

# Developing and Evaluating a Teacher Innovator Competence Program

Supangjit Kanlayakaew<sup>1</sup> & Pacharawit Chansirisira<sup>1</sup>

<sup>1</sup> Faculty of Education, Mahasarakham University, Mahasarakham, Thailand.

Correspondence: Pacharawit Chansirisira, Faculty of Education, Mahasarakham University, Mahasarakham, Thailand.

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## Abstract

An innovator is an individual with a creative and proactive mindset, capable of initiating, learning, and implementing novel ideas that have never been developed before. In a learning society, individuals who can think creatively and introduce new concepts play a crucial role. Teachers, as educational leaders, must develop innovative skills to enhance learning environments. Innovator teachers not only guide students but also initiate, invent, and develop new educational methodologies. They must be capable of designing solutions to address teaching and learning challenges, ensuring a learner-centered education system that adapts to the evolving needs of students.

This study aimed to (1) develop an Innovator Competence Enhancement Program for teachers, and (2) evaluate its appropriateness, feasibility, and usefulness. The research was conducted in two phases. Phase 1 focused on developing the Innovator Competence Enhancement Program, with seven experts selected through purposive sampling, and data collected using semi-structured interviews. Phase 2 evaluated the appropriateness, feasibility, and usefulness of the program using an expert panel discussion based on the Connoisseurship approach, involving nine experts. The research instruments included semi-structured interviews and rating scales, with data analyzed through content analysis, descriptive interpretation, mean calculation, and standard deviation analysis.

The findings revealed that the innovator competence enhancement program for teachers consists of six key components: principles, objectives, content (structured into five units: adaptability to situations, observation and questioning, initiative thinking, interpersonal collaboration, and application), development methods (based on the 70:20:10 Learning Model), instructional materials, and evaluation methods. The program received the highest ratings across all evaluation criteria: appropriateness ( $\bar{X} = 4.62$ ,  $SD = 0.53$ ), feasibility ( $\bar{X} = 4.66$ ,  $SD = 0.48$ ), and usefulness ( $\bar{X} = 4.72$ ,  $SD = 0.44$ ).

These results highlight the significant role of the innovator competence enhancement program in fostering innovation in education. As teachers are the driving force of national education, this program equips them with creative thinking and innovation skills, enabling them to design and implement solutions that enhance learning outcomes. By developing innovator teachers, the program contributes to the transformation of students into future innovators, supporting sustainable educational, social, and economic advancements.

**Keywords:** innovator competence, innovator, innovator teacher, assessment, development program

## 1. Introduction

In today's rapidly evolving world, societal changes are occurring at an unprecedented pace across various domains, including information, economy, culture, and politics. The increasing rate of these transformations requires individuals to continuously adapt to new contexts (Jitchayawanit & Phansriket, 2020). The rapid advancement of technology, intensified competition, and shifting economic conditions—both domestically and globally—have significantly impacted organizations and educational institutions. Additionally, disruptive innovation has emerged as a critical phenomenon, causing significant transformations in innovation and leading to fundamental shifts in conventional systems. This situation, commonly referred to as the VUCA World (Volatility, Uncertainty, Complexity, and Ambiguity), presents significant challenges that necessitate new ways of thinking, creative problem-solving, and adaptability to keep pace with ongoing changes (Suksawang, 2017).

Recognizing these challenges, Thailand has actively prioritized educational innovation to ensure its education system aligns with the demands of the 21<sup>st</sup> century. A key initiative in this effort was the implementation of the National Education Standards B.E. 2561 (2018), introducing the Desired Outcomes of Education (DOE Thailand).

A primary goal of these standards is to develop students with innovator competence, equipping them with cognitive flexibility, digital literacy, creative thinking, cross-cultural competence, interdisciplinary integration competence, and entrepreneurial skills. As a result, the national education policy has been structured to foster innovation competencies at different learning stages and educational levels (Office of Basic Education Commission, 2019).

Teachers play a key role in equipping students with innovator competence, as they serve not only as knowledge providers but also as facilitators of creativity and problem-solving skills. According to Siribanpitak (2018), teachers must go beyond traditional instructional roles and become initiators, inventors, and facilitators of innovation. To cultivate students' ability to think critically, and to transfer knowledge effectively, develop new ideas, and adapt to modern challenges, teachers must create dynamic learning environments that foster collaboration, creativity, and innovation-driven problem-solving skills. This shift in the role of educators aligns with global trends in educational transformation, which emphasize the necessity of preparing students for uncertain and complex future landscapes (Hongsawadee & Xupravati, 2022).

