

The Development of Phenomenon-Based Learning Model for Enhancing Active Learning Competencies of Teacher Students

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Abstract

The objectives of this research were 1) to study the components of an active learning competencies of teacher students; 2) to develop Phenomenon-Based Learning Model for enhancing Active learning competencies of Teacher Students; and 3) to study the effect of Phenomenon-Based Learning Model for enhancing Active learning competencies of Teacher Students. The research was divided into 3 phases as follows: Phase 1 studied the components of an active learning competencies of teacher students, the sample group used in the research were students in the Bachelor of Education program, 500 undergraduate students in the second and fifth year of the academic year 2020 in under the Bunditpatanasilpa Institute, Ministry of Culture. It was given in accordance with the rules for analyzing the form of structural equation and using multistage randomization to select a sample. The research instruments consisted of an interview form and the questionnaire was a 5-level estimation scale with a confidence value of 0.84. The statistics used in the data analysis were confidence determination, explorative factor analysis and confirmatory factor analysis by using a computer program. Phase 2: developed Phenomenon-Based Learning Model for enhancing Active learning competencies of Teacher Students, from the results of the Phase 1 study together with the results of the synthesis of related theories and check the suitability by a group discussion of 9 experts. The results of the investigation revealed that the developed model was suitable and it was possible to implement it and assessed by an assessment form by 9 experts again, it was found that the instructional model was appropriate at the highest level ($\bar{X} = 4.51$, S.D. = 0.42). Phase 3: studied the effect of Phenomenon-Based Learning Model for enhancing Active learning competencies of Teacher Students, It was using experimental research methodology. The sample group used in the research were students in the Bachelor of Education program, 30 undergraduate students in fourth year of the academic year 2020 in under the Lopburi College of Dramatic Arts, Bunditpatanasilpa Institute, Ministry of Culture. This was obtained by multistage randomization using a 10-week, 30-hour trial by collect data with an active learning competency assessment form, active learning competency test and a questionnaire on the opinions of students. The statistics used in the data analysis were Percentage, Mean, Standard Deviation and statistic for hypothesis testing such as t-test statistic. The results showed that 1) Components of an active learning competencies of teacher students consisted of 5 components, namely, learning activities, media development and learning innovation, learning design, measuring and evaluating learning outcomes and the preparation of a learning management plan by structural accuracy was obtained from the factor analysis. It can be represented by a conformance index value: $\chi^2 = 296.76$, $df = 127$, $p\text{-value} = 0.00000$, $RMSEA = 0.052$, $GFI = 0.94$, $AGFI = 0.91$, $CFI = 1.00$, $SRMR = 0.018$ and $CN = 274.12$. 2) Phenomenon-Based Learning Model for enhancing Active learning competencies of Teacher Students consisting of concepts, theories, principles, objectives, and learning management and measurement and evaluation

to enhance an active learning competencies of teacher students in 5 areas, comprising learning activities, media development and learning innovation, learning design, measuring and evaluating learning outcomes and the preparation of a learning management plan. There were 5 steps of learning management as follows: 1) Recognition Problem Step, 2) Eliciting Brain Storm Step, 3) Assessing for Value Adding Step, 4) Development Outcomes Step, 5) Sharing to Society Step, and it was measured and evaluated by the active learning competency assessment form and the active learning competency test. 3) The effect of Phenomenon-Based Learning Model for enhancing Active learning competencies of Teacher Students found that the teacher students who studied using the phenomenon-based learning to enhance an active learning competencies of teacher students. The overall an active learning competency was at a very good level ($\bar{X} = 3.56$, S.D. = 0.07). The scores on an active learning competency test after study were statistically significantly higher than before at the .05 level. The score of an active learning competency after study was higher than the 70 percent criteria with statistical significance at the .05 level and students' opinions on the phenomenon-based learning to enhance an active learning competencies of teacher students. The overall instructional model was at the highest level ($\bar{X} = 4.81$, S.D. = 0.12)

