

The Development of an English Instructional Model Using Metacognition in Enhancing English Reading and Creative Thinking for Undergraduate Education Students

การพัฒนาแบบการสอนภาษาอังกฤษโดยใช้อภิปัญญาในการส่งเสริมการอ่านภาษาอังกฤษ
และความคิดสร้างสรรค์สำหรับนิสิตครูศาสตรระดับปริญญาตรี

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Abstract

The objectives of this study were to: (1) develop an English instructional model based on metacognition to enhance English reading comprehension and creative thinking among undergraduate education students; (2) compare students' English reading comprehension and creative thinking before and after instruction; and (3) investigate students' attitudes toward the developed instructional model. This study employed a Research and Development (R&D) approach following four main components: R1, analysis of curricula, relevant theories, and learners' needs through document analysis, expert interviews, and student surveys; D1, design and development of a metacognitive-based English instructional model, namely the MER-CT Model, including its principles, five-step instructional process, and assessment system, followed by expert validation and a pilot study; R2, implementation of the developed model using a one-group pretest–posttest design with 26 second-year undergraduate education students; and D2, evaluation and refinement of the model based on learning outcomes and students' feedback.

The research instruments consisted of (1) an English reading comprehension test, (2) a creative thinking test, and (3) an attitude questionnaire. All instruments demonstrated acceptable content validity (IOC=0.80–1.00), with reliability coefficients of 0.85, 0.87, and 0.89, respectively. The results indicated that the developed instructional model met the efficiency criterion ($E_1/E_2=80.54/82.98$). Students' English reading comprehension and creative thinking after instruction were significantly higher than before instruction at the .05 level. Students demonstrated positive attitudes toward the instructional model at a high level, particularly regarding awareness of the importance of English reading skills for the teaching profession.

Keywords: English Instructional Model, English Reading, Metacognition, Creative Thinking

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บทคัดย่อ

งานวิจัยนี้มีวัตถุประสงค์เพื่อ (1) พัฒนารูปแบบการจัดการเรียนรู้ภาษาอังกฤษโดยใช้อภิปัญญาเพื่อส่งเสริมความสามารถในการอ่านภาษาอังกฤษเพื่อความเข้าใจและความคิดสร้างสรรค์ของนิสิตครูศาสตร์ระดับปริญญาตรี (2) เปรียบเทียบความสามารถในการอ่านภาษาอังกฤษเพื่อความเข้าใจและความคิดสร้างสรรค์ของผู้เรียนก่อนและหลังการจัดการเรียนรู้และ (3) ศึกษาเจตคติของผู้เรียนที่มีต่อรูปแบบการจัดการเรียนรู้ที่พัฒนาขึ้น การวิจัยนี้ใช้ระเบียบวิธีวิจัยและพัฒนา (Research and Development: R&D) โดยดำเนินการตามกระบวนการ 4 ขั้นตอน ได้แก่ R1 การศึกษาวิเคราะห์หลักสูตร ทฤษฎีที่เกี่ยวข้องและความต้องการของผู้เรียนจากเอกสาร การสัมภาษณ์ผู้เชี่ยวชาญและการสำรวจผู้เรียน D1 การออกแบบและพัฒนารูปแบบการจัดการเรียนรู้ภาษาอังกฤษ โดยใช้อภิปัญญา ซึ่งเรียกว่า รูปแบบ MER-CT ประกอบด้วยหลักการ กระบวนการจัดการเรียนรู้ 5 ขั้นตอน และระบบการวัดและประเมินผล พร้อมทั้งตรวจสอบความเหมาะสมโดยผู้เชี่ยวชาญและทดลองนำร่อง R2 การทดลองใช้รูปแบบกับนิสิตครูศาสตร์ชั้นปีที่ 2 จำนวน 26 คน โดยใช้แบบแผนการทดลองแบบกลุ่มเดียววัดก่อนและหลังเรียน และ D2 การประเมินและปรับปรุงรูปแบบจากผลการเรียนรู้ และข้อเสนอแนะของผู้เรียน เครื่องมือที่ใช้ในการวิจัยประกอบด้วย (1) แบบทดสอบวัดความสามารถในการอ่านภาษาอังกฤษเพื่อความเข้าใจ (2) แบบทดสอบวัดความคิดสร้างสรรค์และ (3) แบบสอบถามเจตคติเครื่องมือทุกชุดผ่านการตรวจสอบความตรงเชิงเนื้อหา โดยมีค่าดัชนีความสอดคล้อง (IOC) อยู่ระหว่าง 0.80–1.00 และมีค่าความเชื่อมั่นเท่ากับ 0.85, 0.87 และ 0.89 ตามลำดับ

