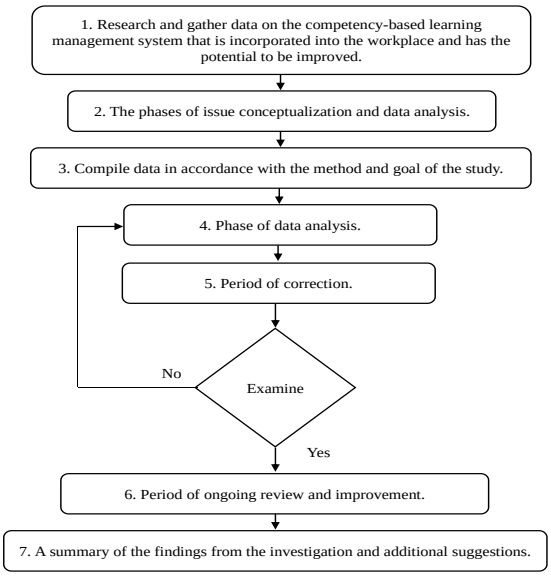

Figure 1. The study flowchart

3. Research Results

In this research, the research team conducted research according to the research objectives in the following order:

1. The following are the outcomes of the development and establishment of a competence-based learning management innovation combined with efforts to improve the competency of students in practice teaching professional experience:

1.1. Experts evaluating the appropriateness of the learning management innovation on the competency-based integration with work found that the overall picture was appropriate at the highest level with a mean of 4.60 and a standard deviation of 0.50 because of developing innovative competency-based learning management integrated with work to enhance the competency of students in practice teaching professional experience.

1.2. The outcomes of integrating efforts to improve the competency of students in practice teaching professional experience with the creation of competency-based learning management innovation are as follows:

Table 1. The efficacy of an innovative learning management strategy, a competence-based learning management system combined with efforts to improve the competency of students in practice teaching professional experience (Developed by the authors)

Lesson Plan	Score During Study (E_1)						Measurable Score After Learning (E_2)
	1	2	3	4	5	Total Score	
full score	20	20	20	20	20	100	30
total score	568	570	573	578	572	2,861	863
average	16.22	16.28	16.37	16.51	16.34	81.74	24.65
percentage	81.14	81.42	81.85	82.57	81.71	81.74	82.19
E_1/ E_2	81.74/82.19						

It was discovered from Table 1 that the mean score obtained during learning using competence-based learning innovation combined with work to improve the competency of students in practice teaching professional experience is 81.74 or 81.74 percent, and to improve the competency of students in practice teaching professional experience, the average accomplishment score after learning using the innovation of competency-based learning management linked with work is 24.65, which is 82.19 percent. In other words, a competence-based learning management innovation that combines effort to improve the competency of students in practice teaching professional experience fulfills the stated 80/80 efficiency requirements with an efficiency of 81.74/82.19.

2. The outcomes of implementing an innovative competence-based learning management system together with efforts to improve the competency of students in practice teaching professional experience are as follows:

2.1. The outcomes of the students who gained knowledge and understanding of competence-based learning management combined with efforts to improve the competency of students in practice teaching professional experience were as follows:

Table 2. Comparing outcomes of cognitive management, competence-based learning management, and activities to improve the competency of students in practice teaching professional experience observed throughout the pre-test and post-test (Developed by the authors)

Test	n	Score	$\bar{X}$	S.D.	$\bar{D}$	t	p-value
Pre-test	50	30	19.58	1.08	6.78	60.68	.00
Post-test	50	30	26.36	0.82			

*p<.01

It was discovered from Table 2 that students in practice teaching professional experience had knowledge and understanding of the integrated competency-based learning management with work before and after learning using the cutting-edge competency-based learning management integrated with work, with an average score of 19.58 points and 26.36 points, respectively. In addition, it was discovered that students in practice teaching professional experience had knowledge and understanding of integrated competency-based learning management and post-learning work at a statistically significant higher level than before when comparing pre-service and post-learning scores.