Keywords: The Development of Learning Model, Phenomenon-Based Learning, Active Learning Competencies, Teacher Students

I. INTRODUCTION

In the study of the reforms in the study of the year 1999 to provide a complete system-wide teacher reform as defined in Section 7, teachers, faculty members and educational personnel, Article 52 states that the Ministry shall promote a system production processes, development of teachers, faculty members and educational personnel to have quality and standards suitable for being a high-professional by directing and coordinating with institutions responsible for producing and developing teachers, faculty members, and educational personnel to be ready and have strength in preparing new personnel continuous personnel development. However, the development of teaching graduates must be consistent with the policy of Office of the Higher Education Commission as an agency to regulate and promote the operation of higher education institutions that has carried out a project to create a framework for qualifications standards for higher education in Thailand which focuses on organizing goals on the learning outcomes of students [1]. The 2009 National Qualifications Framework for Higher Education, aims to encourage learners to develop their potentials in

morality, ethics, knowledge, intellectual skills, interpersonal skills and responsibility and numerical analytical thinking skills, Communication and the use of information technology [2], related to the Bachelor of Education program of Bunditpatanasilpa Institute which is a course that produces teaching graduates to have a body of knowledge and academic skills. It teaches both theory and practice focusing on the development of students' learning and aims to produce graduates in accordance with the National Higher Education Qualifications Framework. In terms of morality and ethics, graduates must have responsibility, discipline, unity, honesty, integrity, love and faith in the profession and being a good role model for society in terms of intellectual skills. Graduates must have critical thinking, synthesis, and problem solving, creative can be applied in self-development, interpersonal skills, responsible, skills in numerical analysis, communication use of information technology, and learning management skills. This is consistent with Paitoon Sinlarat [3] who mentioned that Thai teachers in the 21st century must have seven

characteristics: knowledge creation and integration, thinking, analytical and creative thinking, have vision and crystallize ideas to exchange ideas with learners, know and understand new technologies, as well as point out advantages and disadvantages to learners, have the skills to teach children to grow to their full potential and to create new works; to be strong in ethics, morals and ethics and to persuade others to do social contributions; and to play a leading role in teaching and in the profession, improve the quality of the school and in the profession with the administrators.

Therefore, the production process of teachers in various higher education institutions must focus on the development of learning management competencies because it is key competencies that every teacher needs to be competent in learning management. It is a behavior in learning management that learners participate in learning activities through a systematic thought process. There is an exchange of knowledge reflect the results of learning among the learners themselves and between learners and teachers until they can create a body of knowledge on their own. This is consistent with Patcharee Srisung[4] who said that learning management is a process of managing resources related to learning to be organized into learning activities for learners to gain experience or practice or has been done by being reinforced, continuously connected and coordinated to achieve efficiency. Learners have permanent behavioral changes according to their abilities to achieve their intended objectives, and Rattaphol Brahmasat [5] said that learning management competencies is a behavior that students demonstrated while practicing teacher professional experiences, such as having skills in writing learning management plans, media production, learning management innovations and measuring and evaluating learning outcomes which corresponds to Thiamchan Panichphalinchai[6]who said that there are 7 aspects of learning management competencies, namely learning design, student-centered learning activities; learn new era development of environment and learning

resources in the new era; development and use of media, innovation and technology in education; learning network development and measuring and evaluating learning outcomes.