ผลการวิจัยพบว่า รูปแบบการจัดการเรียนรู้ที่พัฒนาขึ้นมีประสิทธิภาพตามเกณฑ์ที่กำหนด ($E_1/E_2 = 80.54/82.98$) นิสิตมีความสามารถในการอ่านภาษาอังกฤษเพื่อความเข้าใจและความคิดสร้างสรรค์หลังเรียนสูงกว่าก่อนเรียนอย่างมีนัยสำคัญที่ระดับ .05 นิสิตยังมีเจตคติต่อรูปแบบการจัดการเรียนรู้โดยรวมอยู่ในระดับมาก โดยเฉพาะการตระหนักถึงความสำคัญของการอ่านภาษาอังกฤษต่อวิชาชีพครู

คำสำคัญ: รูปแบบการสอนภาษาอังกฤษ, การอ่านภาษาอังกฤษ, อภิปัญญา, ความคิดสร้างสรรค์

Introduction

English language instruction at the higher education level is of critical importance in today's rapidly changing world. In the context of Thai education, education students must develop strong English reading skills as a foundation for future teaching competence. Reading is not only a core skill for language learning but also a vital tool for acquiring knowledge and developing skills essential for living in a globalized society. However, research by Oeamoum and Sriwichai (2020) found that Thai education students continue to face challenges in English learning, particularly in reading, which remains underdeveloped in current curricula. This results in learners lacking confidence and motivation to use English in real-life communication. Moreover, teaching approaches that emphasize lecturing without encouraging active participation hinder the development of creative reading skills.

These problems stem from multiple factors, including insufficient foundational knowledge of English, lack of reading skills and strategies, and instructional approaches that emphasize knowledge transmission rather than authentic reading skill development (H. Cholticha., (2021). Additionally, the scarcity of diverse learning resources and reading materials, along with assessment practices that focus on testing rather than developmental evaluation, constitute significant factors contributing to the slow progress in students' reading skill development. Currently, English reading skills represent essential competencies for learning and living in a globalized society, particularly for education students who must possess the ability to read and comprehend diverse English content. Nevertheless, assessment results of Thai education students' English reading skills remain at unsatisfactory levels, reflecting the problems and challenges in English language instruction at the higher education level. English Reading is a foundational skill that enhances analytical thinking, synthesis, and problem-solving. It is also an essential means of seeking knowledge and self-improvement

(Chanpala,P. et al.,(2021). However, previous research has found that English teaching in education programs continues to prioritize language knowledge over actual reading development. As a result, preparing students to effectively manage their English learning and apply it in real-world educational contexts remains a significant challenge in the 21st century, which demands lifelong learning, higher-order thinking, and creative problem-solving. Modern English instruction must emphasize analytical reading, interpretation, and evaluation, coupled with the promotion of self-directed learning, enabling students to construct deep understanding and extend their learning effectively. The integration of these skills plays a crucial role in developing education students' potential to engage in systematic thinking, creative thinking, and educational innovation production in the future. However, current learning management still lacks approaches that genuinely connect English reading with creative thinking, resulting in learning that remains confined to traditional forms of memorization and knowledge transmission. This research, therefore, aims to fill this gap by developing an effective teaching model that promotes self-directed learning, reading proficiency, and creative knowledge construction in line with 21st century.

English reading skills and creative thinking are recognized as essential competencies for the 21st century. However, within the context of Thai education students, most research has focused on developing general English language skills, such as listening, speaking, reading, and writing, or on technology-enhanced learning, while no studies have directly examined the relationship between English reading and creative thinking among pre-service teachers (Boonmoh and Kulavichian, 2023). This reveals a significant academic gap that the present study aims to address by designing learning

management that systematically integrates English reading skills with creative thinking processes to enhance education students' potential for effective learning and knowledge transmission to future learners. Research by Martín-Ezpeleta et al. (2024) found that pre-service teachers who demonstrated reading metacognition during reading were able to exhibit moderate to high levels of academic creative thinking abilities, highlighting the role of reading strategies in conjunction with creative thinking processes in academic environments.

