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The Effects of Collaborative Research-Based Professional Coaching on the Professional Competence of Teachers and Educational Personnel: A Pilot Study in the Thai Context

Wanida Simpol [a1]

[a] *Loei Provincial Education Office, 99/1 Loei-Dansai Road, Kudpong, Muang District, Loei Province 42000, Thailand*

Abstract

Educational professional competence must be developed through continuous practical work without separation from regular work in order to achieve the goal of sustainable development. This research aimed to create a collaborative professional coaching process based on research to develop the professional competence of teachers, school administrators, and educational supervisors that affects the employability of basic education students in Loei Province. The study investigated the efficiency, effectiveness of the coaching process and the results of coaching. A quasi-experimental research methodology with a single group pre-test and post-test design was used to study 13 schools under Loei PESAO 1-2 and SESAO Loei - Nong Bua Lamphu, in the academic year 2025. The data were collected by 39 teachers, 13 school administrators, 3 experts, and 3 educational supervisors. A total of 400 students in grades 4-12 were selected using cluster random sampling. The research instruments consisted of assessment forms, checklists, and questionnaires. Data were analyzed by using frequency, percentage, efficiency index, relative gain score, and One Sample t-test. The research results revealed that the collaborative research-based professional coaching process focused on developing teachers' professional competence through the support of administrators and educational supervisors in a real-world research context, which was considered the first intervention: developing a spatial education program to enhance students' employability. This process was conducted as the second continuous professional development coaching cycle, which consisted of three steps: 1) identify, 2) learn, 3) improve, and the final results were: 1) teachers, school administrators, and educational supervisors had professional competencies, and 2) students had essential employment competencies. The results of the coaching process examination found that all components were appropriate, exceeding the standard efficiency and effectiveness. This resulted in increased professional competencies in all three professions, and the assessment results of students' employability were .01 significantly higher than the standard, with high satisfaction in all groups.

Key Words: Coaching, Professional, Competency

Introduction

The world is facing dramatic changes in digital technology, social dynamics, and global challenges such as achieving the Sustainable Development Goals (SDGs). Therefore, education systems face significant pressure to adapt. To ensure that youth acquire the skills necessary for life, careers, and effective citizenship, the skills framework for basic education should be reviewed and clearly defined (Sustainable Development Goals Research and Support Center, 2025). Economic and social changes in the 21st century have resulted in a labor market demand for individuals with specific skills and characteristics to enable them to adapt and function effectively. Research over the past decade has highlighted the multidimensional nature of essential employment skills, evolving from a focus on basic skills to a focus on digital and future skills. Research by Boonnithi Kasakul (2020) found that essential employment skills can be categorized into five components: communication skills, problem-solving, teamwork, lifelong learning, and planning and management. These skills reflect the initial readiness that learners should develop. To be a foundation for entering the labor market with quality, while Buasuwan et al. (2022) conducted research with the aim of reducing the gap between the skills that the current education system emphasizes and the holistic skills that the labor market and future society need, it was found that the framework for developing students' skills in the future consists of 5 main components as follows: 1) future learning skills 2) self-management skills 3) skills for living with others 4) skills for creating a happy life 5) skills for living with nature sustainably

Later, Sunisa Chokaew and Saranya Pancharoen (2022) studied the employability of Generation Z graduates and found that the expected and essential skills for employment include: 1) presentation skills, effectively conveying ideas and information; 2) communication skills, both interpersonal and organizational; 3) adaptability and perseverance, adaptability to the work environment and the ability to anticipate results; and 4) attitude and perspective traits, such as responsibility, readiness to learn, and positive work. Recently, research by Chantharaphon, Ma-in, and Lijun (2024), studying the Bangkok labor market, found that the skill components required by employers are broader and more complex, including foreign language communication skills, digital and technological skills, analytical thinking and problem-solving skills, as well as teamwork and leadership skills. Positive personal traits, such as honesty, diligence, and creativity, are also emphasized, reflecting the demands of workers in the era of globalization and a highly competitive digital economy.

[1] Wanida Simpol. Tel.: +66-862-183-746
E-mail address: sowanida@gmail.com

Comparing the above research, it can be seen that skills required for employment are constantly evolving according to the social context. Key skills consistently mentioned include communication, problem-solving, and teamwork. Recent research emphasizes the importance of adaptability skills, digital skills, and attitudinal traits, which are key factors enabling new graduates to truly meet the demands of the current labor market. Loei Province's development direction for 2023-2027 is to develop the province into a "health tourism city." The mission is to develop tourism to meet standards, promote food safety standards, manage natural resources and the environment for sustainability, and improve the information technology system to ensure comprehensive coverage and appropriateness (Loei Provincial Office, 2025). Therefore, provincial direction plays a part in designing student development. To develop these abilities, it is essential to develop those involved in education management, including teachers, school administrators, and educational supervisors. Past research indicates that the complexity of education requires continuous collaboration among relevant educational personnel in accordance with their respective positions to impact learner quality. Teachers play a primary role in learning management, including creating and/or developing curricula, designing learning management, organizing learning activities, creating and/or developing media, innovations, technologies, and learning resources, measuring and evaluating learning outcomes, conducting analysis, synthesizing, and/or researching to solve problems or improve learning, creating an environment conducive to learner development, training, and developing positive student characteristics, as well as promoting and supporting learning management, developing personal and professional development. School administrators play a primary role in academic administration and academic leadership, including planning and developing student learning standards, developing and implementing school curricula, developing learner-centered learning processes, and implementing teaching practices, promoting, supporting, and utilizing innovative media and educational technology in learning management, supervising, monitoring, and evaluating teacher learning management within schools, and ensuring internal educational quality assurance. They also conduct research, analyze, and solve problems and develop learning management to enhance the quality of education in schools, as well as in school management, strategic change management, and innovation. In terms of community and network administration, the Educational Supervisor Division's primary role is in educational supervision, namely, designing and creating educational supervision plans, selecting, creating, and developing educational media, innovations, and technology, conducting supervision operations, developing academic work, coordinating with agencies and businesses, monitoring and evaluating educational provision, reporting on supervision results, and promoting and supporting educational provision, as well as personal and professional development (Office of the Teachers Civil Service Commission and Educational Personnel, 2024).