Active learning is a form of teaching that is well suited to objective learning understanding and applying the knowledge gained in daily life. It encourages learners to be more active in learning and generates more cognitive enthusiasm than just memorization teaching methods. Therefore, active learning play a role to help the students' learning achievements higher. Learners will be satisfied with the teaching style that gives opportunities. Learners participated in teaching and learning activities by taking action (Active Learning) rather than taking part in learning activities to receive knowledge only [7]. Therefore, adjusting the teaching method is an important part in the development of learners and teachers to comply with the changes of the world as Wichan Panich[8] said, teachers in the 21st century should change the behavior of teacher-centered learning management. It encourages learners to love learning, enjoy learning and create a feeling of wanting to learn for life, to develop advanced thinking skills of learners by organizing activities for learners to learn together using the right technology and have the skills to work in a team. There is an integrated learning of content between different disciplines in order to learn from actions and to listen to the thoughts of oneself and others reflected through that action. Such learning management methods are consistent with active learning management, consistent with Varinporn Funfuengfu [9] who said that proactive learning management is the process of organizing learning activities that allow students to participate in learning activities every step of the way by implementing and being a center for learning activities behave that express shared responsibility, use advanced thinking processes to solve problems in different situations systematically and creatively; interact together in exchange of learning, reflecting the learning outcomes among learners and between learners

and teachers until they can create a body of knowledge by themselves from that learning activity.

Phenomenon-based Learning or PhenoBL was used in the core curriculum of basic education in Finland in 2014 in the form of multidisciplinary learning modules to promote the development of learners' transversal competencies, emphasizing integrated teaching between subjects through the project (Phenomenon-based project). Phenomenon-based learning management has an important characteristic. It starts with using various phenomena to stimulate learners to learn. Learn through phenomena that are real (Authentic phenomena), which are phenomena that occur in the past, present, or phenomena that are likely to occur where learners can create a body of knowledge themselves (Constructivism) through the process of proactive learning management [10], learning management by using techniques as well as various tools so that students can build their own body of knowledge. From the aforementioned importance, the researcher is aware of the importance of developing desirable graduate characteristics especially in terms of learning management skills which is an important feature of teaching professional students therefore interested in developing a phenomenon-based learning management model to enhance the active learning management capacity of students in the teaching profession in order to provide students with knowledge, skills and attitudes in proactive learning management. It is a preparation for being students practice quality teaching professional experience can be used to develop learning outcomes and characteristics of learners as stipulated course which will lead to being a good and effective teacher in the future.

II. RESEARCH OBJECTIVES

The objectives of this research were as follows:

1. To study the components of an active learning competencies of teacher students.

2. To develop Phenomenon-based learning model for enhancing active learning competencies of teacher students.

3. To study the effect of Phenomenon-based learning model for enhancing active learning competencies of teacher students with the following sub-objects.

- 3.1 To study the competence in active learning management of students who study using Phenomenon-based learning model for enhancing active learning competencies of teacher students.

- 3.2 To study the opinions of students towards Phenomenon-based learning model for enhancing active learning competencies of teacher students.

III. RESEARCH METHOD

This research was Research and Development by using Mixed Methods Research between qualitative research and quantitative research, and using experimental research define the scope of research into 3 phases as follows.

1. Phase 1 Study the components of an active learning competencies of teacher students.
2. Phase 2 Develop a Phenomenon-based learning model for enhancing active learning competencies of teacher students.
3. Phase 3: Study the effect of Phenomenon-based learning model for enhancing active learning competencies of teacher students.

POPULATION AND SAMPLE

The population and samples used in the research were as follows:

1. The target group for the interviews are 10 teaching experts inside and outside Bunditpatanasilpa Institute, selected by purposive sampling from those who have the required qualifications, i.e. those who have at least 10 years of teaching experience in teaching professional students, graduated not lower than a master's degree and willing to cooperate in providing information for research.

2. Population and Sample

2.1 Population

Population is students of the Bachelor of Education program, undergraduate Year 2 - Year 5 Academic Year 2020 at an educational institute under the Buditpatanasilpa Institute Ministry of Culture. It is divided into 1 faculties and 12 colleges of dramatic arts with 2,282 students.

2.2 The sample group in the composition study

The sample group used in the study of the composition included Bachelor of Education program students, Bachelor's degree, Year 2 - Year 5, Academic Year 2020 at an educational institution under the Buditpatanasilpa Institute 500 people from the Ministry of Culture, which were obtained from Multi-Stage Random Sampling.