Teachers are instrumental in fostering innovation within the education system. They must act as pioneers, creators, and innovators, employing new teaching techniques, methodologies, and instructional tools to support student learning. Siribanpitak (2018) highlights that teachers must develop student-centered innovations that contribute meaningfully to the education system. This is consistent with the 12th EDUCA Teacher Professional Development Forum, where EDUCA 2019 (EDUCA, 2019) presented digital transformation as a key topic that garnered nationwide interest among teachers. This emphasis stems from continuous technological advancements and the emergence of new innovations, along with government policies driving Thailand 4.0, which requires the public sector to adapt and undergo a digital transformation. Consequently, educational institutions must cultivate students' innovative thinking and develop them into future innovators. Achieving this goal necessitates expert teachers and specialized teaching teams, as teachers play a pivotal role in inspiring and serving as role models for their students (Sirisak, 2019).

The 70:20:10 Learning Model has been widely recognized as an effective framework for professional development, particularly in enhancing teachers' ability to integrate innovation into their instructional practices. This model ensures a balanced approach to learning by incorporating experiential learning, social learning, and formal learning in a structured manner (Vanichvasin, 2017). This model is structured as follows:

- 70% experiential learning-gaining knowledge through hands-on experience and real-world problem-solving.
- 20% social learning-learning from mentors, colleagues, and professional networks.
- 10% formal learning-participating in structured training programs and professional development courses.

This approach ensures that teachers acquire both theoretical knowledge and practical application skills, allowing them to create innovative, student-centered learning environments (Vanichvasin, 2017).

Developing professional competencies among educators through structured training programs is crucial for enhancing work efficiency, stimulating motivation, encouraging engagement, and fostering proactive learning attitudes. Effective training not only increases knowledge (Knowledge), comprehension (Understanding), and skill application (Skill) but also cultivates positive attitudes (Attitude) and professional habits (Habit) that contribute to long-term educational innovation (Kityanyong, 2012).

Based on the aforementioned challenges, it is evident that student quality is directly influenced by teacher quality. To enhance student learning outcomes, it is essential to prioritize the professional development of teachers and equip them with innovator competence. Developing students' creativity and innovation skills necessitates an emphasis on effective instructional design and student-centered teaching methodologies. The cultivation of Innovator Competence in students begins with the professional development of teachers. Recognizing this, the researcher aims to develop a Teacher Innovator Competence Enhancement Program to equip teachers with the skills necessary to create new knowledge and educational innovations. This program will empower teachers to foster Innovator Competence among students, ultimately contributing to the country's long-term educational and economic development.

## 2. Objectives

- 1) To develop a program to enhance innovator competence among teachers.
- 2) To evaluate the appropriateness, feasibility, and usefulness of the program in enhancing innovator competence among teachers.

## 3. Method

The research study is a continuation study that builds upon the results of a Confirmatory Factor Analysis (CFA),

which examined components and indicators of innovator competence among teachers. The findings identified five essential competencies for innovator teachers, forming the foundation for continuous knowledge development in a structured and tangible manner. The study was conducted in two phases.

#### *Phase 1: Development of Program to Enhance Innovator Competence among Teachers.*

Step 1: Examine the guidelines for designing a program to enhance innovator competence among teachers.

This step involves studying the guidelines for designing a draft program to enhance innovator competence for teachers, based on input from seven experts using a semi-structured interview approach.

##### 1) Panel expert selection

The seven experts were selected based on the following criteria:

- Hold a doctoral degree in educational administration.
- Have at least 10 years of experience in educational administration in higher education institutions.
- Have at least 10 years of experience in educational administration in basic education institutions or related agencies.
- Possess knowledge and experience in policymaking related to innovation development or have received awards in innovation development.

##### 2) Tools and Research Instrument Development

- The revised questionnaire, reviewed by five experts for validation purposes, was evaluated for alignment with the objectives. The Index of Content Validity (IOC) was required to fall within the acceptable range of 0.80 to 1.00, confirming a high level of consistency between the items and the program's objectives.