However, Thailand's professional competency development still faces challenges: development does not align with teachers' needs and the context of their institutions. Most training activities are organized in accordance with central policy without systematic needs assessment. This results in development content and formats that do not address the learning management challenges of individual schools. Consequently, many teachers are unable to appropriately apply the knowledge gained from training. Post-training monitoring and evaluation are lacking. Despite ongoing development activities, there is no evaluation system that clearly reflects changes in teacher competency and student outcomes. This prevents development from being developed into sustainable policies or practices. Furthermore, there is overlap in curriculum and content for teacher development training. Responsible agencies develop curricula without coordinating information, resulting in repeated development of the same issues. Competency-based goals are unclear, leading to inefficient use of time and budget resources. Furthermore, there is a lack of continuity and long-term planning. Most development is conducted as short-term projects and lacks a continuous mechanism to promote teachers' lifelong learning. This results in temporary competency enhancements that fail to create true systemic change. Currently, there is no clear teacher development model aligned with the modern educational context. Teacher development in many areas lacks a model that integrates the knowledge, skills, and attitudes necessary for 21st-century learning. Therefore, it cannot fully address the goals of the Thailand 4.0 policy, which focuses on building innovation and student competence. Furthermore, it has been found that a significant number of teachers are unable to translate the knowledge gained from training into actual classroom practice due to a lack of school-level support systems, such as supervision, counseling, and collaborative learning exchange within the teaching staff, which are crucial factors for sustainable professional development (Thanat Matchara, 2021). In Loei Province, development of educational professionals remains fragmented by position, with overlap between teacher development and supervision groups. This lacks continuity, and development is separate from regular training. Upon completion of training, there is no clear process for monitoring and tracking the application of this knowledge, making it impossible to determine the success of teacher development (Wanida Simpol, 2022).

Therefore, if teachers, school administrators, and educational supervisors work together to develop learners according to position standards and emphasize actual work performance alongside development (Job embedded professional development), the method to effectively connect all three roles (Minnesota Department of Education, 2025; Zepeda, 2015) and have a clear process requires professional coaching (Wilaiporn Ritthikup, 2019; Knight, 2006; 2007; 2014; 2017; Aguilar, 2013; Sweeney & Harris, 2020) and the situation that will help create systematic collaboration is research (National Research Office (NRCT), 2021; Thailand Development Research Institute (TDRI), 2024; Wanida Simphol, 2022; Tatiya Na-udom and Ratikorn Niyomchan, 2024). Therefore, this research aims to create a collaborative professional coaching process using research as a base for developing professional competence of teachers, school administrators, and educational supervisors that affects the necessary abilities for employment of students in basic education, Loei Province. The research question is to

research and develop a program for organizing area-based education to enhance the necessary abilities for employment of students in basic education, Loei Province. As a result, this research aimed to 1) develop a collaborative, research-based professional coaching process to develop the professional competencies of teachers, school administrators, and educational supervisors, which impact the employability of basic education students in Loei Province, 2) study the efficiency and effectiveness of a collaborative, research-based professional coaching process to develop the professional competencies of teachers, school administrators, and educational supervisors and 3) study the effects of collaborative, research-based professional coaching on the professional competencies of teachers, school administrators, and educational supervisors, which impact the employability of basic education students in Loei Province.

Theoretical Concepts and Research Framework

1. Professional Coaching This research synthesized the professional coaching concepts of Jim Knight, Diane Sweeney, and Elena Aguilar. Knight's core strengths lie in its clear and systematic framework through the Impact Cycle, which emphasizes equity, choice, and teacher voice as the foundation for building trusting relationships and fostering authentic teacher engagement (Knight, 2006; 2007; 2014; 2017). Sweeney's model shifts the focus directly to student outcomes. Using student data as the primary driver of decision-making and creating instructional differentiation allows coaching to be directly connected to student needs and reduces pressure on teachers. This model promotes co-teaching and the use of constructive assessment, which are action-oriented and responsive to the context of the classroom (Sweeney & Harris, 2020). Aguilar (2013) offers a deeper and more comprehensive approach, focusing on teachers' internal transformation, including emotions, beliefs, and identity. The strengths of this approach lie in addressing complex issues such as inequality and fostering emotional resilience, open listening, and flexible dialogue. This allows teachers to explore and adjust the paradigms behind their own practices. Each model has its own strengths, but they all share the common goal of raising the quality of education through continuous professional development for teachers. Professional development relies on collaborative work in real-world settings, involving teachers, school administrators, and educational supervisors (coaches) to develop learners according to position standards and emphasizes on actual practice alongside development (Job embedded professional development). This approach effectively links these three groups of people together (Minnesota Department of Education, 2025; Zepeda, 2015). Research is used as the development context. The situation that will foster systematic collaboration is research (National Research Office (NRCT), 2021; Thailand Development Research Institute (TDRI), 2024; Wanida Simpol, 2022; Therefore, the professional coaching in this research has 3 important steps: Step 1, Identify, 1) Understand the clear picture of reality and 2) Set goals with the PEERS principle that is powerful, simple, attractive, accessible, and student-centered. Step 2, Learn from actual practice, 1) Practice according to the research plan (develop the program, test it, study the results), 2) Learn and fulfill (support resources, coach for motivation), and 3) Evaluate the results (collect data, analyze the results). Step 3, Improve, 1) Confirm the direction to deal with the problem and prioritize what needs to be developed, 2) Review the progress to analyze the data, evaluate the achievement of goals and methods, 3) devise improvements to solve the problem, adapt and adjust the methods, and 4) Plan to proceed by planning, organizing the support structure and delegating responsibilities in order to prepare to proceed to the next cycle.

2. Employability According to research by Boonnithi Kasakul (2020), essential skills for employment can be categorized into 5 components: communication skills, problem solving, teamwork, lifelong learning, and planning and management. These skills reflect the initial readiness that learners should develop as a foundation for entering the labor market with quality. Meanwhile, Buasuwan et al. (2022) conducted research with the aim of reducing the gap between the skills emphasized by the current education system and the holistic skills required by the labor market and future society. They found that the framework for developing students' skills for the future consists of 5 main components and 14 sub-skills as follows: 1) Future learning skills 1.1) Future life: The ability to adapt to changes and disruptions in technology, the environment, the economy, and society, including increasing efficiency in learning, working, and living. 1.2) Thinking: Intellectual abilities in processing information, solving problems, making decisions, and creating new ideas. 1.3) Networking: The ability to communicate and connect groups of people or organizations with common interests. 1.4) Innovation: The ability to apply knowledge, imagination, creativity and cooperation to create new things. 2) Self-management skills 2.1) Self-esteem: The ability to recognize one's own worth, self-confidence and self-respect. 2.2) Self-control: The ability to develop one's own behavior to achieve goals driven by intrinsic motivation. 2.3) Daily life problem solving: Applying experience, observation, data collection, analysis and conclusions to solve problems logically. 3) Social skills 3.1) Communication: The ability to speak, express and use symbols to convey one's own meaning, feelings and needs appropriately. 3.2) Strong citizenship: Self-awareness as a valuable member of society, respect for rules and human rights, and constructive participation in society. 3.3) Teamwork: Being a good team member and having leadership. And skills in working with others 3.4) Social etiquette: Awareness and application of polite tone of voice, gestures and behavior. 4) Skills for creating a happy life 4.1) Creating harmony: Actions leading to a balance of coexistence, consisting of the balance of body, mind, society and environment. 4.2) Appreciation of life: Appreciating the value of life, nature and creation. 4.3) Resilience: The ability to recover from difficult situations. 5) Skills for living sustainably with nature 5.1) Health care: Taking care of one's own health in daily life, maintaining hygiene and living in harmony with nature. 5.2) Environmental conservation: Using natural resources wisely and responsibly.

