

Satisfaction with The Development of Competency in Designing Learning Assessment Tools Among Social Studies Teacher Students Through Peer Coaching Combined with Concept Mapping

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Abstract

This quasi-experimental research aimed to study the satisfaction and competency in designing learning assessment tools among student teachers through the use of peer coaching combined with concept mapping. The sample group consisted of 30 second-year Social Studies student teachers enrolled in the course "Classroom Research in Early Childhood Education" during the first semester of the 2025 academic year. The sample was selected using cluster random sampling. The research instrument was a satisfaction questionnaire regarding the use of peer coaching combined with concept mapping. The statistical methods used for data analysis were mean and standard deviation.

The research findings revealed that the overall satisfaction of student teachers regarding the use of peer coaching consisted of three aspects: (1) instructor aspect, (2) instructional management using peer coaching combined with concept mapping, and (3) competency in designing learning assessment tools. The overall satisfaction level was rated as high ($\bar{x} = 4.37$, S.D. = 0.35).

Keywords: Competency in Designing Learning Assessment Tools, Peer Coaching, Concept Mapping, Student Teachers

1. Introduction

One of the key focuses is the development of human resources and the enhancement of the population's potential. The plan emphasizes the development of individuals' skills, knowledge, and abilities to produce quality citizens for the future. It also outlines the direction for improving the quality of education at all levels by enhancing learning processes, reforming instructional systems, and developing teacher quality across the board. Likewise, the National Education Plan (2017–2036) (Office of the Education Council, Ministry of Education, 2017) sets goals for people of all ages to develop skills, knowledge, abilities, and competencies in accordance with national education standards and professional standards, thereby enhancing their quality of life. The teacher education curriculum is designed as a competency-based program, focusing on developing student teachers' knowledge, abilities, and attitudes in alignment with the professional standards set by the Teachers' Council of Thailand. These standards include three key areas: professional knowledge and experience, performance

standards, and conduct standards. One of the core components of professional knowledge is learning assessment and evaluation, which highlights the competency in applying assessment tools within instructional practice. Since assessment is an essential element in the teaching and learning process, modern teachers are required to understand, recognize, and apply appropriate evaluation strategies in their classrooms. This is consistent with Suttipong Boonphadung (2015) who stated that if teachers possess knowledge, understanding, and competence in assessing students in the cognitive, affective, and psychomotor domains, it will lead to the development of learning management in line with national expectations.

At Suan Sunandha Rajabhat University, the Faculty of Education has implemented instructional strategies aimed at equipping student teachers with the competencies needed to assess and evaluate learning outcomes. However, from the researcher's experience as a course instructor in Educational Measurement and Evaluation, it was observed that many student teachers still lack the skills to apply theoretical knowledge to practice, particularly in research and classroom assessment (Suttipong Boonphadung and Pintipa Seubsang, 2021). They also tend to have limited positive attitudes toward classroom research and struggle to apply measurement and evaluation theories effectively.

Peer coaching is a professional development approach based on collaborative participation. It is considered an effective method for teacher development, aligning with Neufeld and Roper (2003, as cited in Watchara Laolearnngdee, 2013), who emphasized that coaching can enhance teachers' instructional practices, which in turn affects student learning outcomes. Academic coaching plays a critical role in developing instructional leadership and teacher quality by helping teachers improve classroom practices through small group peer coaching. Kinsella (1995, as cited in Eisenbach & Curry, 1999) highlighted that peer coaching involves a structured and collaborative process where participants voluntarily support each other in enhancing instructional skills in an environment of trust, openness, sincerity, and commitment. Anderson (1994) added that coaching involves working with experts to set goals, observe performance, and provide feedback at each stage of the instructional process.

In addition, Concept Mapping, developed by Novak based on constructivist theory, serves as a tool for reflecting learners' meaningful understanding. It helps visualize and organize the structure and relationships between concepts derived from reading or research, thereby enhancing learners' comprehension of complex ideas (Sornnet Areesoponpichet, 2014). As such, concept maps are widely used in teaching and research to improve learning efficiency. For instance, Nantanut Wattanasuphinyo (2017) conducted a study on developing undergraduate students' scientific analytical thinking skills using instructional models integrated with concept mapping at Bansomdejchaopraya Rajabhat University. Concept mapping has been recognized as an effective instructional tool that supports learning in various fields. Unlike rote memorization, which often leads to a lack of understanding, concept mapping helps students make connections between new and prior knowledge, resulting in long-lasting learning. Similarly, mind mapping—a method of visualizing interconnected ideas in a map-like format—is aligned with the brain's natural tendency to retain images better than text. Mind maps represent relationships among main, sub, and supporting ideas, simulating how knowledge is organized in the human mind. Many researchers have supported the integration

of mind maps in teaching as a way to enhance students' group learning processes and conceptual understanding.