##### 3) Data Collection Process

Steps in the data collection process:

- Arranging appointments with experts for interviews in accordance with the research plan.
- Conducting interviews with experts between December 4–6, 2024, using both online and onsite formats.

##### 4) Data Analysis

Content Validity Assessment

- The Index of Item-Objective Congruence (IOC) was applied to assess content validity. According to the IOC criteria, an acceptable index must score at least 0.50 (Rovinelli & Hambleton, 1977).

Qualitative content analysis for summarizing guidelines for draft program design using thematic categorization.

Steps for qualitative content analysis:

- Categorizing qualitative data by forming content-based conclusions.
- Presenting findings through descriptive and analytical summaries.

#### Step 2: Development of the Innovator Competence Program for Teachers

The findings from Step 1, combined with the results of the confirmatory factor analysis of innovator competence, were integrated to create an appropriate program for enhancing innovator competence in teachers. These five essential competencies are required to cultivate teachers as innovators include the following five competencies: (1) adaptability to situations, (2) observation and questioning, (3) initiative thinking, (4) interpersonal collaboration, and (5) application (Kanlayakaew, Chansirisira, & Julsuwan, 2025).

The program was designed using the 70:20:10 Learning Model, which emphasizes three key components: (1) 70% learning through experience (Learn by Experience), (2) 20% learning from others (Learn by Others), and (3) 10% learning through structured training courses (Learn by Courses) (Lombardo & Eichinger, 1996). The results were synthesized to design the program, which consists of six key components: (1) principles, (2) objectives, (3) content, (4) development methods, (5) instructional materials, and (6) assessment and evaluation.

#### *Phase 2: Evaluation of the Appropriateness, Feasibility, and Usefulness of the Innovator Competence Program for Teachers*

The draft program for enhancing innovator competence was evaluated for appropriateness, feasibility, and usefulness through a Connoisseurship seminar involving nine experts.

##### 1) Expert Panel Selection

Nine experts were carefully selected and categorized into three groups of three individuals: university professors, regional educational administrators, and school administrators. The selection was based on the following criteria:

- 1.1) Hold a doctoral degree in educational administration.
- 1.2) Have at least 10 years of experience in educational administration in higher education institutions.
- 1.3) Have at least 10 years of experience in educational administration in basic education institutions or related agencies.
- 1.4) Demonstrate substantial knowledge and proven experience in policymaking and implementation related to innovation development or have received awards for significant contributions to innovation development.

## 2) Tools and Research Instruments

### Evaluation Questionnaire:

The appropriateness, feasibility, and usefulness of the program were assessed using a revised questionnaire. The questionnaire, reviewed by five experts, was evaluated for alignment with the objectives. The Index of Content Validity (IOC) yielded scores ranging from 0.80 to 1.00, indicating a high level of consistency between the questions and the objectives.

### Rating Scale:

The questionnaire employed a 5-point Likert scale for evaluation:

- 5—Most appropriate
- 4—Very appropriate
- 3—Moderately suitable
- 2—Low suitability
- 1—Least appropriate

### Rationale for Using a 5-Point Likert Scale:

- 2.1) Provides sufficient detail for assessment without being overly complex.
- 2.2) Aligns with widely used interpretation criteria in educational research.
- 2.3) Enables experts to distinguish levels of suitability clearly.

## 3) Data Collection Process

### Steps for data collection:

- 3.1) Scheduling a Connoisseurship seminar with experts.
- 3.2) Conducting the seminar with the nine experts on December 24, 2024.

Data were collected through an online connoisseurship seminar via Google Meet.

## 4) Data Analysis

### Content Validity Assessment:

- The Index of Item-Objective Congruence (IOC) was used to assess content validity. According to Tairuakham (2012), an acceptable IOC score must be at least 0.50.