5.3) Interacting with nature: Living in harmony with nature, preserving the ecosystem and being aware of the relationship between humans and nature. Later, Sunisa Chokaew and Saranya Pancharoen (2022) studied the employability of Generation Z graduates. It was found that the expected and necessary skills for employment are: 1) Presentation skills, effectively transferring ideas and information. 2) Communication skills. Both interpersonal communication and organizational work 3) Adaptability and perseverance skills, adapting to the work environment and having the ability to wait for results. 4) Attitude and perspective characteristics such as responsibility, readiness to learn, and positive work. Recently, research by Chantharaphon, Ma-in, and Lijun (2024) studying the labor market in Bangkok found that the components of the skills that employers require are broader and more complex, including foreign language communication skills, digital and technological skills, analytical thinking and problem-solving skills, as well as teamwork and leadership skills. It also emphasizes positive personal characteristics such as honesty, diligence, and creativity, all of which reflect the needs of workers in the era of globalization and a highly competitive digital economy.

From the aforementioned research, it can be seen that skills required for employment are constantly evolving according to the social context. Key skills consistently mentioned include communication, problem-solving, and teamwork. Recent research emphasizes the importance of adaptability skills, digital skills, and attitudinal characteristics, which are key factors enabling new graduates to truly meet the demands of the current labor market. Loei Province has developed a revised provincial development plan for fiscal year 2025. This plan involved gathering and surveying opinions on the needs of residents in each district and the private sector in Loei Province, with the participation of all sectors. This information was used in a workshop to review and revise the 5-year provincial development plan (2023-2027). The results concluded with the development direction for Loei Province for 2023-2027, namely the goal of developing the province into a "health tourism city." The mission is to develop tourism to meet standards, promote food safety standards, manage natural resources and the environment for sustainability, and improve the information technology system to ensure comprehensive coverage and appropriateness (Loei Provincial Office, 2025). Therefore, the provincial direction is integral to designing student development. Therefore, the seven employment components were synthesized: 1) leadership and teamwork, 2) problem-solving and adaptability, 3) technological competence, 4) knowledge and interest in travel, 5) empathy and social concern, 6) knowledge and interest in health and well-being, and 7) language competence.

3. Professional Competency of Teachers and Educational Personnel

Teachers play a key role in learning management, including creating and/or developing curricula, designing learning management, organizing learning activities, creating and/or developing media, innovations, technologies, and learning resources, measuring and evaluating learning outcomes, conducting research, analyzing, synthesizing, and/or conducting research to solve problems or improve learning, creating an environment that promotes and develops learners, training, and developing positive student characteristics, as well as promoting and supporting learning management, developing school curricula, developing student-centered learning processes and teaching practices, promoting, supporting, developing, or utilizing innovative media and educational technology in learning management, supervising, monitoring, and evaluating teachers' learning management in schools, and ensuring educational quality within the school. They also conduct research, analyze, and solve problems and develop learning management to enhance the quality of education in schools. This also includes school management, strategic change management, and innovation, as well as community and network management. Educational supervisors play a key role in educational supervision, designing and developing educational supervision plans, selecting, creating, and developing educational media, innovations, and technologies, conducting supervision operations, developing academic work, and coordinating with other agencies. Establishments monitor and evaluate educational management, report on supervision results, including the promotion and support of educational management, and personal and professional development (Office of the Teachers' Civil Service Commission and Educational Personnel, 2024). From the above concepts, the research framework can be identified as follows:

