The development of an active learning management model for enhancing the vocational competencies of third-year diploma students in Thai dance at the college of dramatic arts

Kritsana Saisunee[1*], Rawiwan Wanwichai[1], Thanita Lerdpornkulrat[2]

[1]Faculty of Fine Arts, Srinakharinwirot University, Thailand.
[2]Innovative Learning Center, Srinakharinwirot University, Thailand.

Corresponding author: Kritsana Saisunee (*Email: kritsana.s@cdans.bpi.ac.th*)

Abstract

This research aims to develop an active learning model to improve the professional skills of third-year vocational certificate students in Thai Dance at the same college. The study used quantitative research methodology—the sample of 50 third-year vocational certificate students in Thai Dance. The findings revealed that the components of the active learning model created by the researcher include: 1) principles of the model, 2) objectives, 3) learning management process, and 4) measurement and evaluation. The learning management process is divided into five steps known as the COLOR Model. The quality of the learning management model was appropriate, with an overall level of most ($\bar{x}$ = 4.72, S.D. = 0.43). Regarding feasibility, the overall level is also the highest ($\bar{x}$ = 4.69, S.D. = 0.47). When this management model was tested on a sample group, it was found that learners had vocational competencies. The post-test average score was significantly higher than the pre-test in all areas. This research concludes that the developed active learning model is effective in preparing students with professional competencies that align with current industry needs. Other educational institutions can also adapt and apply this learning management model based on the context of their courses.

Keywords: Active learning, College of dramatic arts, Thai dance, Third-year diploma students, Vocational competencies.

1. Introduction

"Vocational competence" is the integration of skills, knowledge, attitudes, values, reasoning, communication, and emotional management, or the ability to combine technical skills (hard skills) and social skills (soft skills) to support work performance in professional and vocational roles effectively. This allows individuals to work efficiently and meet the needs

of the labor market [1, 2]. Therefore, vocational education plays a crucial role in increasing opportunities for students to enter the labor market by helping to reduce the risk of unemployment and increase the chances of finding well-paying jobs as skilled workers, especially when the teaching and learning are more specific than general education [3].

Vocational education is an educational system that emphasizes the development of students' work-related abilities, focusing on preparing students for the workforce and fostering professional attitudes [3]. In Thailand, the quality of vocational education management in producing human resources does not align with the needs of businesses, particularly in terms of general competencies, which are desirable characteristics for businesses. Learners cannot apply the knowledge and skills they have learned to everyday life, which is "competency-based ability". Additionally, rapid changes in technological innovation have led to the adaptation of vocational competencies to technological advancements and the development of cross-sectoral competencies that vary across different occupational groups. These factors are the primary reasons why businesses struggle to maintain an efficient workforce [4, 5].

The College of Dramatic Arts, an educational institution that produces and develops skilled personnel with vocational competence in the performing arts, aims to cultivate students who possess virtue, ethics, and professional conduct, enabling them to pursue careers that meet the needs of businesses and independent professionals [6]. However, studies have shown that students at the College of Dramatic Arts should have their vocational competencies developed comprehensively to align with the current situation and the needs of employers [7].

Active learning is a student-centered approach to learning management that utilizes various activities to promote the development of students' vocational competencies effectively. Students encounter new situations in their daily lives by applying the knowledge and skills they have acquired to solve problems, create new works, or produce new pieces of art. This helps students connect different pieces of information and knowledge, develop higher-order thinking skills, and emphasize effective collaboration with others. It focuses on systematic problem-solving, analytical thinking, and synthetic thinking [8, 9] as demonstrated in the research by Cardozo, et al. [10]; Wannaruetai, et al. [11] and Sornsanam, et al. [12] whose research findings were consistent, showing that active learning helps to enhance the competencies that instructors expect from students compared to traditional teaching methods, and also motivates students to learn. In addition, active learning helps students develop various characteristics, such as reasoning ability, creativity, problem-solving skills, and teamwork, which are essential social skills for the workplace.