Therefore, the researcher became interested in studying student teachers' satisfaction with the development of competency in designing learning assessment tools through the use of peer coaching combined with concept mapping, with the aim of using the findings to improve instructional practices in higher education. This study also serves as a guideline for further development of student teachers' competencies in other areas.

2. Objectives

To study the satisfaction with the development of competency in designing learning assessment tools among Social Studies student teachers through peer coaching combined with concept mapping.

3. Methodology

The population in this study consisted of 60 second-year Social Studies student teachers enrolled in the first semester of the 2025 academic year. The sample group was composed of 30 second-year Social Studies student teachers enrolled in the Educational Measurement and Evaluation course during the same semester.

Sub-Section 1

The researcher developed and validated the research instrument by having five experts in the field of educational measurement and evaluation review the content for validity. The Index of Item-Objective Congruence (IOC) was then calculated, and the instrument was revised accordingly to ensure its quality and effectiveness. The data collection instrument used in this study was a satisfaction questionnaire regarding the development of competency in designing learning assessment tools.

Sub-Section 2

This study was a research and development (R&D) project focused on student teachers' satisfaction with the development of competency in designing learning assessment tools through peer coaching combined with concept mapping. The research design employed in this study was quasi-experimental.

4. Results

Results of Student Teachers' Satisfaction with the Development of Competency in Designing Learning Assessment Tools through Peer Coaching Combined with Concept Mapping

From Table 1. Mean and Standard Deviation of Student Teachers' Satisfaction with the Development of Competency in Designing Learning Assessment Tools through Peer Coaching Combined with Concept Mapping.

Table 1
Mean and Standard Deviation of Student Teachers' Satisfaction with the Development of Competency in Designing Learning Assessment Tools through Peer Coaching Combined with Concept Mapping

Items	($\bar{x}$)	S.D.	Level
1. Instructor Aspect			
1.1 The instructor is well-prepared in advance for teaching.	4.45	0.50	Good
1.2 The instructor has a strong knowledge of the subject matter.	4.48	0.51	Good
1.3 The instructor is able to convey knowledge in an easy-to-understand manner.	4.28	0.61	Good
1.4 The instructor is well-informed and up-to-date with scientific and academic developments.	4.32	0.55	Good
1.5 The instructor is approachable, gives time, provides guidance, and listens to feedback.	4.56	0.58	Very Good
Overall	4.42	0.46	Good
2. Aspect of Teaching and Learning Management Using Mutual Coaching Process Combined with Conceptual Mind Mapping			
2.1 There is a process to build understanding about the objectives and goals of using mutual coaching combined with conceptual mind mapping.	4.40	0.53	Good
2.2 Students are encouraged to think analytically about both learners and instructors based on real situations.	4.48	0.54	Good
2.3 Students are involved in determining options for problem-solving and developing their own learning management models.	4.12	0.65	Good
2.4 There is a process that allows students to decide on learning management methods suitable for themselves and the content.	4.16	0.65	Good
2.5 There is a process for student participation in evaluating the outcomes of the learning management.	4.50	0.65	Very Good
Overall	4.33	0.51	Good
3. Competency in Student Learning Measurement and Evaluation			
3.1 Teaching and learning using the mutual coaching process combined with conceptual mind mapping is appropriate and helps students better understand the lesson content.	4.40	0.49	Good

3.2 Using the mutual coaching process combined with conceptual mind mapping enables students to design learning management plans.	4.36	0.56	Good
3.3 Using the mutual coaching process combined with conceptual mind mapping helps students manage learning appropriately.	4.20	0.57	Good
3.4 Using the mutual coaching process combined with conceptual mind mapping helps students select suitable learning materials.	4.36	0.56	Good
3.5 Using the mutual coaching process combined with conceptual mind mapping enables students to competently measure and evaluate learners.	4.48	0.58	Good
Overall	4.36	0.39	Good
Total Of 3 Aspects	4.37	0.35	Good

Table 1 shows that the overall satisfaction with the development of competency in designing learning measurement and evaluation tools among social studies student teachers using the mutual coaching process combined with conceptual mind mapping is at a good level in all aspects (mean = 4.37, S.D. = 0.35). The aspect with the highest satisfaction is the instructor aspect (mean = 4.42, S.D. = 0.46), followed by the competency in student learning management (mean = 4.36, S.D. = 0.35), and the teaching and learning management using the mutual coaching process (mean = 4.33, S.D. = 0.51), respectively.