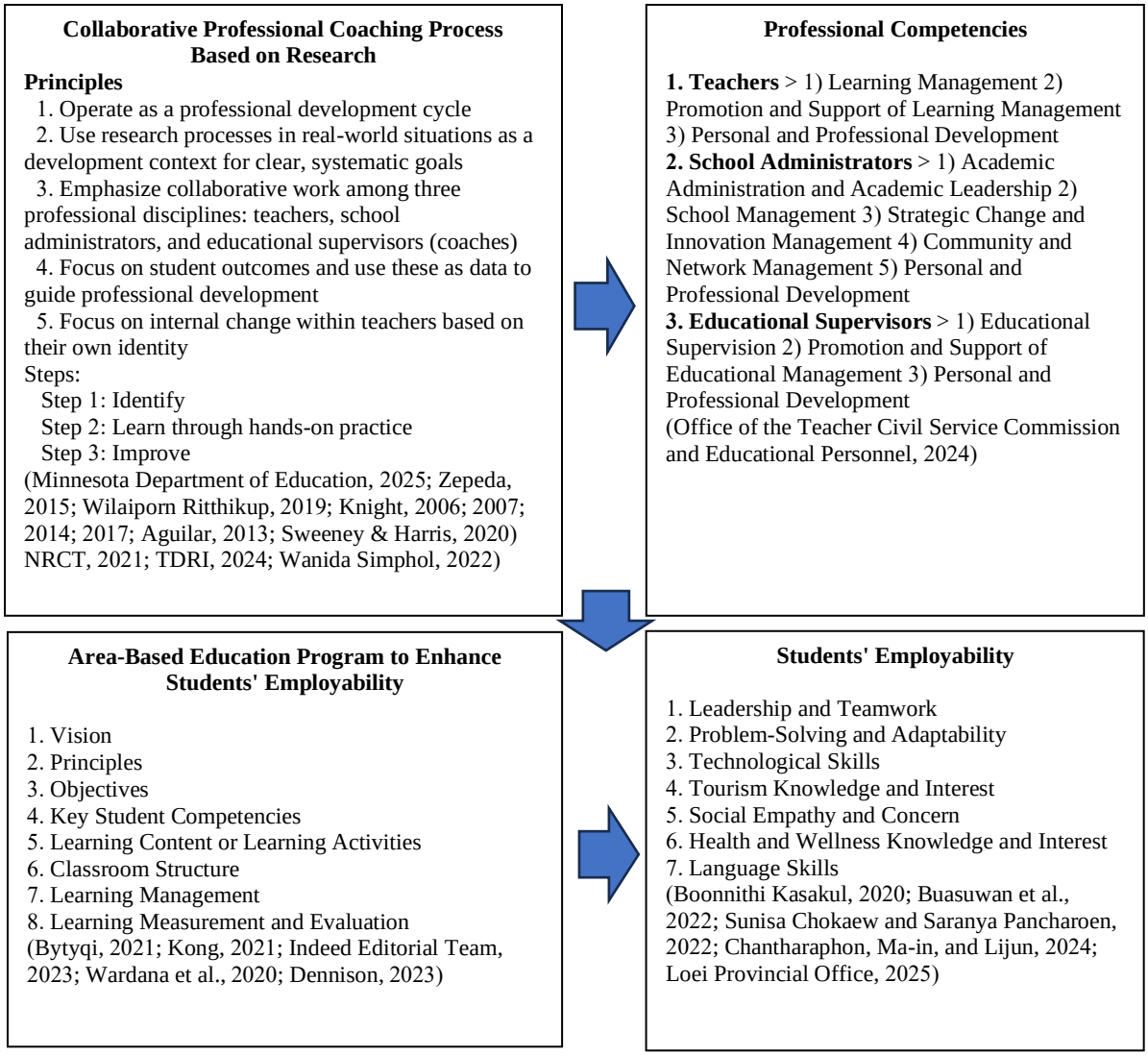

Figure 1 Research conceptual framework

Method

This research utilized a quasi-experimental research methodology with a one-group pretest-posttest design. The research was conducted under the research project to develop a local education management program to enhance the skills necessary for employment among basic education students in Loei Province. The study covered 13 schools under the Loei Primary Educational Service Area Office 1 and 2 and the Loei-Nong Bua Lamphu Secondary Educational Service Area Office. The study participants participated in the 2025 academic year. Details of the research are as follows:

1. Participants were divided into three groups as follows:

1.1 Group 1: 39 teachers from 13 target schools, 3 teachers per school, using purposive sampling.

1.2 Group 2: 13 school administrators who participated in the research, using purposive sampling.

1.3 Group 3: 3 educational supervisors from each educational service area, using purposive sampling.

1.4 Group 4: 3 experts, including academics, education management experts, and policy administrators, using purposive sampling. This was to examine the collaborative professional coaching process using research.

1.5 Group 5: 2,102 students from grades 4 to 12, representing the population. Then, cluster random sampling was used, using classrooms as the unit of sampling, resulting in a sample of 400 people from all 13 schools.

2. Measure

2.1 Three professional competency assessment forms, namely, the professional competency assessment form for teachers, school administrators, and educational supervisors, are rubric-type assessment forms. They are used to assess competency before, during, and after research. They were created by studying research documents related to professional competency assessment and using the professional competency assessment components for teachers, school administrators, and educational supervisors of the Office of the Teachers' Council of Thailand.

Then, they were created as rubrics with 4 quality levels: 4 points means excellent, 3 points means good, 2 points means fair, and 1 point means needs improvement. Content validity was examined by 5 experts. IOC analysis found that all items had an IOC value of 1.00, indicating that the tool has content validity. and tested by having 2 experts evaluate each version and analyzed the reliability between raters by calculating the ICC value. The results were 0.973, 0.936, 0.915, indicating that the reliability between raters was at a high level and could be used.

2.2 The collaborative research-based professional coaching process checklist was used to check the coaching process before trial use. It was created by studying research documents related to process evaluation and modeling to determine the components of the instrument. Then, the items were created as a checklist. The content validity was checked by 5 experts. The IOC analysis found that every item had an IOC value of 1.00, indicating that the instrument had content validity. The experts then evaluated the professional coaching process and analyzed the consistency of the assessment. The results showed a consistency of 100%, which is more than 70% consistent, indicating that the instrument has inter-rater reliability.

2.3 The Student Employability Assessment is a rubric-based assessment with four quality levels: 4 points means excellent, 3 points means good, 2 points means fair, 1 point means needs improvement. The researcher studied research literature related to the measurement and assessment of skills and abilities required for employment to identify assessment items based on competency components. The rubric-based assessment was then developed and examined for content validity by five experts. The IOC analysis revealed that all items had an IOC of 1.00, indicating content validity. Two teachers administered the assessment to the same students and analyzed the inter-rater reliability using the ICC. The ICC was 0.926, indicating high inter-rater reliability and can be used.

2.4 Two satisfaction questionnaires were administered. The first was used to assess teacher and school administrator satisfaction with the professional coaching process, while the second was used to assess student satisfaction with the school's educational management program. The questionnaire used a 5-point rating scale with 20 items. Each level had the following meanings (Bunchom Srisa-ard, 2017): 5 means extremely satisfied; 4 means highly satisfied; 3 means moderately satisfied; 2 means slightly satisfied; 1 means least satisfied. The questionnaire was developed by studying research literature related to satisfaction measurement and assessment, identifying assessment items, and developing a 5-point rating scale with 20 items. Each version was examined for content validity by five experts. Analysis of the IOC values revealed that all items had an IOC of 1.00, indicating content validity. It was tested with school administrators, teachers, and students in the research project population, 30 people per copy. The reliability was analyzed using the Cronbach's Alpha Coefficient formula, which yielded reliability values of 0.978 and 0.974.

3. Procedure and design

The researcher conducted data collection in two parts: Part 1: Development of the Coaching Process and Part 2: Experimental Coaching Practice in the Research Situation, as follows:

3.1 Part 1: Development of the Coaching Process

1) Synthesized a collaborative professional coaching process using research-based methods. This involved studying relevant documents and research to determine the components and processes of coaching.

2) Developed research instruments and a research implementation manual for participating schools.

3) Validated the collaborative professional coaching process using research-based methods. A checklist was submitted to experts for review prior to trial implementation.

3.1 Part 2: Experimental Coaching Practice in the Research Situation. The coaching process was integrated into the research process as follows:

Step 1: Identify

1) Recruited schools to participate in the research project. The first meeting was held to establish understanding of the research project's objectives.

2) Assessed professional competence prior to the commencement of the research on November 14, 2024, at the meeting room of the Loei Provincial Education Office.

2) Announced the appointment of the provincial and school-level research committees.

3) The second meeting was held to prepare for the development of a local education program to enhance students' employment-related skills. At the school level, on March 13, 2025, at the meeting room of the Loei Provincial Education Office,

4) Schools understand the conditions, context, community, and clear realities about students. Then, they set goals using the PEERS principles, which are powerful, simple, engaging, accessible, and student-centered. This was done by building understanding with school stakeholders to prepare data before the workshop and collect data. Step 1: Understanding Emotions (Empathize) and Step 2: Define Problems with students, the research target group, and school stakeholders.