Therefore, the researcher aims to develop an active learning model to improve the vocational skills of third-year diploma students in Thai Dance at the College of Dramatic Arts. This approach ensures that students acquire the necessary characteristics or are prepared for careers that satisfy business needs or enable them to pursue independent careers. Students engaged in active learning focused on hands-on practice through work experiments, using active learning methods, are better supported in their readiness to enter the labor market, interact with companies, and pursue independent careers in the future.

2. Literature Review

2.1. Vocational Competencies

Vocational competence refers to the ability to combine technical skills (hard skills) and social skills (soft skills) so that individuals can manage tasks effectively and meet the needs of the labor market [1]. Furthermore, vocational competence also encompasses the integration of skills, knowledge, attitudes, values, reasoning, communication, and emotional management to support effective performance in professional and vocational roles [2].

SkillsFuture Singapore (SSG) has established a standard framework for developing vocational competencies (Workforce Skills Qualifications: WSQ), which includes three skill areas: 1) Technical Skills and Competencies (TSC), 2) Critical Core Skills (CCS), which are a set of social skills necessary for various job roles, as well as the communication, problem-solving, teamwork, and emotional intelligence skills needed for workforce development, and 3) Generic Skills, which are the ability to apply these general skills to any job role, representing holistic skill development through the cultivation of skills such as analytical thinking, creativity, adaptability, flexibility, and integration in the workplace [13-15].

The Department of Skills Development, Jabatan Pembangunan Kemahiran (JPK), in Malaysia has defined eight vocational competencies for vocational students, namely 1) Technical Skills, 2) Management Skills, 3) Communication Skills, 4) Analytical and Problem-Solving Skills, 5) Teamwork Skills, 6) Ethics and Responsibility, 7) Lifelong Learning Skills, and 8) Digital Skills. The purpose of defining these vocational competencies is to prepare students for entering the workforce and to meet the needs of the labor market and employers [16, 17].

The College of Dramatic Arts has established vocational competencies for students in the Thai Performing Arts program at the Vocational Certificate level, specifically for third-year students, as outlined in the Performing Arts Curriculum, Vocational Certificate level, 2024, under the Fine Arts subject group. The vocational competencies are defined in three areas: knowledge, skills, and the ability to apply and take responsibility [6].

Based on the data collected from both domestic and international studies mentioned above, it was found that the competencies of vocational education students are defined differently depending on the context of each location. However, when examining the overall picture, the core vocational competencies can be categorized into three areas: knowledge, skills, and attitudes. Therefore, vocational education students should possess a deep understanding of their profession, have the necessary skills for practice, know how to solve problems and apply their knowledge, and have the right attitudes. These are personal characteristics that contribute to successful and efficient work performance, such as responsibility, creativity, and teamwork.

2.2. Developing a Learning Management Model

Doungwilai and Kanjug [18] developed a learning management model that promotes analytical thinking skills and fosters active, globally minded citizenship. The model development process consists of two phases: Phase 1 involves studying the current situation and identifying learning management needs through survey research methods, such as questionnaires and focus groups. Phase 2 involves developing the learning management model, which involves three steps: 1) Drafting the model by using the data obtained from Phase 1 to determine the model development components. 2) Evaluating and verifying the model by having experts review and assess the model's consistency and suitability. 3) Refining the model before testing it in a real-world setting. The quality of the model was assessed before its use with the sample group, and adjustments were made again after the trial.

Rahayu [19] researched the development of a learning management model to enhance students' critical thinking skills. The model development process consisted of three stages: definition, design, and development.

Somnual [20] examined the steps involved in developing a learning management model from several scholars and showed that creating such a model follows a systematic and structured process with clear, practical operational plans. It clearly describes the operational features, aligning with research and development activities. The development process helps ensure the model is efficient and effective, consisting of four steps: 1) studying and analyzing basic information, 2) designing and developing the model, 3) piloting the learning management model, and 4) refining the model.