Developing metacognition-based English instruction represents a promising approach for enhancing English reading skills and creative thinking among education students at the higher education level. Metacognitive learning enables students to develop awareness of their own reading processes, allowing them to effectively plan, monitor, and evaluate their reading performance, which contributes to deeper comprehension and improved knowledge application. Research by Tok (2022) demonstrated that student teachers who developed reading metacognition were able to exhibit greater creativity in designing learning activities compared to those who did not employ such strategies. Similarly, Martín-Ezpeleta et al. (2024) found that promoting metacognitive reading strategies clearly enhanced creative thinking potential in academic contexts. Therefore, developing instructional models that integrate metacognition with English reading represents an appropriate approach for creating well-rounded learners with comprehensive potential for the 21st century.

Consequently, the researchers recognize the importance of developing a metacognition-based English instruction model to systematically promote English reading and creative thinking among undergraduate education students. This approach emphasizes fostering learners' awareness of their own learning processes, enabling them to effectively plan, control, and evaluate their reading performance, which will lead to enhanced knowledge, understanding, and creative application in developing instructional approaches that can respond to education students' needs and help them effectively develop English reading skills and creative thinking. This will ultimately benefit the development of reading skills and learning at the higher education level.

Research Objectives

1. To develop an English instructional model based on metacognition to enhance reading comprehension and creativity among undergraduate teacher education students
2. To compare students' reading and creativity abilities before and after the implementation of the instructional model
3. To investigate students' creativity before and after being taught through the metacognitive-based model to promote English reading
4. To examine students' attitudes toward the developed instructional model

Research Hypotheses

1. Students' English reading comprehension after using the developed Metacognitive-based instructional model is significantly higher than before instruction.
2. Students' creative thinking after using the developed instructional model is significantly higher than before instruction.

Research Methodology

1. Population

The population of this study consisted of pre-service teachers (monks/persons) in the Faculty of Education who were studying at Nakhon Phanom Buddhist College, Mahachulalongkornrajavidyalaya University, That Phanom District, Nakhon Phanom Province, during the second semester of the 2024 academic year. The total population comprised 85 students/monks.

2. Sample

The sample used for this research consists of 26 pre-service teachers (monks/persons) from the second-year students in the Faculty of Education at Nakhon Phanom Buddhist College, Mahachulalongkornrajavidyalaya University, That Phanom District, Nakhon Phanom Province. These students are currently enrolled in the second semester of the academic year 2567 (2024). The sample was obtained through Simple Random Sampling.

This study employed a Research and Development (R&D) methodology. The researcher systematically followed a four-step R&D process to develop an English instructional model based on metacognition aimed at enhancing students' English reading comprehension and creative thinking. The procedures are described as follows.

Step 1: Research (R1) – Study and Analysis of Basic Information. In the first stage, the researcher conducted a comprehensive analysis of foundational information necessary for developing the instructional model. This involved reviewing relevant documents and prior studies, including the Bachelor of Education (English) curriculum, the Thai Qualifications Framework for Higher Education (TQF:HEd), and theories related to metacognition, creative thinking, and reading comprehension. In-depth interviews were conducted with three experts in English language teaching at the higher education level, selected through purposive sampling based on the following criteria: (1) at least five years of teaching experience, and (2) research publications in English language teaching.

Additionally, interviews were held with three university English instructors to identify challenges and needs in developing students' reading and creative thinking skills. A needs assessment was also conducted with 65 second- to fourth-year teacher education students, selected through stratified random sampling. Data were collected using a validated questionnaire reviewed by five experts, yielding Item-Objective Congruence (IOC) values ranging from 0.80 to 1.00. Qualitative data were analyzed using content analysis, while quantitative data were analyzed using descriptive statistics (mean and standard deviation).