Step 2: Learning from Practical Action

1) Stakeholder Workshop: Draft a Local Education Program to Strengthen Employability for Students at the School Level Between April 2 and May 6, 2025, the school utilized a five-step Design Thinking process to draft its educational program, as follows:

1.1) Empathize: This stage analyzes the skills needed for employment in the target student group. The school then reviews and presents the data from Step 1.

1.2) Define: Stakeholders brainstormed to define the problem and formulate questions that would lead to the development of a spatial education approach to enhance students' skills needed for employment. The data from Step 1 was then reviewed and presented before beginning Step 3.

1.3) Ideate: This stage drafts a spatial education program to enhance basic education students' skills needed for employment in Loei Province.

1.4) Prototype: This stage develops details and components of a spatial education program to enhance basic education students' skills needed for employment in Loei Province. The program is then reviewed by experts. The researcher presented the draft of the school's educational program at a meeting.

Before the testing stage, a meeting was held to critique and review the school's educational program draft with the Loei Provincial Education Office. and 13 other schools on May 20, 2025, from 8:30 a.m. to 4:30 p.m. at Flora Hill Resort Hotel, Loei Province, and improvements were made before trial use.

1.5) Testing: The school piloted the area-based education program prototype to enhance the essential skills for employment of basic education students in Loei Province in all 13 target schools.

6) Informal supervision and coaching of school administrators and teachers via online channels, and formal supervision by field visits to all 13 schools, to monitor progress and assess the professional competencies of teachers, school administrators, and educational supervisors who act as school research coaches, from July 1 to August 14, 2025.

Step 3: Improvement:

1) A summary meeting was held to assess students' employability and assess student satisfaction with the school's educational programs on August 21, 2025, at the Loei Pittayakhom School conference room.

2) Present and disseminate research results and products from the educational programs of all 13 schools on August 27, 2025, at the Flora Hill Resort Hotel, Loei Province.

3) Collaboratively reflect on four issues: 1) Confirm directions for addressing problems and prioritizing areas for development; 2) Review progress by analyzing data to assess goal achievement and implementation; 3) Develop improvement strategies to address problems, adapt, and adjust methods; 4) Plan for implementation to prepare support structures and share responsibilities in the future; and 4) Evaluate the professional competence of teachers, school administrators, and educational supervisors who serve as school research coaches after the research process is complete.

4. Data analysis

4.1 Analyze the results of the professional coaching process using basic statistics, including frequency and percentage.

4.2 Analyze the effectiveness (E1/E2) of the professional coaching process by comparing the process efficiency with the outcome efficiency (Chaiyong Phromwong, 2013). Analyze the effectiveness of the professional coaching process by calculating the Effectiveness Index (E.I.) between pre- and post-experiment (Rattana Buason, 2011).

4.3 Analyze scores from the professional competency assessment of teachers, school administrators, and educational supervisors. Analyze the relative gain score. Sirichai Kanchanawasi (2009) established the following development score assessment criteria: 76-100: Very high development 51-75: High development 26-50: Moderate development 1-25: Early development Below -0: No development.

4.4 Scores from the assessment of students' employability were analyzed using basic statistics, including percentages, and then compared to the good quality criteria using a one-sample t-test. The interpretation criteria for the scores were as follows: 80-100% indicates students' employability is Excellent; 70-79% indicates students' employability is Good; 60-69% indicates students' employability is Fair; Less than 60% indicates students' employability is Improvement.

4.5 Teacher, school administrator, and student satisfaction scores were analyzed using basic statistics, including means and standard deviations. The interpretation criteria for the mean values were as follows (Bunchom Srisa-ard, 2017): 4.51-5.00 indicates extremely satisfied; 3.51-4.50 indicates highly satisfied; 2.51-3.50 indicates moderately satisfied; 1.51-2.50 means slightly satisfied and 1.00 -1.50 means least satisfied.

Results

The results of this research are presented in three parts:

Part 1: A collaborative research-based professional coaching process for developing the professional competencies of teachers, school administrators, and educational supervisors, which influence the competencies required for employment among students in basic education in Loei Province.

1.1 The collaborative research-based professional coaching process. The collaborative research-based professional coaching process focuses on developing teachers' professional competencies through the support of administrators and educational supervisors in a real-world research context. This process involves a continuous three-step professional development cycle, resulting in students developing the competencies required for employment, as shown in Figure 2. Details are as follows:

1.1.1 Principles

1) Operate as a professional development cycle

2) Use the real-world research process as a development context for clear, systematic goals

3) Emphasize collaborative work among personnel from three professional disciplines: teachers, school administrators, and educational supervisors. and educational supervisors (coaches).

4) Focus on student outcomes and use this information to determine the direction of professional development.

5) Focus on internal changes in teachers based on their own identities.

1.1.2 Context: Research Situation: The research question is to develop a local education management program to enhance the necessary skills for employment for basic education students in Loei Province. Thirteen schools under the jurisdiction of Loei Primary Educational Service Area Office 1 and 2, and the Loei-Nong Bua Lamphu Secondary Educational Service Area Office, participated in the research. There were 39 teachers, 13 administrators, three educational supervisors acting as coaches, and 10 assistant coaches. The study covered 2,102 students in grades 4-12 in the 2025 academic year.

1.1.3 Process: The study was conducted in three steps through two development interventions:

Intervention 1: Developing the professional competencies of teachers and school administrators. and Educational Supervisors

1) Identify

1.1) Understand a clear picture of reality

1.2) Set goals using the PEERS principle, which is powerful, simple, engaging, accessible, and student-centered

2) Learn through hands-on practice

2.1) Implement the research plan (develop the program, test it, and study the results)

2.2) Learn and Enhance (provide resources, coach for motivation)

2.3) Evaluate the results (collect data, analyze results)

3) Improve

3.1) Confirm direction: Address issues and prioritize areas for improvement

3.2) Review progress: Analyze data to assess goal achievement and implementation

3.3) Develop improvement strategies: Solve problems, adapt, and adjust methods

3.4) Plan for implementation: Plan, structure support, and share responsibilities

Intervention 2: Develop essential student employment skills through teachers, with the assistance of school administrators and educational supervisors according to the research questions

1.1.4 Outcomes are divided into 2 parts: 1) professional competence of teachers, school administrators and educational supervisors; 2) students' employability.