2.2. The findings of combining students' practice teaching professional experience with the capacity to create a competence-based learning management plan with efforts to improve the competency of students in practice teaching professional experience were as follows:

Table 3. Comparing the outcomes of the ability to develop a lesson plan with a score of 80 percent on the post-test (Developed by the authors)

Test	n	Score	$\bar{X}$	S.D.	μo(80percent)	t	p-value
post-test	50	250	214.02	2.81	200	35.27	.00

*p<.01

It was discovered from Table 3 that the ability to develop a competency-based learning management plan that is connected with work has an average score of 214.02 or 85.60 percent for students' practice teaching professional experience, and when comparing the criteria and 80 percent, it was discovered that students in practice teaching professional experience had the capacity to create a competency-based learning management plan integrated with after-school employment higher than the criteria of 80 percent, statistically significant at the level .01.

The findings are in line with data from Starfish Academy (2022), which showed that performance-based learning management innovation development activities foster an understanding of design thinking, that innovation is something more valuable and usable than invention, and that innovation can be useful across a wide range of groups and industries. In any case, the most important aspect of developing and creating a competency-based learning management innovation that is integrated with work is that it complies with the requirements, can be used in practice, and can be done. In terms of innovation, it can be tested and used to solve problems effectively, which can then be modeled and expanded. The creation and development of educational innovation, which includes curriculum, teaching, learning, learning media, measurement, evaluation, and management, which is an overview of the school's management actions according to the context or school condition, is at the core of innovative design thinking, competency-based integration with work, and learning management innovation.

4. Summary and Discussion

4.1. Summary

The following is a summary of the findings from the research that is in accordance with the goals of the study:

1. The following are the outcomes of the development and establishment of a competence-based learning management innovation combined with work to improve the competency of students in practice teaching professional experience:

1.1. It was discovered that the overall picture was appropriate at the highest level, with a mean of 4.60 and a standard deviation of 0.50, after the development of innovation in competency-based learning management integrated with work to improve the competency of students in practice teaching professional experience.

1.2. It was determined that the creation of an innovative competence-based learning management system, when combined with efforts to improve the competency of students in practice teaching professional experience, was successful as 81.74/82.19, which satisfies the stated 80/80 efficiency criterion.

As a result, the creative competence-based learning management system designed and developed in conjunction with the task of improving the competency of students in practice teaching professional experience is suitable and effective in accordance with the stipulated criteria, and it can be used.

2. The following are the outcomes of the integration of effort to improve the competency of students in practice teaching professional experience with innovation transfer in competency-based learning management:

2.1. At a statistical significance level of .01, students' practice teaching professional experience showed that knowledge and comprehension of competency-based learning management integrated with work were greater after learning than before learning.

2.2. Students in practice teaching professional experience had greater capacity to design a competency-based learning management plan linked with work after learning than the 80 percent threshold at the statistical significance level of .01.

Therefore, the results of the transfer of innovative competency-based learning management integrated with work to enhance the competency of students in practice teaching professional experience in terms of cognition, competency-based learning management integrated with work, found that their knowledge and understanding after learning were higher than before, at the statistical significance level of .01, and it was discovered that after school was higher than the threshold of 80 percent with statistical significance at the .01 level for the capacity to develop a learning management plan based on competencies linked with work.

4.2. Discussion

Based on the research findings, the following intriguing topics need discussion considering the study's goals:

1. The outcomes of the creation and development of competency-based learning management innovation combined with efforts to improve the competency of students in practice teaching professional experience by studying the theoretical concepts, data recording, group discussions, and interview; learning management development needs the competency base from reviewing the findings of expert research on competency-based learning management, which led to concepts for generating innovations for competency-based learning management integrated with work acceptable at the highest level. This is in line with the research of Sermboonpaisan (2019), which discovered that the development of teaching and learning processes based on the concept of strategic planning and unconventional thinking to promote graduate students' capacity to create chemical innovation is at a high level.

Klomim (2021) discovered that (1) the fundamental information for developing a learning management model revealed that the level of a lot was appropriate for curriculum analysis, student analysis, and the

preparation of a learning management plan, and (2) the results of constructing and examining the quality of the learning management model consist of five components: principles, objectives, learning content, learning activities, learning measurement and evaluation. However, there are four stages in the process of organizing learning activities: Stage 1 is implosion from within, Stage 2 is participation, Stage 3 is holistic, and Stage 4 is reflection of knowledge, and in accordance with the research results of Singhachotsukphaet (2020) to build a sense of commitment to citizenship among high school students, it was discovered that the construction of a learning management model outside of the virtual environment in conjunction with community-based learning management is acceptable at a high level.