### Statistical Analysis:

- Mean
- Standard deviation

### Interpretation Criteria (based on Boonchom Srisa-ard, 2010):

- 4.51–5.00: The highest level
- 3.51–4.50: High level
- 2.51–3.50: Middle level
- 1.51–2.50: Low level
- 1.00–1.50: The lowest level

## 4. Results

The researcher divided the analysis of the data into two parts according to the objectives as follows:

Phase 1: Development of the Innovator Competence Program for Teachers

The findings from the development of the Innovator Competence Enhancement Program for teachers reveal that an effective program must include six essential components, which are interrelated and necessary for achieving the goal of developing teachers with innovator competence. The program focuses on enhancing teachers' ability to create new knowledge and innovations that are both practical and valuable. The program consists of six key components: (1) principles, (2) objectives, (3) content, (4) development methods, (5) instructional materials, and (6) assessment and evaluation. These components align with Armstrong (2010), who identified six essential program elements: principles, objectives, activity content, development methods, instructional materials, and evaluation. Similarly, Laithaisong (2024) conducted research on the development of a program to enhance creative leadership among educational administrators in secondary schools under the Buriram Secondary Educational Service Area Office, identifying key components of program development, including principles, objectives, content, development methods, learning materials, and evaluation, confirming the importance of these aspects in educational program design.

To develop teachers with innovator competence, it is essential to cultivate their ability to invent and create new solutions, enhancing their capacity to develop meaningful and practical innovations that address work-related challenges or improve daily life. The training content was derived from Phase 1 research, which examined the components and indicators of innovator competence among teachers using confirmatory factor analysis. The findings revealed that five core competencies are essential for an innovator teacher (Kanlayakaew, Chansirisira, & Julsuwan, 2025). Consequently, the program was designed to incorporate these competencies into five learning units:

- Unit 1: Adaptability to Situations (23 hours)
- Unit 2: Observation and Questioning (19 hours)
- Unit 3: Initiative Thinking (13 hours 30 minutes)
- Unit 4: Interpersonal Collaboration (21 hours)
- Unit 5: Application (14 hours 30 minutes)

These competencies align with Phusri (2021), who studied strategies for developing innovator competence among secondary school teachers under the Office of the Basic Education Commission, identifying five core skills: (1) initiative thinking, (2) questioning skills, (3) observation skills, (4) experimentation, and (5) networking. Similarly, Atmojo et al. (2019) highlighted five key competencies for developing innovator and entrepreneurial skills in pre-service elementary school teachers: (1) making connections, (2) questioning, (3) observation and inference, (4) designing experiments, and (5) networking. Hero, Lindfors, and Taatila (2017) further identified six success factors for innovators, ranked in order of importance as follows: future orientation, social skills, creative thinking, project management, domain knowledge, and personal attributes. These competencies influence the innovation development process and instructional innovation capabilities.

Likewise, Promklay (2024) studied the development of innovator teacher characteristics at the elementary level, identifying creativity as the most crucial skill, followed by observation skills, technology skills, and networking abilities. Therefore, developing teachers as innovators requires both theoretical and practical preparation to ensure they can respond effectively to societal and national demands in a dynamic educational landscape.

A critical factor in advancing education toward success is having highly competent teachers who can develop learners capable of competing in today's educational and professional environments. As a result, many organizations focus on fostering continuous learning and professional development to enhance teachers' capabilities, adaptability, and teamwork. To cultivate innovator teachers, the 70:20:10 Learning Model was employed, with a total training duration of 91 hours, divided into three learning segments:

- 1) 70% Learning by Experience (64 hours)
  - Learning through real-world practice (On-the-Job Learning), which integrates self-development through hands-on experience. This includes working in real-life scenarios, participating in activities, and applying theoretical knowledge to actual work environments. The goal is to provide direct experience, ensuring long-term knowledge retention and skill mastery.
- 2) 20% Learning by Others (18 hours)
  - Team-Based and Networked Learning (10 hours): Learning occurs through discussions with peers, collaborating within professional networks, and engaging in shared learning experiences with individuals who have common interests.
  - Mentoring (8 hours): Learning from experienced mentors who provide guidance, coaching, and

knowledge-sharing through structured conversations and knowledge exchange. This type of learning is highly valuable as it helps participants gain new perspectives and apply their insights to generate innovative ideas, refine existing methods, and create new processes, tools, or models.

3) 10% Learning by Courses (9 hours)

- Learning through structured training programs designed with clear principles, objectives, content, development methods, learning materials, and evaluation frameworks. These courses provide theoretical knowledge and practical skills essential for developing innovator competence, enabling teachers to apply their learning to generate new knowledge and develop effective innovations.