Based on the study of the components of learning management models from the aforementioned scholars, it was found that the learning management components from all scholars differ. However, the learning management components analyzed from the data, such as principles, objectives, content, learning management processes, measurement, and evaluation, are similar. This depends on individual application. The researcher will further analyze the learning management components from the aforementioned scholars to develop the learning management model.

2.3. Active Learning

Leslie and Johnson-Leslie [21] state that active learning is a teaching approach that focuses on students' learning from experience, encouraging them to research, inquire, apply, evaluate, and create their own meaning. It helps students identify and solve problems, fosters interaction between students, and promotes overall learning across classrooms.

Active learning is a student-centered approach to teaching that emphasizes student participation. Students learn by doing, while the teacher designs the learning activities and assigns tasks for students to complete. The teacher acts as a facilitator and advisor, providing guidance and support to help students solve problems. This approach promotes effective communication and collaboration among students, encourages self-responsibility and accountability to peers, prompts students to reflect on their prior experiences, monitors learning progress, offers suggestions for working toward goals, and assesses the quality of learning outcomes, providing constructive feedback to help students improve and understand Bonwell and Eison [22].

Somnual [20] presented the characteristics of active learning management from academics, dividing these characteristics into 4 aspects as follows:

1. From the learner's perspective, students develop their thinking skills, interaction abilities, teamwork, discipline, and responsibility through the process of actively participating in the self-construction of new knowledge.

2. Regarding the instructor, their role and responsibilities include organizing learning activities using a variety of methods, such as creating situations or posing questions that encourage students to think critically and solve problems, providing media or learning resources that promote students' self-construction of knowledge, and fostering collaboration among students.

3. In terms of learning activities, these are designed to promote collaborative learning rather than competition. Students independently research and acquire knowledge, creating situations that allow them to practice listening, speaking, reading, writing, and problem-solving skills. Challenging and stimulating problems are presented, enabling students to connect and apply their knowledge.

4. In terms of measurement and evaluation, it involves authentic assessment using a variety of measurement methods.

In conclusion, active learning is a learning approach that emphasizes student participation and a significant role in the learning process. It encourages students to research, question, and apply knowledge in real-world situations through diverse learning experiences, which helps create deep meaning and understanding of the subject matter. It also effectively fosters interaction between students and teachers and develops higher-order thinking skills through activities that stimulate learning enthusiasm and generate new knowledge.

2.4. Active Learning Management Model

The researcher employed four active learning models to use as data for developing this learning management model, chosen for their relevance to the professional competencies to be promoted among learners.

1. Authentic Learning: Authentic learning is a learner-centered approach in which students collaboratively construct their own knowledge by engaging in real-life tasks. This requires higher-order thinking skills. Students utilize resources and tools in real-world situations, providing opportunities to practice solving simulated or real-life problems that are linked to reality. This approach can be adapted to situations encountered in daily life. Higher-order thinking skills are essential for 21st-century learners, enabling them to solve complex problems in real-world scenarios effectively. Authentic learning enables students to apply classroom knowledge to solve problems outside the classroom, thereby integrating learning with real-life experiences. Students gain knowledge, understanding, self-awareness, interpersonal skills, critical thinking,

reflective thinking, effective problem-solving, rational decision-making, communication, collaboration, emotional intelligence, and metacognition. These skills are essential for addressing real-life problems [23, 24].

2. Integrated learning: Integrated learning management is the process of connecting related content to form a single topic and organizing learning activities to help students gain a holistic understanding that they can apply in their daily lives. This can be done in several ways, including within-subject integration and between-subject integration. Additionally, there is integration between knowledge and learning processes, between knowledge and action, between cognitive and emotional development, and between what is learned in school and what is happening in students' daily lives [25]. Teaching and learning focused on integration are more effective than traditional teaching because they combine content that meets students' needs, interests, and educational levels, thereby stimulating their interest, motivation, and understanding [26].