Step 2: Development (D1) – Design and Development of the Instructional Model. Based on the findings from Step 1, the researcher synthesized and developed an English instructional model grounded in metacognitive theory, entitled the MER-CT Model. The model comprises four major components: 1) Principles and theoretical foundations, 2) Model objectives, 3) A five-step instructional process, and 4) Assessment and evaluation methods. The five instructional steps include: 1) Metacognitive Activation, 2) Exploration and Planning, 3) Analytical and Creative Reading, 4) Synthesis and Knowledge Construction, and 5) Evaluation and Reflection. Model Construction and Initial Validation. The developed model was evaluated by five experts for appropriateness and internal consistency. The overall suitability was rated at the highest level ($\bar{X}=4.65$, S.D.=0.42). A pilot study was conducted in two phases: Phase 1: A small-group trial with nine students (three high, three average, and three low achievers) to test feasibility. Phase 2: A large-group trial with 30 students to assess preliminary efficiency. The efficiency of the instructional model was evaluated through a pilot

study conducted in two phases in accordance with educational research and development practices. The first phase involved a small-group trial with nine students representing high, moderate, and low achievement levels to examine the feasibility and clarity of the instructional procedures. The second phase involved a larger field trial with 30 students to evaluate instructional efficiency based on the E_1/E_2 criterion before implementing the model in the main study.

The results revealed an efficiency score (E_1/E_2) of 82.45/81.20, exceeding the 80/80 standard criterion. Minor adjustments were made based on expert feedback prior to full implementation.

Research Instruments

1. The English Reading Comprehension Ability Test was a 30-item multiple-choice test with four options per item. The test's quality was evaluated by five experts who examined content validity, linguistic accuracy, and overall appropriateness. The results showed Item-Objective Congruence (IOC) values ranging from 0.60 to 1.00, which met the established criteria. The test was then piloted with 30 students who were not part of the main sample to determine the item quality. The analysis revealed that the difficulty indices (p) ranged from 0.30 to 0.70, indicating an appropriate level of difficulty, and the discrimination indices (r) were 0.20 or higher. The reliability of the entire test, calculated using the Kuder-Richardson Formula 20 (KR-20), was 0.85, demonstrating a high level of reliability.

2. The Creative Thinking Test was a 30-item multiple-choice test with four options per item. The quality of the test was evaluated by five experts, who examined content validity, linguistic accuracy, and overall appropriateness. The results showed Item-Objective Congruence (IOC) values ranging from 0.60 to 1.00, which met the established standards. The test was subsequently piloted with 30 students who were not part of the main sample to assess item quality. The analysis indicated that the difficulty indices (p) ranged from 0.30 to 0.70, which is considered appropriate, and the discrimination indices (r) were 0.20 or higher. The reliability of the entire test, calculated using the Kuder-Richardson Formula 20 (KR-20), was 0.87, indicating a high level of reliability.

3. The Attitude Questionnaire comprised 10 items using a five-point Likert scale. It was validated by experts and pilot-tested, yielding a reliability coefficient of 0.89, indicating strong reliability.

Step 3: Research (R_2) – Implementation of the Instructional Model. The instructional model was implemented using a quasi-experimental design, specifically a one-group pretest-posttest design. The participants were 26 second-year teacher education students, selected through purposive sampling. The experiment lasted 15 hours. Before instruction, participants completed pretests on English reading comprehension and creative thinking. The learning sessions were conducted according to the MER-CT Model, with the researcher serving as the instructor. After the experiment, posttests were administered using the same instruments, and participants completed a self-assessment on their use of metacognitive strategies. Data collection instruments included: 1) English Reading Comprehension Test, 2) Creative Thinking Test, and 3) Attitude Questionnaire.

Step 4: Development (D_2) – Evaluation and Refinement of the Instructional Model. The final phase involved a summative evaluation of the model's overall effectiveness and refinement for completeness. The analysis revealed that the instructional model significantly improved students' reading comprehension and creative thinking at a statistically significant level. Students demonstrated high metacognitive awareness and positive attitudes toward the instructional model. Based on feed-

back from students and teaching observers, the researcher refined several aspects of the model, such as increasing flexibility in learning activities, adding more examples and detailed guidelines, and developing a comprehensive instructor's manual. The manual includes detailed explanations of the model's principles, theoretical foundations, step-by-step learning procedures, sample lesson plans, assessment tools, and teaching recommendations. The results were presented to academic experts for validation.

The completion of these four systematic stages—analysis, development, implementation, and refinement—demonstrates a rigorous R&D process, producing a high-quality and context-appropriate instructional model for English language teaching and learning.

Data Analysis

1. The efficiency of the developed English instructional model using metacognition to enhance English reading and creativity among undergraduate teacher education students was based on the 80/80 efficiency criterion using the E1/E2 formula

2. The students' English reading comprehension test scores before and after the implementation of the metacognitive-based instructional model to promote English reading and creativity were analyzed using Dependent t-test.