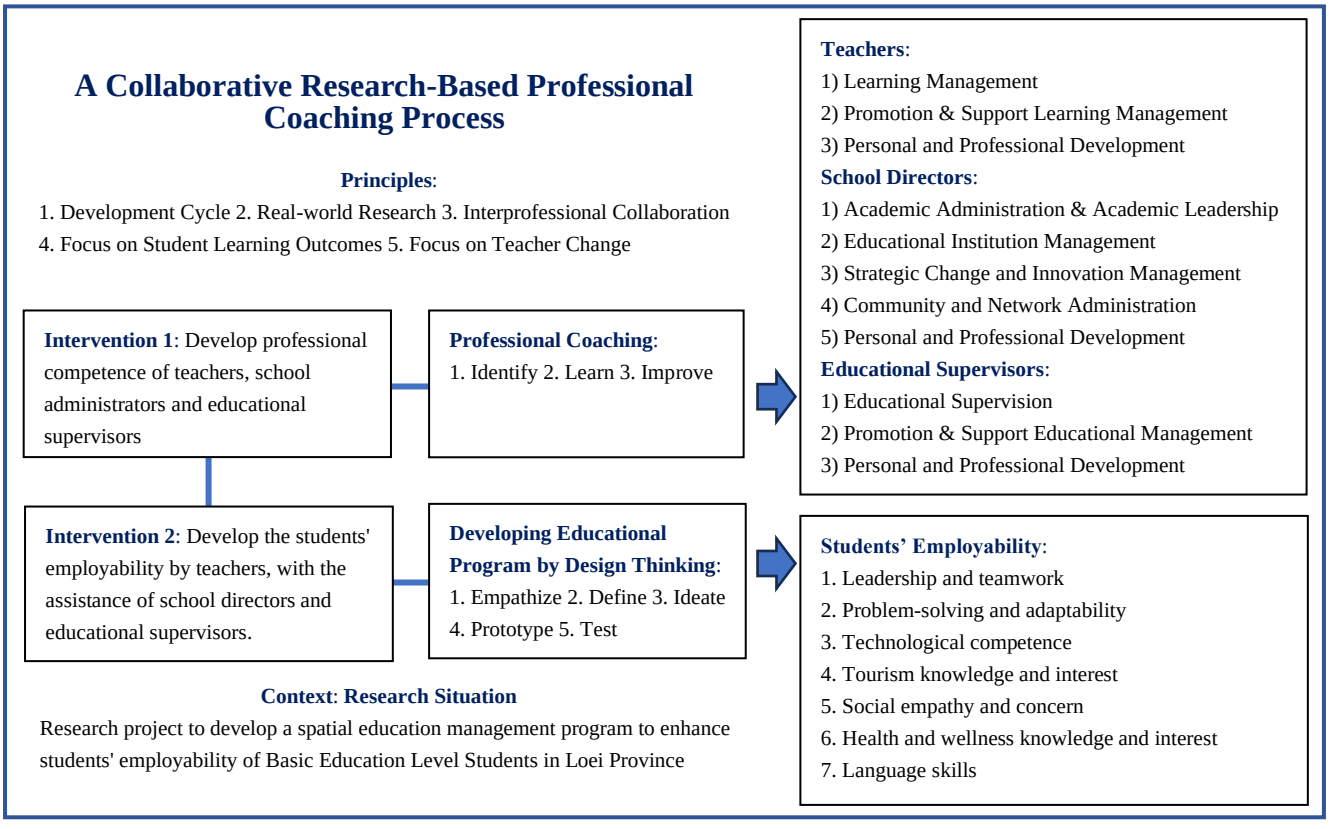

Figure 2 A collaborative research-based professional coaching process

1.2 Results of the Collaborative Research-Based Professional Coaching Process Inspection

The results of the collaborative research-based professional coaching process reviewed by experts revealed that experts agreed on the appropriateness of the process across all components, representing 100%, as follows:

Table 1 Results of the Collaborative Professional Coaching Process Inspection by Experts

Evaluation components	Expert Review Results			Conclusion and Recommendations
	Person 1	Person 2	Person 3	
1. Principles	suitable	suitable	suitable	consistent
2. Context: Research Situation	suitable	suitable	suitable	consistent
3. Process	suitable	suitable	suitable	consistent
4. Outcomes	suitable	suitable	suitable	consistent
5. Overview	suitable	suitable	suitable	consistent

Part 2: Efficiency and Effectiveness of the Collaborative Research-Based Professional Coaching Process for Developing the Professional Competencies of Teachers, School Administrators, and Educational Supervisors

2.1 Efficiency of the Collaborative Research-Based Professional Coaching Process

The effectiveness of the collaborative research-based professional coaching process was measured by comparing the professional competency development process of teachers, school administrators, and educational supervisors during the research-based supervision activities (E1) with the post-research professional competency assessment (E2). The results showed a score of 84.64/84.20, exceeding the established criteria of 80/80, as shown in Table 2.

Table 2 Efficiency of the Collaborative Professional Coaching Process

Professional competence	Process efficiency (E1)	Outcome efficiency (E2)	Summary
1. Teachers (N=39)	84.35	83.91	above standard
2. School administrators (N=13)	86.09	86.52	above standard
3. Educational supervisors (N=3)	83.48	82.17	above standard
Overall	84.64	84.20	above standard

2.2 Effectiveness of the Collaborative Research-Based Professional Coaching Process

The effectiveness of the collaborative research-based professional coaching process was measured by comparing the professional competency assessment results of teachers, school administrators, and educational supervisors before and after the research process. The effectiveness index was found to be 0.7285, indicating that the collaborative research-based professional coaching process resulted in a 72.85 percent increase in professional competency for all three professions, as shown in Table 3.

Table 3 Effectiveness of the collaborative research-based professional coaching process

Professional competence	Effectiveness index
1. Teachers (N=39)	0.7413
2. School administrators (N=13)	0.7459
3. Educational supervisors (N=3)	0.6985
Overall	0.7285

Part 3: The Effects of Collaborative Research-Based Professional Coaching on the Professional Competencies of Teachers, School Administrators, and Educational Supervisors, Influencing the Employment-Required Competencies of Students in Basic Education in Loei Province

3.1 Relative Professional Competency Gain Scores of Teachers, School Administrators, and Educational Supervisors

The relative professional competency gain scores of teachers, school administrators, and educational supervisors were compared by comparing the professional competency assessment results of teachers, school administrators, and educational supervisors before and after the research process. The development scores were analyzed against criteria. Overall, 48 participants (87.28%) achieved higher or higher development scores. The majority of teachers demonstrated high levels of professional competency development, while the majority of school administrators demonstrated very high levels of development. Educational supervisors demonstrated very high, high, and moderate levels of competency with an equal proportion.