3. Role Playing Model: Role-playing is a learning management method that enables learners to assume roles and interact through storytelling or drama. Learners represent themselves in a hypothetical event to achieve learning goals or objectives. Role-playing helps increase learners' interest in the subject matter and enables them to understand the material better. Learners learn to be empathetic and understand different perspectives, and they develop interpersonal skills and communication abilities [27].

4. Cooperative Learning: Cooperative learning consists of five key elements: positive interdependence, face-to-face interaction, individual accountability, interpersonal and small group relations, and group evaluation. Cooperative learning is therefore students working together in groups by creating different learning situations. Students are divided into small groups, which helps them interact with their peers. Students participate through collaborative work and are encouraged to express their opinions on various issues related to the topic being studied. This helps increase their understanding of the lesson and develop social interaction skills by learning from each other's experiences. They also consider the outcomes of group work to achieve common learning goals or objectives. This develops critical thinking skills that students can apply in the future [28].

Based on the study of the above active learning concepts, it was found that each form of active learning has different concepts, principles, and learning management steps. Each form has its own approach to stimulating or promoting higher learning for students.

3. Methodology

Designing and Developing an Active Learning Management Model: Based on a study of 4 active learning management models, the methods of each model were used to develop a new active learning management model that aligns with students' vocational competencies. This was achieved by outlining and quality-checking the active learning management model using quantitative research methods to assess the quality of the developed model.

The study employed an active learning management model, utilizing a quantitative research method. The same dependent variable was measured in the sample group both before and after the experiment to compare the results and highlight the differences.

3.1. Participants

This research targeted an appropriate group for the study, divided into two groups.

Group 1: 9 Experts to evaluate the suitability and alignment of the learning management model, user manual, and active learning management plans for promoting vocational competence of third-year vocational certificate students in Thai Dance at the College of Dramatic Arts. The target group was selected using purposive sampling, consisting of 3 Thai performing arts experts, 2 active learning management experts, 2 curriculum and instruction experts, and 2 measurement and evaluation experts.

Group 2: The sample group consists of third-year vocational certificate students majoring in Thai Performing Arts at Nakhon Si Thammarat College of Dramatic Arts in the academic year 2025. The sample size was calculated using the G*Power program and tested with t-test statistics. The means were specified as the difference between two independent means, with an Effect Size of 0.5, an Alpha Level of 0.05, and a Power of 0.95, resulting in a sample size of at least 45 people. The sample was selected using the following methods: multistage sampling, where the College of Dramatic Arts was divided into groups by region, and then the College of Dramatic Arts in the selected region was divided by province, with some provinces randomly selected, resulting in the Nakhon Si Thammarat College of Dramatic Arts. Additionally, stratified sampling was used, dividing students into 5 different majors: Khon Phra, Khon Yak, Khon Ling, Lakorn Phra, and Lakorn Nang, which served as the sampling units. The resulting group consisted of 10 students from each major, totaling 50 students.

3.2. Data analysis

The quantitative data were analyzed by descriptive statistics, including the mean ($\bar{x}$) and standard deviation (S.D.) of the suitability scores and the feasibility of the active learning management model. Then, interpret the results based on the established criteria.

The quantitative data were analyzed by comparing the mean values of the sample group's vocational performance, using ready-made computer software and the t-test for dependent samples. Descriptive statistics, including the mean ($\bar{x}$) and standard deviation (S.D.), were also used.

3.3. Human Research Ethics

The Human Research Ethics Committee at Srinakharinwirot University approved this research project. The research project code is SWUEC-672661, granted on February 18, 2025. The researcher will send an official invitation letter to the volunteers participating in the research project and request their consent to participate. Data will be collected from those who sign the consent form voluntarily. The data collected from this study will be analyzed in detail as anonymized group data for academic purposes only.