This model aligns with Kanongdee and Vanichvasin (2021), who studied the application of the 70:20:10 Learning Model to enhance teamwork efficiency in corporate employees. Their findings demonstrated that the model effectively fosters collaboration across multiple dimensions, helping individuals achieve collective goals efficiently. Similarly, Pawangkanant et al. (2022) applied the model to enhance learning leadership among secondary school administrators, integrating 70% experiential learning, 20% professional learning community (PLC) development, and 10% formal training and follow-up activities.

Furthermore, Wonghkieo (2024) investigated strategies for developing innovator competence among teachers in educational opportunity expansion schools. The study emphasized the importance of applying theoretical knowledge in practice, engaging in collaborative learning within specialized groups, and receiving guidance from mentors. This approach fosters creative thinking, allowing teachers to develop essential skills such as idea generation, adaptability, and problem-solving through participatory activities. Teachers who engage in collaborative, inquiry-based learning gain new perspectives that enhance their ability to innovate, adapt, and respond to challenges effectively.

To ensure the effective development of innovator teachers, this program integrates theoretical and practical approaches, equipping teachers with the necessary competencies to adapt, create, and innovate. The structured framework and implementation process are illustrated in Figure 1, summarizing the program’s key components, learning methodologies, and expected outcomes.

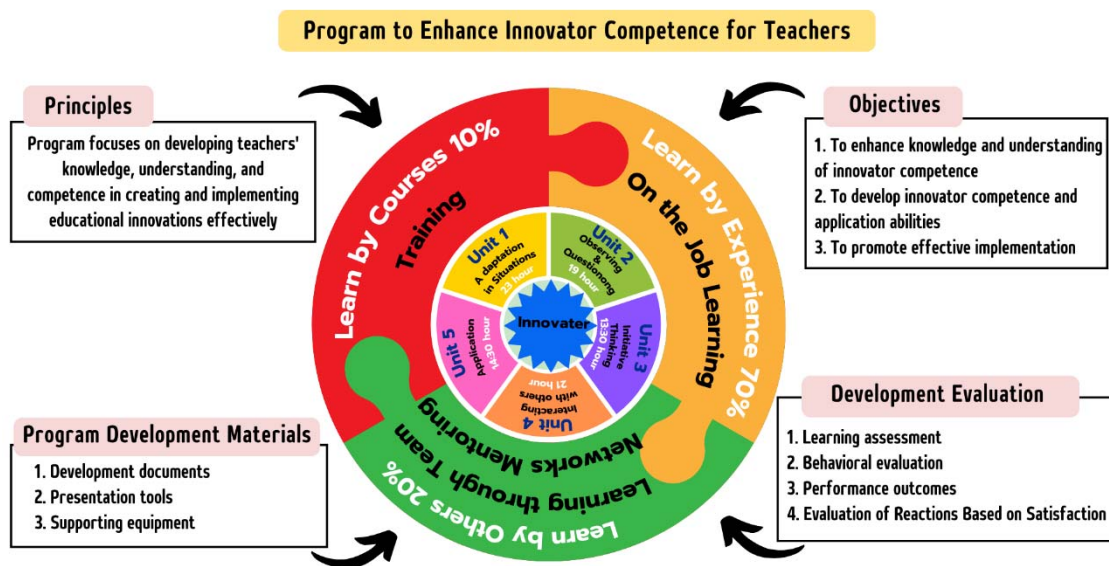


Figure 1. Program to enhance innovator competence for teachers

Phase 2. Evaluation of the Appropriateness, Feasibility, and Usefulness of the Program to Enhance Innovator Competence for Teachers

Table 1. Valuation results on the suitability, feasibility, and usefulness of the program for enhancing innovator competence among teachers