2.3 The sample group in the learning management model experiment, the sample group used in the learning management model experiment were students in the Bachelor of Education program, class Bachelor's Degree Year 4 Academic Year 2020, Lopburi College of Dramatic Arts Buditpatanasilpa Institute of 30 people, which were obtained from Multi-Stage Random Sampling.

DATA COLLECTION

Phase 1 Study the components of an active learning competencies of teacher students.

1. Study documents, concepts, theories and research related to active learning competency in order to know the concepts, meanings, components of active learning competency and indicators. From documents and research papers, the researcher analyzed the meaning, components of active learning competency and learning management competency indicators, and interviewed 10 experts about active learning competency using the information obtained from the study. The interviews were analyzed, synthesized, and compiled into components of an active learning competencies of teacher students.

2. Create an active learning management competency questionnaire, and bring 5 experts to

check the quality of the tools with an index of conformity (IOC) between 0.60-1.00 and use them to tryout the tools with students, Bachelor of Education Program Undergraduate students, Year 2, Year 2, Year 5 at an educational institute under the Buditpatanasilpa Institute, Ministry of Culture, who were not a sample group of 30 people. The data were analyzed and the reliability value of the whole issue was 0.84, indicating that it was a confident questionnaire at high level.

3. The questionnaire was used to collect data with a sample group of students in the Bachelor of Education program. Bachelor's degree, Year 2, Year 5, Academic Year 2020 at an educational institution affiliated with Buditpatanasilpa Institute 500 people from Ministry of Culture. Data were analyzed by corroborative component analysis. (Confirmatory Factor Analysis: CFA) using a computer package program.

Phase 2 Develop a Phenomenon-based learning model for enhancing active learning competencies of teacher students.

1. The researcher uses the results of the research in Phase 1 to create a model of learning management by using Phenomenon-based learning model for enhancing active learning competencies of teacher students from analytical studies synthesize concepts, theories, and research related to the development of proactive learning management competencies and the development of learning management styles.

2. Bring the learning management model to 9 qualified persons to check the suitability and consistency of elements of the form through group discussions. Revised according to instructions and adopt a learning management model let the original 9 qualified persons re-evaluate their suitability with a 5-level estimator form. Overall, the learning management model was appropriate at the highest level ($\bar{X} = 4.51$, S.D.=0.42) and was revised learning management model according to the advice of experts.

Phase 3: Study the effect of Phenomenon-based learning model for enhancing active learning competencies of teacher students.

The researcher prepared a learning activity plan according to the learning management model using Phenomenon-based learning and created tools for assessing the suitability of learning activities plans and check the quality of the tools by the 5 experts had a consistency index between 0.80-1.00, which the plan was most appropriate ($\bar{X} = 4.76$, S.D. = 0.36) and then proceeded to develop proactive learning management competency using a learning management model using an experimental research model in one group. One group Pretest – Protest Design and post-test results were compared with the 70% criteria by defining the sample groups used to develop active learning management competency. A student in the Bachelor of Education program, Bachelor's degree, Year 4, Lopburi College of Dramatic Arts, Bunditpatanasilpa Institute, Academic Year 2020, consisted of 30 students, using the experimental period of 10 weeks, 3 hours each, a total of 30 hours.

IV. RESEARCH RESULTS

Results of the research can be summarized as follows.

1. A study the components of an active learning competencies of teacher students.

From the results of the study of the components of the competency of proactive learning management of teaching professional students, all 5 components and 20 indicators were as follows:

Component 1 The organization of learning activities consists of 4 indicators: 1. Introduction into the lesson; 2. Process of learning activities; 3. Lesson summary; and 4. Recording of learning results.

Component 2 Development of innovative learning media consists of 4 indicators: 1. Media design Learning innovation; 2. Development of

learning innovation media; 3. Selection of learning innovation media; and 4. Evaluation of the use of learning innovation media.

Component 3 Learning design consists of 4 indicators:

1. Determination of learning outcomes; 2. Determination of learning activities design; 3. learning activities to promote learning; and 4. learning design evaluation.