4. Results

4.1. Components of the Active Learning Management Model

Based on a study of relevant documents, articles, and research by both domestic and international scholars, the information on the components of learning management models was synthesized to create the learning management model for this research. The study found that the components of the learning management model have a goal-oriented origin, systematic model steps, and the ability to measure and evaluate the resulting outcomes. These components consist of four elements: 1) Principles: The concepts or theories that form the foundation for designing the learning model. 2) Objectives: The goals or outcomes learners are expected to achieve through the specified model. 3) Learning Management Process: The steps or methods used to develop learning experiences for learners. 4) Measurement and Evaluation: An important step that helps determine what learning experiences learners have gained from the learning process, using various tools or methods to use the results to improve and develop the learning process further.

4.2. Characteristics of Active Learning Models to Enhance Vocational Competencies of Third-year Diploma students in Thai Dance, College of Dramatic Arts

The principles of active learning models are 1) organizing learning activities that encourage students to construct their own knowledge through active learning processes, promoting hands-on practice, 2) managing learning through group collaboration, 3) using simulations or problem scenarios that closely resemble real-world situations in the performing arts, 4) creating a learning environment that encourages participation and enhances students' vocational skills, and 5) assessing the overall group work by considering the learning process and the ability to apply knowledge, practical skills, and experiences to solve problems in various real-world contexts.

The objective of the active learning model is to promote the vocational competence of third-year vocational certificate students in Thai Dance at the College of Dramatic Arts.

The active learning process, synthesized from the concept of active learning and utilizing the four teaching methods mentioned above, is called the COLOR Model. It is divided into five steps as follows:

Step 1: Career Preparation (C) is the stage where the instructor explores the students' existing basic knowledge.

Step 2: On-the-job training (OJT) is the initial stage of the learning process, where the instructor concisely and clearly explains the subject matter to learners, providing relevant examples related to the content or inviting experts with relevant expertise to share their knowledge and experience.

Step 3: Ludic work (L) is the stage where the instructor organizes activities or simulations for students to try creating a piece of work or practice role-playing. The instructor provides opportunities for students to experiment with creating a piece of work.

Step 4: Outcome-driven (O) is the stage where the instructor assesses learning outcomes in various ways that comprehensively cover the learning objectives. Students collaboratively evaluate the work of other groups and their own work.

Step 5: Retrospective (R) is the stage where learners reflect on their own performance and what they gained from the learning activities.

To assess the suitability and feasibility of the developed active learning model for enhancing the vocational competencies of third-year vocational certificate students in Thai Dance at the College of Dramatic Arts, the researcher presented the active learning model to nine experts for quality review. The details are as follows:

Table 1.
Results of the quality assessment of the suitability and feasibility of the active learning management model

Evaluation Items	Suitability			Possibility		
	Level of suitability		Meaning	Level of possibility		Meaning
	$\bar{x}$	S.D.		$\bar{x}$	S.D.	
1. Background of Model Development	4.89	0.33	Most	4.78	0.44	Most
2. The principles of the learning management model	4.78	0.44	Most	4.56	0.53	Most
3. Objectives of the learning management model	4.67	0.50	Most	4.67	0.50	Most
4. The COLOR Model Learning Process	5.00	0.00	Most	4.89	0.33	Most
4.1 Step 1: Career Preparation (C)	4.78	0.44	Most	4.78	0.44	Most
4.2 Step 2: On-the-job training (O)	4.67	0.50	Most	4.67	0.50	Most
4.3 Step 3: Ludic work (L)	4.56	0.53	Most	4.56	0.53	Most
4.4 Step 4: Outcome-driven (O)	4.78	0.44	Most	4.67	0.50	Most
4.5 Step 5: Retrospective (R)	4.78	0.44	Most	4.67	0.50	Most
5. Measurement and Evaluation	4.44	0.53	A lot	4.44	0.53	A lot
6. The role of the instructor	4.56	0.53	Most	4.78	0.44	Most
7. The role of the learner	4.78	0.44	Most	4.78	0.44	Most
Total	**4.72**	**0.43**	**Most**	**4.69**	**0.47**	**Most**