3. The data from the attitude questionnaire of participants toward the English instructional model using metacognition to enhance English reading and creativity among undergraduate teacher education students was analyzed by calculating mean (M), percentage, and standard deviation (S.D.).

Research Results

1. Development of the Metacognitive-Based English Instructional Model: The researcher developed a metacognitive-based English instructional model called the MER-CT Model (Metacognitive English Reading and Creative Thinking Model), which consists of four main components: 1) principles and theoretical foundations, 2) learning objectives, 3) instructional process with four main components, and 4) measurement and evaluation. The instructional process comprises four main components: the Meta-Planning Stage (awareness and planning), the Active Reading Stage (analytical reading skills practice), the Monitoring Stage (comprehension monitoring), and the Creative Evaluation Stage (creation and evaluation), As illustrated in Figure 1

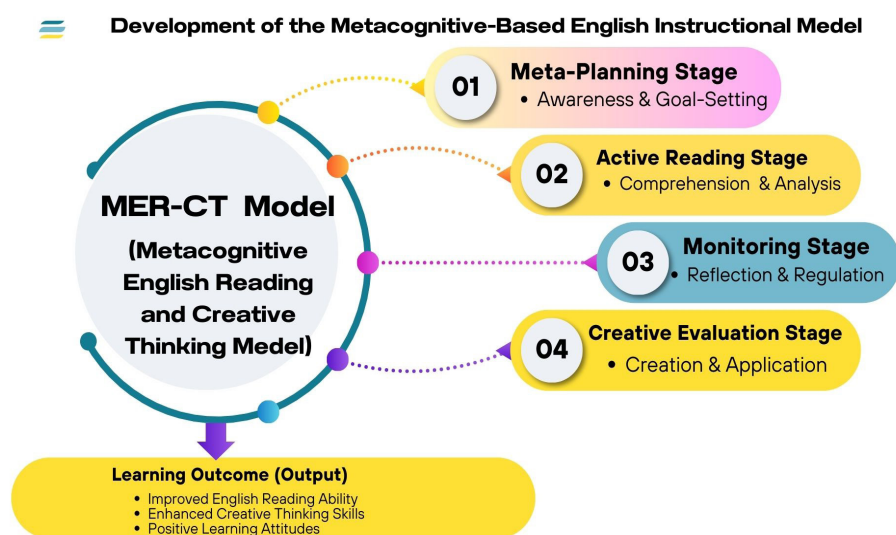


Figure 1: Metacognitive English Reading and Creative Thinking Model: MER-CT Model

The developed instructional model was validated by five experts, with an Index of Item-Objective Congruence (IOC) ranging from 0.60 to 1.00, with a mean of 0.87. The experts rated the overall appropriateness of the instructional model at the highest level ($M=4.50$, $S.D.=0.51$), with the principles and conceptual framework of the model receiving the highest score ($M=4.80$, $S.D.=0.45$).

2. Comparison of English Reading Ability Before and After Instruction: The results revealed that undergraduate education students who participated in the English teaching program using metacognition strategies showed significantly higher English reading comprehension scores after instruction compared to before instruction at the .05 level of significance. The pre-test mean score was 15.73 out of 30 points ($SD = 3.42$), while the post-test mean score was 23.85 ($SD = 2.95$), as shown in Table 2.

Table 2. Comparison of Students' English Reading Ability Before and After Metacognitive Instruction
 (n = 26)

Test	Full Score	n	Mean	SD	t	Sig.
Pre-test	30	26	15.73	3.42	14.86*	.000
Post-test	30	26	23.85	2.95		

* Significant at .05

3. Comparison of Creative Thinking Before and After Instruction: The results showed that education students who received creative thinking development through metacognitive reading instruction demonstrated significantly higher creative thinking scores after instruction compared to before instruction at the .05 level of significance. The pre-test mean score was 8.46 out of 20 points ($SD = 2.12$), while the post-test mean score was 15.35 ($SD = 2.38$), as presented in Table 3.