When considering each aspect individually:

Instructor aspect: Student teachers were most satisfied with the instructor's approachability, time allocation, guidance, and willingness to listen to opinions, which rated at a very good level (mean = 4.56, S.D. = 0.58). This was followed by the instructor's strong knowledge of the subject matter at a good level (mean = 4.48, S.D. = 0.51) and the instructor's preparation in advance (mean = 4.45, S.D. = 0.50), respectively.

Teaching and learning management using the mutual coaching process combined with conceptual mind mapping: Student teachers were most satisfied with the process that allowed students to participate in evaluating the learning management. The use of mutual coaching combined with conceptual mind mapping helped students competently measure and evaluate learners. This was followed by encouraging students to analyze both learners and instructors based on real situations (mean = 4.48, S.D. = 0.54) and creating understanding about the objectives and goals of the mutual coaching process (mean = 4.40, S.D. = 0.53), respectively.

Competency in learning measurement and evaluation: Student teachers were most satisfied that using the mutual coaching process combined with conceptual mind mapping helped students competently measure and evaluate learners (mean = 4.48, S.D. = 0.58). This was followed by teaching and learning using this process being appropriate and helping students better understand lesson content (mean = 4.40, S.D. = 0.49), and the ability to design learning management plans as well as selecting suitable learning materials (mean = 4.36, S.D. = 0.56), respectively.

5. Conclusion And Future Work

Satisfaction Results on the Development of Competency in Designing Learning Measurement and Evaluation Tools for Social Studies Student Teachers Using the Mutual Coaching Process Combined with Conceptual Mind Mapping Student teachers' satisfaction with teaching and learning management using the mutual coaching process combined with conceptual mind mapping was generally at a good level across all aspects. The highest satisfaction was with the instructor aspect, followed by competency in student learning management, and the teaching and learning management using the mutual coaching process combined with conceptual mind mapping, respectively. When examined in detail by aspect:

Instructor Aspect:

Student teachers were most satisfied with the instructor's approachability, allocation of time, guidance, and willingness to listen to opinions, rated at a very good level. This was followed by the instructor's strong knowledge of the subject matter at a good level, and the instructor's preparation in advance, respectively. These findings align with Amrada Pongsak (2018), who found that student satisfaction with Thai language teachers' proactive learning management through peer coaching was generally high. This is also consistent with Suwimon Nimduang (2015), who researched the effects of the 7-step learning cycle combined with conceptual mind mapping on high school students' analytical thinking ability regarding hydrocarbon compounds. Students expressed high satisfaction, and during instruction, the teacher posed questions to encourage students' eagerness to learn, stimulated self-constructed knowledge, and facilitated the creation of concept maps through discussion and reflection, which students could apply beneficially in other subjects to enhance analytical thinking. Additionally, Nantanat Watsupinyo (2017) studied the development of scientific analytical thinking skills through teaching combined with conceptual mind mapping for undergraduate students at Bansomdejchaopraya Rajabhat University. The research showed that students taught with this method significantly improved their analytical thinking abilities after instruction at the .01 statistical significance level.

Teaching and Learning Management Using Mutual Coaching Combined with Conceptual Mind Mapping:

Student teachers were most satisfied with the process that allowed them to participate in evaluating the learning management. The mutual coaching process helped students competently measure and evaluate learners. This was followed by encouraging students to analyze learners and instructors based on real situations and creating understanding about the objectives and goals of the mutual coaching process. These findings correspond with Duanghathai Homchaiyawong (2014), who studied the development of a coaching and counseling model to promote the competencies of primary education student teachers and found high satisfaction. Furthermore, Sitthipon Art-in (2017) stated that conceptual mind mapping is an effective teaching tool that enhances students' analytical thinking skills, supports targeted learning outcomes, benefits learners, and aids instructors in evaluating learning outcomes to improve analytical and problem-solving skills in teaching.

Competency in Learning Measurement and Evaluation of Student Teachers:

Student teachers were most satisfied that the mutual coaching process combined with conceptual mind mapping helped them competently measure and evaluate learners. This was followed by the appropriateness of teaching and learning using this process in helping students better understand lesson content, as well as enabling students to design learning management plans and select suitable learning materials. These findings are consistent with Anderson (2020), who studied peer coaching combined with conceptual mind mapping at schools and found that it positively influenced school culture, enhanced teacher professionalism, and developed a growth mindset among participating teachers, fostering positive attitudes toward supervision and instructional development. This also aligns with Surasit Kiewchoey (2023), who stated that the use of conceptual mind mapping in teaching is an effective technique that helps develop learners' skills and abilities across various disciplines.

Recommendations for Future Research

1. A comparative study should be conducted on the effectiveness of using the mutual coaching process combined with conceptual mind mapping versus other teaching methods in developing research competencies.

2. A comparative study should be conducted to examine the factors that contribute to the improvement of student teachers' competencies in learning measurement and evaluation.

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