Table 4 Relative Professional Competency Gain Scores of Teachers, School Administrators, and Educational Supervisors

Professional competence	Number (people)				Developmental Score Criteria
	Very high	High	Moderate	Total	
1. Teachers	13	20	6	39	76-100: Very high development
2. School administrators	10	3	-	13	51-75: High development
3. Educational supervisors	1	1	1	3	26-50: Moderate development
Total	24	24	7	55	1-25: Early development
Percentage	43.64	43.64	12.72	100	Below -0: No development

3.2 Employability of Basic Education Students in Loei Province

The results of the assessment of essential employment skills for basic education students in Loei Province after implementing the school's educational management program revealed that the overall mean score was 94.56, representing 84.43%, significantly higher than the 70% criterion at the .01 level.

Table 5 Comparison of employability of basic education students in Loei Province with the 70% criterion.

Schools	Ability score (Full 112)		N	df	t
	Mean	Percentage			
Grades 4-6			400	399	47.002**
1. Ban Huai Pao Nuea School	85.92	76.71			
2. Ban Wang Muang School	85.85	76.66			
3. Ban Non Kok Kha School	104.39	93.21			
4. Ban Pak Pat School	84.42	75.38			
5. Ban Na Duang Community School	106.37	94.97			
Grades 7-9					
1. Ban Huai Sai School	91.54	81.73			
2. Ban Nam Phon School	89.92	80.28			
3. Ban Non Po Daeng School	90.74	81.02			
4. Ban Wang Taen School	84.69	75.62			
5. Ban Phia Sam Phu Witthaya School	93.69	83.65			
Grades 10-12					
1. Chiang Khan School	101.70	90.81			
2. Nong Hin Witthayakhom School	97.43	86.99			
3. Erawan Witthayakhom School	92.75	82.81			
Overall	**94.56**	**84.43**			

Note ** means statistically significant at the .01 level.

3.3 Satisfaction of Teachers, School Administrators, and Educational Supervisors with the Professional Coaching Process

The overall satisfaction of teachers, school administrators, and educational supervisors with the professional coaching process was found to be at a high level (Mean = 4.47, S.D. = 0.56). The highest satisfaction level was found in the fourth aspect, Outcomes and Benefits (Mean = 4.53, S.D. = 0.60), followed by the second aspect, Professional Coaching Practices (Mean = 4.48, S.D. = 0.58), the first aspect, Appropriateness of the Research Situation (Mean = 4.46, S.D. = 0.59), and the third aspect, Research Process (Mean = 4.43, S.D. = 0.62), respectively.

Table 5 Satisfaction of Teachers and School Administrators with the Professional Coaching Process (N=52)

Item	**Mean**	**S.D.**	**Interpretation**
Aspect 1: Appropriateness of the Research Situation	**4.46**	**0.59**	**highly satisfied**
1. Benefits of the research topic to students	4.44	0.62	highly satisfied
2. Benefits of the research topic to teacher development	4.48	0.66	highly satisfied
3. Benefits of the research topic to administrators' development	4.43	0.72	highly satisfied
4. Conformity of the research question to the school context and needs	4.44	0.68	highly satisfied
5. Appropriateness of the research objectives	4.49	0.64	highly satisfied
Aspect 2: Professional Coaching Practices	**4.48**	**0.58**	**highly satisfied**
6. Clarity and systematicity of the coaching process	4.47	0.68	highly satisfied
7. Readiness and effective coaching planning	4.48	0.70	highly satisfied
8. Promotion of learning exchange and reflection among stakeholders	4.48	0.76	highly satisfied
9. Knowledge, abilities, and experience of the coach	4.51	0.58	extremely satisfied

Item	Mean	S.D.	Interpretation
10. Positive attitude and friendship and coach inspiration	4.48	0.62	highly satisfied
Aspect 3: Research Process	**4.43**	**0.62**	**highly satisfied**
11. Clarity of procedures and procedures	4.44	0.74	highly satisfied
12. Appropriateness of resource allocation and support	4.32	0.79	highly satisfied
13. Cooperation between teachers, administrators, and external participants	4.49	0.67	highly satisfied
14. Flexibility of the research process to adapt to the school context	4.49	0.64	highly satisfied
15. Effective coordination and communication among stakeholders	4.41	0.76	highly satisfied
Aspect 4: Results and Benefits	**4.53**	**0.60**	**extremely satisfied**
16. Improvements and changes for teachers	4.60	0.62	extremely satisfied
17. Improvements and changes for school administrators	4.53	0.60	extremely satisfied
18. Improvements and changes for students	4.55	0.68	extremely satisfied
19. School research capacity	4.40	0.74	highly satisfied
20. Practice and experience for professional advancement	4.55	0.66	extremely satisfied
Overall	**4.47**	**0.56**	**highly satisfied**

3.4 Student Satisfaction with the School's Educational Management Program

The overall satisfaction level for the use of the Area-Based Education Program to enhance students' employability skills was high (Mean = 4.13, S.D. = 0.75). The highest satisfaction level was found in aspect 3, Teacher Learning Management (Mean = 4.14, S.D. = 0.76), followed by aspect 2, Learning Outcomes (Mean = 4.12, S.D. = 0.77), and aspect 1, Learning Content and Activities (Mean = 4.12, S.D. = 0.79), respectively.

Table 6 Satisfaction with the Use of the Area-Based Education Program to Enhance Students' Employability Skills (N=400)

Item	Mean	S.D.	Interpretation
Aspect 1: Content and Learning Activities	**4.12**	**0.79**	**highly satisfied**
1. Clarity and ease of understanding of program content	4.01	0.97	highly satisfied
2. Appropriateness of content to student grade levels	4.12	0.99	highly satisfied
3. Variety of learning activities	4.21	0.95	highly satisfied
4. Interestingness and appeal of activities	4.16	0.98	highly satisfied
5. Appropriateness of hands-on activities	4.08	1.08	highly satisfied
6. Fun and stimulating participation	4.11	0.80	highly satisfied
7. Content alignment with future career skills	4.16	1.01	highly satisfied
Aspect 2: Learning Outcomes	**4.12**	**0.77**	**highly satisfied**
8. Development of teamwork and leadership skills	4.04	0.99	highly satisfied
9. Development of problem-solving and adaptability skills	4.14	0.95	highly satisfied
10. Development of technology skills	4.11	0.97	highly satisfied
11. Increasing knowledge and interest in tourism and local culture	4.14	0.78	highly satisfied
12. Development of empathy and helping others	4.18	0.96	highly satisfied
13. Increasing awareness and self-care	4.15	0.93	highly satisfied
14. Development of foreign language communication skills	4.16	0.98	highly satisfied
15. Application of knowledge and skills from the program to real-life situations	4.07	1.02	highly satisfied
Aspect 3: Teachers' learning management	**4.14**	**0.76**	**highly satisfied**
16. Clarity of explanations of content and activity steps	4.17	0.81	highly satisfied
17. Appropriateness of teaching media and equipment	4.09	0.99	highly satisfied
18. Teachers' guidance and assistance during learning	4.10	0.99	highly satisfied
19. Promoting comprehensive student participation	4.23	0.98	highly satisfied
20. Inspiring and motivating students to continue learning	4.21	0.95	highly satisfied
Overall	**4.13**	**0.75**	highly satisfied