Table 3. Comparison of Students' Creativity Thinking Before and After Metacognitive Instruction
 (n = 26)

Test	Full Score	Mean	SD	t	Sig
Pre-test	20	8.46	2.12	12.73*	.000
Post-test	20	15.35	2.38		

* Significant at .05

4. Students' Attitudes Toward the Developed Teaching Model: The findings indicated that students held positive attitudes toward the metacognitive English teaching model at a high level overall ($M=4.15$, $S.D.=0.17$). The most positive aspects were students' recognition of the importance of English reading skills for the teaching profession ($M=4.81$) and their belief that transferring reading skills would help them teach others more effectively ($M=4.54$). However, some emotional barriers were identified, such as feeling discouraged when encountering difficult vocabulary ($M=3.00$) and perceiving reading as challenging ($M=3.23$). These findings suggest the need to incorporate anxiety-reduction activities and motivation-building strategies alongside metacognitive approaches in future lessons, as detailed in Table 4.

Table 4. Analysis of Mean Scores, Standard Deviations, and Attitude Levels Toward the English Teaching Model Using Metacognition (n = 26)

Item	Mean	S.D.	Level
1. I feel enjoyable and engaged when reading English articles.	4.31	0.55	High
2. I believe English reading is an important skill that will support my professional development as a teacher.	4.81	0.40	Very High
3. I am confident in my ability to read English for comprehension.	4.46	0.51	High
4. I recognize the value of using metacognitive strategies to develop my English reading skills.	4.42	0.64	High
5. I feel discouraged when encountering difficult vocabulary or complex sentence structures in reading passages.	3.00	0.40	Moderate
6. I believe that reading English regularly will help improve other language skills such as speaking and writing.	4.50	0.51	Very High
7. I feel that reading in English is a boring and difficult activity.	3.23	0.51	Moderate
8. I believe that creative thinking helps improve understanding and memory of reading content.	4.04	0.60	High
9. I am motivated to continuously improve my English reading skills.	4.19	0.40	High
10. I believe that learning effective reading techniques will enable me to transfer knowledge to students in the future.	4.54	0.51	Very High
Overall Mean	4.15	0.17	High

Note. Levels are based on a 5-point Likert scale: 1 = Very Low, 2 = Low, 3 = Moderate, 4 = High, 5 = Very High.

Discussion

Based on the research findings on “The Development of an English Instructional Model Using Metacognition to Enhance English Reading and Creative Thinking for Undergraduate Education Students,” the researcher discusses the following key issues:

1. The study revealed that the developed English teaching model using metacognition demonstrated an effectiveness ratio of 80.54/82.98, which exceeded the established criterion of 80/80. This achievement can be attributed to the systematic development of the teaching model following research and development procedures. The process commenced with an analysis of problematic conditions, followed by an examination of theoretical concepts related to English reading instruction, metacognitive concepts, creative thinking, and attitudes toward reading. Additionally, both domestic and international related research was reviewed and subsequently synthesized into a teaching model appropriate for the context of undergraduate education students. Developing an effective teaching model requires clear objective setting, studying relevant principles and theories, examining situational conditions and problems, and systematically determining and organizing the relationships among various components. These findings are consistent with Umpa. C. et al.,(2023), who found that the development of a learning model using metacognitive strategies to enhance reading comprehension for problem-solving skill development among undergraduate students achieved an effectiveness

ratio of 80.93/87.87, surpassing the established criterion. Furthermore, research by S. Nusara et al.,(2024) found that the development of a creative English curriculum yielded an effectiveness ratio of 79.08/78.67. This also corresponds with Cross and S. G. Paris.(1988) the notion that Metacognition Theory is a learning psychology concept that enables individuals to understand their own thinking, control their thoughts, evaluate, plan, and organize their thinking systematically, thereby facilitating learners in achieving their learning objectives effectively.

2. Development of Learners' English Reading Ability: The comparative analysis of learners' English reading ability revealed that the post-training mean scores were significantly higher than pre-training scores at the .05 significance level. This improvement can be attributed to the developed English teaching model using metacognition, which promoted learners' awareness of their own cognitive processes and enabled them to plan, monitor, and evaluate their own reading. This aligns with the concepts of Baker & Brown (as cited in Casanave, C.P.(1988), who stated that metacognition in reading comprises knowledge about comprehension and control over comprehension, which enables readers to understand texts effectively. Furthermore, the reading instruction activities were systematically implemented following comprehension-based reading instruction stages: Pre-reading, While-reading, and Post-reading. At each stage, metacognitive strategies were integrated to allow learners to practice planning, monitoring, and evaluating their own reading, resulting in enhanced development of their English reading abilities.