1.1. The competence-based learning management innovation that was combined with efforts to improve the competency of students in practice teaching professional experience was successful as measured by 81.74/82.19, which satisfies the required 80/80 efficiency requirement. However, because the study was conducted step by step in accordance with the research process, beginning with an analysis of the need to develop a competency-based learning management integrated with work from knowledge and to design and create management innovations learn competency bases integrated with work to improve the competencies of students in practice teaching professional experience, by passing experts to take into account as well as to determine the success of students' practice teaching professional experience, which is not a sample until the performance satisfies the required standards. According to Chamniyon (2021), an application environment with cloud technology and a learning management system that is based on the learning model and uses local wisdom learning resources as a basis achieves an effectiveness score of 83.16/85.50.

2. The outcome of the integration of innovation in competence-based learning management with efforts to improve the competency of students in practice teaching professional experience.

2.1. Students in practice teaching professional experience had knowledge and understanding of competency-based learning management integrated with work after learning higher than before learning at the statistical significance level of .01, students' practice teaching professional experience is intended, however, until knowledge and understanding of integrated competency-based learning management is realized with work because the method of transferring innovative competency-based learning management integrated with work is interesting. This is in line with research by Klomim (2020), who discovered that pre-service student teachers who participated in a practicum had knowledge and understanding of learning management methods that was higher after learning than it was before learning at the statistical significance level of .05, and Klomim (2021) also found that students in practice teaching professional experience had knowledge and understanding of learning management methodology after learning higher than before learning at the statistical significance level of .01, taking into consideration the study by Phothidong (2017), which discovered that students' knowledge and understanding of learning design were considerably greater after learning than before learning at the .05 level. In addition, it is consistent with Singhachotsukphaet (2020), which discovered that students who learn using the virtual outdoor learning management model in conjunction with community-based learning management have higher scores after learning than before the statistically significant class .01.

2.2. After learning more than 80 percent of the criteria at the .01 level of statistical significance, pre-service student-teachers participating in a practicum could create a competency-based learning management plan that was integrated with their work, although until students in practice teaching professional experience can write a learning management plan, due to the transfer of innovation, competency-based learning management integrated with work, and promoting skills and practice in activities that focus on learning that develop the students' competency. According to a study by Klomim (2020), students in practice teaching professional experience had a post-learning management plan writing competency that was greater than the 80 percent threshold with statistical significance at the .05 level. In another study by Klomim (2021), it was shown that pre-service student teachers who had completed their practicums could produce post-learning management plans that were statistically substantially better than the threshold of 80 percent at the level .01, Phothidong (2017) discovered that 82.13 percent of pre-service student teachers completed their practicum experiences with the ability to write a learning management plan, which was significantly higher than the .05 level statistical cutoff of 80 percent. This is because innovation in competency-based learning management integrates with work that enables learners to produce work from knowledge-based local learning resources that can be used to solve problems in real life and in the organization of learning activities that know step-by-step, making students in practice teaching professional experience more competent in creating lesson plans.

The findings of this study formed the basis of policy recommendations for the formulation of guidelines to address issues within the idea of operations to build a foundation for improving learner quality and the acquisition of virtue, intelligence, and enjoyment. The learner must be the center of attention to transform from a passive to an active learner, to actively seek out information and practice developing knowledge, concepts, and abilities in various domains in accordance with aptitude, potential, and comprehension. As a result, the research's conclusions are now used as policy guidelines for maximizing potential through creative competency-based learning

management combined with efforts to improve student practice teaching professional experience. This improves the quality of education by better meeting the needs of students and leads to increased effectiveness.

5. Suggestions

5.1. Suggestions for Applying the Research Results

1) Instructors should review the teaching guidelines connected to the content and use of learning management plans to manage teaching and learning in accordance with the purpose before implementing the learning management innovation on competency-based work.

2) It is recommended that teachers use the learning management model as an option to plan different kinds of learning activities.

5.2. Suggestions for Further Research

1) This trial was a single-group trial that collected data before, after, and throughout the study, subsequent studies should investigate the findings using an experimental research model that contrasts studies between experimental and control groups, in order to more clearly understand the factors influencing information literacy in the context of community and participation in learning.

2) At order to establish a professional learning community in a school that society requires, the researcher's work on competency-based learning management should be merged with the work he or she produced to try with other topics.

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