Component 4: Measuring and Evaluation of Learning Consists of 3 Indicators: 1. Creating measuring tools and Evaluation; 2. Using methods and tools to measure and evaluate results; and 3. Encouraging learners to participate in assessment.

Component 5: The preparation of a learning management plan consists of 5 indicators: 1. Curriculum Analysis; 2. Determination of learning objectives; 3. Determination of learning activities; 4. Determination of teaching materials; and 5. Determination of methods and measurement and evaluation tools.

All five components are appropriate and consistent with the empirical data with structural directness from the composition analysis It can be represented as a conformance index value, consisting of the value $\chi^2 = 296.76$, the $df = 127$, the $p\text{-value} = 0.00000$, $RMSEA = 0.052$, $GFI = 0.94$, $AGFI = 0.91$, $CFI = 1.00$, $SRMR = 0.018$, and $CN = 274.12$.

2. Development of a Phenomenon-based learning model for enhancing active learning competencies of teacher students.

Phenomenon-based learning model for enhancing active learning competencies of teacher students developed learning management model. It is the development of teaching professional students to have management competency. Active learning consists of organizing learning activities, development of innovative learning media learning design, learning measurement and evaluation, and the preparation of a learning

management plan. There are 5 steps of learning activities called READS MODEL as follows: Step 1 Recognize Problems : R; Step 2 Eliciting Brain Storm : E; Step 3 Assessing for Value Adding: A ; Step 4 Developing Outcomes: D; and Step 5 Sharing to Society :S are measured and evaluated by assessing the competence of active learning management. Use real-world assessments determine the rubric assessment criteria at 4 levels, resulting in better scores will pass the criteria evaluated by self, peers and teachers and assessed by quiz measure achievement Students must achieve a score of 70% or higher.

3. A study of the results of using a Phenomenon-based learning model for enhancing active learning competencies of teacher students.

The results of using the phenomenon-based learning model for enhancing active learning competencies of teacher students by evaluating the active learning management competency during the course use real-world assessments the rubric assessment criteria were set at four levels, assessed by self, peers and teachers. It was found that active learning competencies of teacher students was at a very good level with an average score of 3.56 points and standard deviation was 0.07 points. The scores of pre-test of students' active learning management competency test were scores showed the mean was 19.00 points, the standard deviation was 1.14 points. For the post-test, the mean score was 33.73 points and the standard deviation was 0.98 points. The test score of after learning was 84.33 percent (70 percent criterion) when comparing the test scores between before and after school. It was found that after school was significantly higher than before statistically at the .05 level and when comparing between the post-test scores and the 70% criteria, it was found that the test scores of the post-test students were significantly higher than the criteria at the .05 level. The learning management by using the Phenomenon-based

learning model for enhancing active learning competencies of teacher students overall was at the highest level.

V. CONCLUSION AND DISCUSSION

The development of Phenomenon-based learning model for enhancing active learning competencies of teacher students can be summarized and discussed the results as follows:

1. The results of a study on the components of the competency in proactive learning management of teacher students. The results of the study on the components of the competency of active learning management of teaching profession students found that the components of the competency in active learning management consists of 5 components: the organization of learning activities; development of innovative media; learning; learning design; measuring and evaluating learning outcomes and the preparation of a learning management plan for all 5 elements. It is consistent and important for enhancing the competence of active learning management of teacher students in accordance with the components of active learning management of Yupalai Malisorn and Kan Ruangmontri[11] have synthesized and concluded that the components of active learning management include: learning design, use and development of media innovation and technology for learning management the organization of learning activities that emphasize high-level thinking skills and practice; and measurement and evaluation of learning outcomes according to actual conditions. It is also consistent with Suphit Chaimongkol [12] who said that the competence of active learning management of primary school teachers. It consists of the main components: designing and developing an active learning management plan organizing active learning management activities. The use of technology media in active learning management and evaluation results of active learning management.