3. Development of Learners' Creative Thinking: The comparative analysis of learners' creative thinking revealed that post-training mean scores were significantly higher than pre-training scores at the .05 significance level. This improvement can be attributed to the developed teaching model's promotion of various dimensions of thinking skills, particularly originality, fluency, flexibility, and elaboration. This corresponds with Guilford's concept stating that creative thinking is a cognitive ability enabling broad, multidirectional thinking, or Divergent Thinking, comprising fluency, flexibility, originality, and elaboration. Additionally, the instructional activities provided opportunities for learners to express opinions, engage in discussions, and create products based on their reading, thereby fostering creative thinking development. This aligns with Hallman's suggestions that creative thinking can be promoted by allowing learners to learn through their own initiative, creating a liberal learning atmosphere, encouraging increased self-directed learning, and stimulating the discovery of relationships among data in novel ways. These findings are consistent with research demonstrating that students learning through the developed creative English curriculum exhibited very high levels of creative thinking ability post-instruction ($M = 4.51$), and research by S. Nusara et al. (2024), which found that metacognitive strategies enhanced learners' problem-solving skills, a competency closely related to creative thinking.

4. Learners' Attitudes Toward the Teaching Model: The study of learners' attitudes revealed that students demonstrated high-level positive attitudes toward the overall teaching model. This can be attributed to the developed teaching model's consideration of learners' needs and interests, incorporation of diverse instructional activities, and systematic promotion of English reading skills and creative thinking development. This enabled learners to recognize the value and benefits of English reading for their future teaching profession. Furthermore, students' highest attitude ratings regarding the belief that English reading is an essential skill for advancing in the teaching profession may result from instructional activities that emphasized the importance of English reading and its application in

the teaching profession. This aligns with Incentive theories, which state that individuals develop positive attitudes toward something when they believe it will be beneficial or bring them satisfaction (Muangnual, P. (2025). These findings are consistent with research showing that students held agreeable attitudes toward the English reading comprehension teaching model based on Active Reading approach and cooperative learning techniques, with a mean of 4.31 and standard deviation of 0.59, and [1] research finding that students expressed the highest level of satisfaction with the creative English curriculum ($M = 4.55$).

5. Integrative Relationships Among Metacognition, Reading, and Creative Thinking: The research findings demonstrate positive relationships among metacognitive strategy use, reading ability, and creative thinking, which aligns with Constructivism theory that emphasizes knowledge construction through reflection and experience. Metacognitive reading requires complex cognitive processes including analysis, synthesis, evaluation, and creation, which are identical skills employed in creative thinking. This relationship corresponds with research by Dinçer and Çilek, (2022), who found a moderate positive correlation ($r = .56$, $p < .001$) between metacognitive awareness in reading and critical thinking dispositions among student teachers, and aligns with research by S. Nusara et al. (2024), which found that Self-Management, a component of metacognitive strategies, was the most frequently employed strategy by learners.

In conclusion, based on the aforementioned research findings and discussion, the developed English teaching model using metacognition has proven effective in enhancing English reading ability and creative thinking among undergraduate education students. Moreover, students demonstrated positive attitudes toward this teaching model, indicating its potential for application in English language instruction at the higher education level.

Recommendations

1. Recommendations for Implementation of Research Findings

1. Higher education institutions or agencies involved in teacher education should apply the English teaching model using metacognition in instructional management for courses related to English reading for education students or student teachers, in order to develop learners' English reading skills and creative thinking.

2. Instructors should prepare for implementing the English teaching model using metacognition by thoroughly studying theoretical concepts regarding metacognition, English reading instruction, and creative thinking development, as well as preparing diverse and engaging instructional media and activities.

3. Implementation of the teaching model should consider learners' English proficiency levels, with appropriate adjustments to content difficulty and activities to suit learners' capabilities. Additionally, activities should consistently provide opportunities for learners to practice metacognitive strategies in reading.

4. Learners should be encouraged to recognize the importance of English reading and creative thinking development for the teaching profession, fostering motivation and positive attitudes toward learning.

5. Learning environments and atmospheres conducive to creative thinking development should be established by providing opportunities for learners to express opinions, engage in discussions, and freely create products based on their reading.