Discussion and conclusion

1. The collaborative research-based professional coaching process focuses on developing teachers' professional competence through the support of administrators and educational supervisors in a real-world research context, considered the first intervention. This intervention involved developing a localized educational program to enhance the skills necessary for employment for basic education students in 13 schools in Loei Province. This process was implemented through a continuous coaching cycle for professional development, considered the second intervention, with three steps: 1) Identify a clear reality, define goals using the PEERS principle, which is

powerful, simple, engaging, accessible, and student-centered. 2) Learn from practical work, following the research plan, learning and completing, and evaluating the results. 3) Improve by confirming the direction, reviewing progress, developing improvement strategies, and planning for further action. The final results consisted of: 1) Teachers, school administrators, and educational supervisors possessing professional competence and 2) Students possessing the employability. The results of the collaborative research-based professional coaching process revealed that experts agreed on the appropriateness of the process across all components, representing 100%. This collaborative, research-based professional coaching process is based on principles focused on developing teachers' professional competencies by supporting administrators and supervisors in real-world research contexts to develop students' essential competencies for employment. This cyclical process aligns with Knight's (2006; 2007; 2014; 2017) research, which outlines a clear and systematic framework through the Impact Cycle, emphasizing equity, choice, and teacher voice as the foundation for building trusting relationships and fostering authentic teacher engagement. Sweeney & Harris (2020) focus on student outcomes, using student data as a primary driver of decision-making, and creating instructional differentiation, enabling coaching to be directly connected to student needs, a practice-based approach that is both action-oriented and responsive to the classroom context. Furthermore, Aguilar focuses on teachers' internal transformation, including emotions, beliefs, and identities. The strengths of this approach lie in addressing complex issues such as inequality and fostering emotional resilience, fostering open listening, and flexible dialogue, enabling teachers to explore and reframe the paradigms underlying their own practices. Each model has its own strengths, but they all share the common goal of enhancing the quality of education through continuous professional development. A synthesis of these concepts and developed into a professional coaching process, resulting in the coaching process being appropriate in all elements.

2. The efficiency and effectiveness of the collaborative research-based professional coaching process in developing the professional competence of teachers, school administrators, and educational supervisors were found to be 84.64/84.20, which is higher than the set criterion of 80/80. The effectiveness of the collaborative research-based professional coaching process was found to have an effectiveness index of 0.7285, which means that the collaborative research-based professional coaching process resulted in a 72.85 percent increase in the professional competence of all three professions. This may be because the developed coaching process is based on research-based theories, emphasizing practical work alongside development by systematically connecting professional personnel to work together (Minnesota Department of Education, 2025; Zepeda, 2015) through research processes (National Research Office (NRCT), 2021; Thailand Development Research Institute (TDRI), 2024; Wanida Simpol, 2022) and professional coaching based on the concepts of Knight, Aguilar, Sweeney & Harris. This is consistent with the research of Wilaiporn Ritthikup (2019) who explained that coaching aims to improve student academic achievement through teachers' teaching styles that are different. Factors influencing the success of coaching include the role and guidance skills of the coach, that is, the coach must have multi-skills and constant self-training. The evaluation of coaching should be an evaluation of the entire system. For the above reasons, the developed coaching process is effective and efficient.

3.The Effects of Collaborative Research-Based Professional Coaching on the Professional Competencies of Teachers, School Administrators, and Educational Supervisors, Influencing Employability of Basic Education Students in Loei Province. The results revealed that 48 teachers, or 87.28 percent, achieved higher or higher scores overall. Most teachers demonstrated high levels of professional competency development, while most school administrators demonstrated very high levels of development. Educational supervisors demonstrated equal levels of competency at very high, high, and moderate levels. In addition, the results of the assessment of the employability of basic education students in Loei Province after implementing the school education management program revealed an average overall score of 94.56, representing 84.43 percent, exceeding the 70 percent threshold, with statistical significance at the .01 level. Regarding the satisfaction of teachers, school administrators, and educational supervisors with the professional coaching process, teachers, school administrators, and educational supervisors demonstrated high levels of satisfaction with the professional coaching process. Students demonstrated high levels of satisfaction with the area-based education management program to enhance employability. This may be because this research relied on collaborative efforts among educational professionals who complemented each other. Importantly, the work involved actual practice, not training, lectures, or simulations. Furthermore, it fostered systematicity through the use of research processes. Therefore, this type of development yielded empirical results in the development of all three professional personnel, including students. This aligns with the research findings of Wanida Simpol (2022), who found that using research processes combined with coaching or guidance in real-world situations improved teachers' problem-solving competencies and their ability to develop innovation. Advising by administrators and research coaches was a factor in teachers' successful research work. Similarly, the research of Tatiya Na-udom and Ratikorn Niyomchan (2024) found that academic leadership in coaches requires that school administrators, with academic leadership, act as coaches for teachers. Coaches must recognize students' abilities and understand students at different grade levels. Each student has different abilities and learning experiences, which may lead to different thinking styles based on their experiences and learning. Coaches must adapt teaching and learning processes to suit students at each grade level, taking into account their age and intellectual development. Coaching at the elementary level uses a method that emphasizes guidance, advice, and instruction. Coaches today must organize activities that allow students to focus more on

practical work, design activities that are appropriate for the nature of the subject, and importantly, certain competencies of the coach must be adjusted to suit the students and teaching methods.

Recommendations

The research results clearly demonstrate the benefits of the coaching process for professional development, which involves working together in real-world situations to develop learners. Therefore, educational institutions and schools should collaborate systematically, establishing clear goals for learner development. These goals should be implemented collaboratively by relevant educational personnel according to their roles and responsibilities, and implemented in a continuous cycle. This research addressed the development of a localized educational program to enhance the employability of basic education students in Loei Province. This represents an example of setting a situation or goal for area-based development. Therefore, future research should address topics of interest to learners, reflecting future global trends, and essential to their lives.

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