For the element with the highest element weight show that the most consistent, i.e. Component 3 Learning Design Learning design for learners to participate in learning activities, take action, and build their own knowledge. This is consistent with Thiamchan Panichphalintai [13] who has conducted research on the study of competence in learning management in the 21st century of undergraduate students, 21st century learning management in learning design organizing learning activities that focus on learners, developing learning skills for new learners developing environment and learning resources in the new era. The development of learning networks and learning measurement and evaluation were at a high level.

2. The results of the development of Phenomenon-based learning model for enhancing active learning competencies of teacher students.

The results of the research on the development of a phenomenon-based learning management model to enhance management competency active learning of teacher students. This is a continuation of Phase 1 research from the study of management competency components active learning is a clear component because it was obtained from the analysis of documents. Relevant research, including interviews with experts and Confirmatory Factor Analysis and from the study of documents, concepts, principles of various learning theories, consisting of the concept of learning management using a phenomenon as a base; Philosophy of Education Progressivism, learning theory, intellectualism or the creation of knowledge with intellectualism and management concept active learning. Therefore, that component was developed to be a form of learning management by using phenomenon-based learning model for enhancing active learning competencies of teacher students. This corresponds to the concept of educators as the findings consisted of 5 steps as follows:

Step 1: Recognize the problem, it is a step in which the teacher presents an interesting

phenomenon which is a lifestyle situation, real situation, simulation situation, outside the classroom situations about self, society, environment, academic principles, general subject matter and model presentation which can integrate knowledge in many disciplines by teachers stimulating with questions or let learners join together to ask questions from phenomena. This is consistent with Oraphan Butktanyu [14] who said that learning by using phenomenon-based learning. The teaching method is based on the concept of self-knowledge creation focusing on oriented assessment criticize the learner's learning more than just the content that has been conveyed. The teacher is the facilitator and create an atmosphere for students to learn by using problems-based learning through active inquiry and learning.

Step 2 Brainstorming, this is a step for learners to learn together to find answers, contains activities that promote allow students to express their opinions and discuss with others work together to plan and let learners seek alternatives in seeking answers or solving problems on their own, consistent with the concept of Tissanana Khammanee [15] which said that in learning management students must have the opportunity to learn in an atmosphere conducive to social interaction. It is considered an important factor in knowledge creation, collaboration and knowledge exchange thoughts and experiences between learners and learners and learners with other people. It will help the learner's learning to be wider more complex and more diverse.

Step 3 Assessment to add value, learners reflect on the consequences of their choice in seeking answers and decide the best option as well as reasoning for alternatives through the process of thinking on their own or with pairs or groups, relating to Suwit Munkham and Orathai Munkham[16] who said that group learning management is a learning process in which learners receive know from working together practice as a group. Each member of the group interacts with one another. The learning method

in which students work in small groups gives each learner the opportunity to leading their potential themselves to create the success of the group, enabling learners to learn by themselves, know how to solve problems and find answers know their duties know how to help, and share your opinions with your friends in the group. Participate in group work will result in the courage to express opinions accept the opinions of others make students enthusiastic about learning. This will result in collaborating to solve problems that are next performance.

Step 4, the development stage to the work, learners take action in order to produce work or work arising from learning and experience, consisting of activities preparation of works presentation of works in various formats for evaluation of the work of self and friends. It is a step that allows students to have the opportunity to present work that they or their partners or groups create according to their abilities of themselves for others to know. This allows students to reinforce or verify their understanding allow students to use their ideas more extensive, related to Pawisa Phonglek, [17] who said that the teaching and learning process. The child-centered place allows learners to learn by doing, let the students play the most important role learners take action to create experiences and learning, and actions allow problems to be solved. Teachers must provide experiences and environments that allow learners to be born self learning and related to the concept of Surang Kowtrakul [18] that learners must actively act and create knowledge for themselves. Theories and teachers are merely helpers or understandings in this process, by finding ways to organize information that is meaningful to the learners or giving them the opportunity to discover for themselves. In addition, must teach the art of learning for learners. Learners must act on their own regardless of how teachers use teaching methods.