2. Recommendations for Future Research

1. Longitudinal research should be conducted to monitor the effects of using the English teaching model with metacognition to examine the retention of learners' English reading skills and creative thinking.
2. Research should be undertaken to investigate the effects of using the English instructional model with metacognition on developing other English language skills, such as listening, speaking, and writing, to achieve holistic English language skill development.
3. Research should be conducted to examine factors affecting the success of implementing the English instructional model using metacognition, such as learners' learning styles, learning motivation, and English language learning experience.
4. Research should be undertaken to develop an English instructional model using metacognition integrated with Information and Communication Technology (ICT) to promote English reading and creative thinking in the digital era.
5. Qualitative research should be conducted to investigate the process of learners' metacognitive strategy use in English reading, providing in-depth insights into learners' metacognitive and creative thinking development.

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References

- Boonmoh, A., & Kulavichian, I. (2023). Exploring Thai EFL pre-service teachers' technology integration based on the SAMR model. *Contemporary Educational Technology*, 15(4), 457.
<https://doi.org/10.30935/cedtech/13567>
- Casanave, C. P.(1988). Comprehension monitoring in ESL reading: A neglected essential (22), 282-302.
<http://doi.org/10.2307/3586937>
- Chanpala,P. & Sitthisomboon, M. (2021). The Development of Instructional model to Enhance Creative Problem Solving for Student Teachers at Rajabhat University. *Journal of Education Naresuan University*, 23(1), 204–213. https://so06.tci-thaijo.org/index.php/edujournal_nu/article/view/190682
- Cross, D. R., & Paris,S. G.(1988). Developmental and Instructional Analysis of Children's Metacognition and Reading Comprehension. *Journal of Educational Psychology*, 80(2),131.
<https://psycnet.apa.org/buy/1988-34097-001>
- Dinçer, S., & Çilek, G. (2022). Metacognitive Awareness and Critical Thinking in Teacher Education. *International Journal of Progressive Education*, 18(2), 49–70. <https://eric.ed.gov/?id=EJ1342780>
- Homfung, C. (2021). The Development of Folklore Teaching Approach by Creative Integration of Active Learning and Folklore Narratives for Enhancing Students' Outcome in the 21st Century. *Journal of Yala Rajabhat University*, 17(1), 40–48. https://so04.tci-thaijo.org/index.php/yrh_human/article/view/248873
- Martín-Ezpeleta, A., Díaz-Díaz, M., & Echegoyen-Sanz, Y. (2024). Reading and Scholarly Creativity: A study with Spanish and Chilean Preservice Teachers. *International Journal of Instruction*, 17(1), 253–270. <https://e-iji.net/ats/index.php/pub/article/view/505>
- Muangnual, P., Choosungkit, A., Jedsadadilok. V., & Samermit. G. (2025). The Attitude of Undergraduate Students to Instructional Model For English Language Reading Comprehension Based on Active Reading and Cooperative Learning Techniques of Bansomdejchaopraya Rajabhat University, *Journal of Interdisciplinary Social Development*. 3(6), 1-15. <https://so12.tci-thaijo.org/index.php/JISDIADP/article/view/1823>
- Oeamoum, N., & Sriwichai, C. (2020). Problems and needs in English language teaching from the viewpoints of pre-service English teachers in Thailand. *Asian Journal of Education and Training*, 6(4), 592–601. <https://eric.ed.gov/?id=EJ1271636>
- S. Nusara., T. Napaporn., Prawpanit. S., Booranapanich. S., & Siri. A. (2024). Development of Creative English Curriculum Based on Content and Language Integrated Learning Using STEAM4 Innovator Process at Wittayapanya Secondary School, Bangkok, *Journal of Buddhist Psychology*, 9(1), 129-142. <https://so03.tci-thaijo.org/index.php/jbp/article/view/271497>
- Tok, E. (2022). Pre-service Preschool Teachers' Metacognitive Awareness and Creative Thinking Domains. *Shanlax International Journal of Education*, 10(3), 71–78. <https://eric.ed.gov/?id=EJ1340363>
- Umpa, C., Horumyong, P., Ruysamran, P., & Phaonakthmmarat, K. (2023). The Development of Learning model with metacognitive Strategies to Promote Reading Abilities and Develop 2nd year Students' Problem-Solving Skills. *Journal of Roi Kaensarn Academi*, 8(5), 66–82. <https://so02.tci-thaijo.org/index.php/JRKSA/article/view/261175>