Item	Level of Appropriateness			Level of Probability			Level of Benefit		
	$\bar{X}$	S.D.	Level	$\bar{X}$	S.D.	Level	$\bar{X}$	S.D.	Level
1. Principles	4.59	0.52	Highest	4.67	0.49	Highest	4.78	0.42	Highest
1.1 Clarity of principles	4.56	0.53	Highest	4.67	0.50	Highest	4.67	0.50	Highest
1.2 Importance of principles	4.56	0.53	Highest	4.56	0.53	Highest	4.78	0.44	Highest
1.3 Application in practice	4.67	0.50	Highest	4.78	0.44	Highest	4.89	0.33	Highest
2. Objectives	4.63	0.49	Highest	4.52	0.51	Highest	4.74	0.43	Highest
2.1 To promote teachers' in-depth knowledge and understanding of the principles of innovator competence development. competence development	4.78	0.44	Highest	4.67	0.50	Highest	4.89	0.33	Highest
2.2 To foster innovator competence across five key dimensions	4.67	0.50	Highest	4.56	0.53	Highest	4.78	0.44	Highest
2.3 To enable teachers to apply and transfer acquired knowledge and skills in developing new knowledge and innovations effectively.	4.44	0.53	High	4.33	0.50	High	4.56	0.53	Highest
3. Content	4.63	0.55	Highest	4.60	0.51	Highest	4.63	0.51	Highest
3.1 Alignment with program objectives	4.56	0.53	Highest	4.67	0.50	Highest	4.78	0.44	Highest
3.2 Logical sequencing of content components	4.33	0.71	High	4.22	0.67	High	4.44	0.53	High
3.3 Unit 1: Adaptability to Situations (Future orientation, responding to change)	4.44	0.53	High	4.56	0.53	Highest	4.78	0.44	Highest
3.4 Unit 2: Observation and Questioning (Curiosity, questioning current conditions)	4.67	0.50	Highest	4.56	0.53	Highest	4.67	0.50	Highest
3.5 Unit 3: Initiative Thinking (Imaginative thinking, integrating experiences and creativity)	4.44	0.53	High	4.67	0.50	Highest	4.56	0.53	Highest
3.6 Unit 4: Interpersonal Collaboration (Communication, teamwork, social interaction)	4.67	0.50	Highest	4.89	0.33	Highest	4.78	0.44	Highest
3.7 Unit 5: Application (Prototyping, hands-on implementation)	4.56	0.53	Highest	4.44	0.53	High	4.67	0.71	Highest
4. Development Methods	4.63	0.61	Highest	4.68	0.50	Highest	4.71	0.41	Highest
4.1 70:20:10 Learning Model	4.67	0.56	Highest	4.70	0.45	Highest	4.74	0.43	Highest
1) 70% Learning by Experience (Practical, real-work learning)	4.67	0.71	Highest	4.56	0.53	Highest	4.78	0.44	Highest
2) 20% Learning from Others (Mentoring, peer learning, networking)	4.56	0.53	Highest	4.67	0.50	Highest	4.56	0.53	Highest
3) 10% Learning from Courses (Structured training programs)	4.78	0.44	Highest	4.89	0.33	Highest	4.89	0.33	Highest
4.2 Development Process	4.39	0.76	High	4.56	0.56	Highest	4.63	0.37	Highest
1) Pre-development assessment	4.56	0.73	Highest	4.67	0.50	Highest	4.67	0.33	Highest
2) Implementation and facilitation of the program	4.22	0.83	High	4.44	0.73	High	4.56	0.10	Highest
3) Post-development evaluation	4.67	0.71	Highest	4.78	0.4	Highest	4.67	0.33	Highest
4.3 Training Duration	4.58	0.52	Highest	4.69	0.48	Highest	4.73	0.43	Highest
1) Unit 1: Adaptability to Situations (23 hours)	4.67	0.50	Highest	4.78	0.44	Highest	4.89	0.33	Highest
2) Unit 2: Observation and Questioning (19 hours)	4.44	0.53	High	4.67	0.50	Highest	4.56	0.53	Highest
3) Unit 3: Initiative Thinking (13 hours 30 minutes)	4.56	0.53	Highest	4.78	0.44	Highest	4.89	0.33	Highest
4) Unit 4: Interpersonal Collaboration (21 hours)	4.56	0.53	Highest	4.67	0.50	Highest	4.56	0.53	Highest
5) Unit 5: Application (14 hours 30 minutes)	4.67	0.50	Highest	4.56	0.53	Highest	4.78	0.44	Highest