Step 5 Creativity to Society, summarize the results of learning or gaining experience as their own body of knowledge including applying the

body of knowledge according to their own abilities and bring the work or knowledge to disseminate to society contains activities by asking students to summarize the results of learning or gain experience By giving students the opportunity to summarize accordingly own ability and disseminate the results to others through various media and methods freely that relating to Rungthiwa Boonmaton [19] who said that learning management should present the findings gained from the practice and have discussing content or ideas related to the situation for learners to have a more accurate understanding.

3. Effects of using a Phenomenon-based learning model for enhancing active learning competencies of teacher students.

From the study of the effect of using a phenomenon-based learning model for enhancing active learning competencies of teacher students, the results of using the learning management model can be described as follows.

3.1. Teacher students who received learning activities according to the learning management model using phenomenon-based learning model for enhancing active learning competencies of teacher students. The overall active learning management competency was at a very good level, the scores on the active learning management competency test scores after learning were higher than before statistically significant at the level .05 scores on the active learning management competency test after learning were higher than the 70% threshold with a statistical significance at the .05 level. Teacher students who use the learning management model using phenomenon-based learning model for enhancing active learning competencies. This may be because the learning management model that the researcher has implemented focuses on learning to practice and aiming to develop students to participate in learning activities by implementing through a systematic thought process. There is a process of creating knowledge, seeking answers, exchanging knowledge on information reflect the results of

learning between learners themselves and between learners and teachers until they can create a body of knowledge by themselves, relating to Chalathip Samahito [20] who said that organizing Phenomenon-based learning experience is the integration of knowledge and skills in various sciences through real-world phenomena that allows learners to create their own meaningful body of knowledge from interaction with environment by using knowledge seeking along with action. This gives students a profound understanding of the situations that arise and helps students to apply their experiences in real life and to face challenging situations in the future. It is also consistent with Phongsatorn Mahawijit [21] and Oraphan Butktanyu [22] who have mentioned the value of a phenomenon-based learning process that the process learn a variety of ways through the practice of studying such phenomena under the concept of self-knowledge creation and there are reflections and assessments based on real-world empirical conditions based on the students' creations.

3.2 A study of students' opinions on a phenomenon-based learning model for enhancing active learning competencies of teacher students, the students had opinions on the management style. The overall learning is at the highest level including the students to comment more, namely, it is an activity that gives an opportunity to learn together with friends. There is no limit on how to do the work. It's not a boring activity have practiced thinking in different situations and disseminate their work to others, etc. It showed that the students are satisfied with the learning activities according to the model Phenomenon-based learning management to for enhancing active learning competencies of teacher students. This may be because the learning management model aims to involve students in learning activities. Teachers encourage students interested to learn encourage analytical thinking and self-knowledge creation and encourage teamwork, making students

happy in learning and learning management model can enhance active learning management competency can be given to students. It makes them eager to see what they have learned that is valuable and can be applied in teaching practice. This related to Phongsathorn Mahawijit [23] who has applied the concept of phenomenon-based learning together with active learning in elementary education to enhance learning skills in the 21st century. The satisfaction and opinions of the students towards the learning activities found that the students were satisfied with the learning activities Phenomenon-based learning with active learning at the highest level.

RECOMMENDATIONS

1. Recommendations for this research

1.1 The implementation of the learning management model should be studied and understood in the concept, learning theory, principles of comprehensible learning management model. It can be applied in teaching and learning management continually and appropriate to the context of the learners.

1.2 The learning management model should be promoted and applied at the primary and secondary level.

2. Recommendations for further research

2.1 There should be research on Phenomenon-based learning activities to develop learning behaviors of learners at various levels including research to improve the learning management competence of teachers.

2.2 It should be researched by applying this learning management model and increasing the follow-up distance in the students' practice sessions practicing teaching in schools.

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