5. Instructional materials	4.70	0.47	Highest	4.78	0.42	Highest	4.74	0.43	Highest
5.1 Alignment with program objectives	4.56	0.53	Highest	4.67	0.50	Highest	4.56	0.53	Highest
5.2 Modern, innovative, and engaging instructional materials	4.78	0.44	Highest	4.89	0.33	Highest	4.89	0.33	Highest
5.3 User-friendly and easy-to-implement resources	4.78	0.44	Highest	4.78	0.44	Highest	4.78	0.44	Highest
6. Assessment and Evaluation Methods	4.63	0.52	Highest	4.74	0.46	Highest	4.70	0.45	Highest
6.1 Pre- and post-program knowledge assessment	4.56	0.73	Highest	4.78	0.44	Highest	4.67	0.50	Highest
6.2 Pre- and post-program skills assessment	4.44	0.53	High	4.56	0.53	Highest	4.56	0.53	Highest
6.3 Evaluation of work/projects post-training	4.89	0.33	Highest	4.89	0.33	Highest	4.89	0.33	Highest
6.4 Satisfaction assessment following program completion	4.67	0.50	Highest	4.56	0.53	Highest	4.78	0.44	Highest
Overall Program Evaluation	4.62	0.53	Highest	4.66	0.48	Highest	4.72	0.44	Highest

The overall evaluation results indicate that the appropriateness, feasibility, and usefulness of the Program to Enhance Innovator Competence for Teachers were rated at the highest level across all dimensions. This confirms that the program is well-structured and suitable for implementation.

The appropriateness of the program received a mean score of  $\bar{X}=4.62$ ,  $SD=0.53$ , reflecting its strong alignment with the needs and expectations of teachers. The feasibility of implementing the program was also rated at the highest level, with a mean score of  $\bar{X}=4.66$ ,  $SD=0.48$ , demonstrating its practicality and applicability in real educational settings. Additionally, the usefulness of the program was evaluated at  $\bar{X}=4.72$ ,  $SD=0.44$ , indicating its significant impact in enhancing innovator competence among teachers.

These findings highlight the effectiveness of the program in supporting teachers' skill development and its potential to foster innovation within educational environments.

## 5. Conclusion and Recommendations

“Innovation” is the outcome, while an “innovator” is the creator. An innovator teacher is an educator who designs, develops, and implements educational innovations within the classroom. The Program to Enhance Innovator Competence for Teachers serves as a key mechanism to support teachers in becoming educational innovators. To achieve this, teachers must develop five essential competencies which are identified as critical skills for Innovator Teachers: adaptability to situations, observation and questioning, initiative thinking, interpersonal collaboration, and application. These competencies empower teachers to initiate, invent, and create new instructional strategies and innovative teaching approaches, leading to innovative instructional techniques, pedagogical models, and creative solutions that enhance the effectiveness of classroom teaching and cater to the evolving needs of 21st-century learners.

Developing teachers' innovator competence requires a variety of training methods that address both theoretical knowledge and practical skills. The 70:20:10 Learning Model is an appropriate framework for cultivating innovator competence among teachers. This model emphasizes 70% experiential learning, where teachers acquire skills through hands-on experience in real classroom settings; 20% social learning, which involves mentoring, peer collaboration, and professional networking; and 10% formal learning, which consists of structured training programs and courses. This blended approach ensures long-term knowledge retention, enhances practical skill application, and enables teachers to continuously refine their expertise through direct experience, collaborative engagement, and systematic training.

To effectively integrate innovator competence into teaching, educators must transition from being knowledge transmitters to becoming facilitators and co-learners alongside their students. This shift allows teachers to evolve into designers, integrators, and creative thinkers, ultimately positioning them as pioneers of educational innovation. Once model innovator teachers are established, they can disseminate these competencies to students, fostering a culture of creativity, problem-solving, and innovation in schools.

For the Thai education system to remain competitive and adaptable to global advancements, the Ministry of Education should implement comprehensive policies and strategic frameworks to support the development of teachers as educational innovators. This effort should include resource allocation, targeted training programs, and school-level engagement in fostering innovator competence. By prioritizing teacher-driven innovation, the education system can equip educators with the skills necessary to inspire students, advance teaching methodologies,



and cultivate a new generation of learners who are capable of driving innovation in society.

his research highlights the importance of developing Innovator Teachers to drive educational innovation and cultivate creative, problem-solving students. By investing in teacher innovation development, Thailand can enhance its education system, nurture innovative thinking among students, and ultimately build a more competitive and future-ready workforce.

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Obtained.

### **Ethics approval**

This study adheres to the ethical guidelines set forth by the Publication Ethics Committee of the Canadian Center of Science and Education.

The journal's policies comply with the Core Practices established by the Committee on Publication Ethics (COPE).

### **Provenance and peer review**

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### **Data availability statement**

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

### **Data sharing statement**

No additional data are available.

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