According to Table 1, the quality assessment of the active learning management model's suitability and feasibility revealed that the overall suitability quality assessment results were at the highest level ($\bar{x}$ = 4.72, S.D. = 0.43). Item-by-item analysis revealed that the most suitable assessment item was the COLOR Model learning management process ($\bar{x}$ = 5.00, S.D. = 0.00), followed by the background of model development ($\bar{x}$ = 4.89, S.D. = 0.33). The overall feasibility quality assessment results were at the highest level ($\bar{x}$ = 4.69, S.D. = 0.47). Item-by-item analysis revealed that the most suitable assessment item was the COLOR Model learning management process ($\bar{x}$ = 4.89, S.D. = 0.33), followed by the background of model development, Step 1: Career Preparation (C), teacher roles, and student roles ($\bar{x}$ = 4.89, S.D. = 0.44), respectively.

The study on the effectiveness of the active learning model in enhancing the vocational competence of third-year vocational certificate students in Thai Dance at the College of Dramatic Arts found that, by examining changes in vocational competence and considering student learning outcomes using a vocational competence assessment form developed by the researcher, as well as collecting data before and after instruction, students showed a significant increase in vocational competence following the implementation of the active learning model at a statistical level of .05. Details are provided in the table below.

Table 2.
Comparison of Mean Learning Outcomes and Vocational Competency Assessment Results for Students

Vocational Competency	n	Pre-test		Post-test		$t(49)$	p
		$\bar{x}$	S.D.	$\bar{x}$	S.D.		
1. Knowledge							
1.1 Knows the principles and processes of each type of performance.	50	3.40	0.50	6.86	0.73	-48.60	$P < .05$
1.2 The use of foreign languages in searching for information related to performing arts practice.	50	3.78	0.76	6.50	0.99	-15.05	$p < .05$
1.3 Using Technology for Performing Arts	50	2.58	0.73	5.00	0.81	-15.70	$p < .05$
2. Skill							
2.1 Ability to solve immediate problems	50	3.40	0.50	7.60	0.81	-39.29	$P < .05$
2.2 Ability to make quick decisions to solve problems.	50	5.00	0.90	10.20	0.76	-48.64	$P < .05$
3. In terms of applicability and responsibility							
3.1 Applying existing resources to performance design.	50	5.60	0.81	7.00	1.28	-20.00	$P < .05$
3.2 Responsibility for the assigned roles and duties	50	8.88	0.90	10.96	2.15	-10.64	$P < .05$

Note: * $p < .05$.

From Table 2, the results of comparing the mean learning outcomes of the vocational competency assessment of 50 Thai classical dance students in their third year of vocational certificate studies at the College of Dramatic Arts before and after instruction, aimed at developing vocational competencies in all three areas, were as follows:

1. In terms of knowledge, students' post-test mean scores were higher ($\bar{x}$ = 5.00-6.86) than their pre-test scores ($\bar{x}$ = 2.58-3.78), with a statistically significant difference at the .05 level.

2. In terms of skills, the learners' average scores after learning ($\overline{x}$ = 7.60 and 10.20) were significantly higher than before learning ($\overline{x}$ = 3.40 and 5.00) at the .05 level.

3. In terms of application ability and responsibility, the learners' post-test mean scores ($\overline{x}$ = 7.00 and 10.96) were significantly higher than their pre-test mean scores ($\overline{x}$ = 5.60 and 8.88) at the .05 level.

The study found that the active learning model used in the experiment to promote the vocational competence of third-year vocational certificate students in Thai Dance at the College of Dramatic Arts significantly improved student learning outcomes and increased their vocational competence in all three areas. This suggests that students received comprehensive vocational competence development, and the active learning model is effective in enhancing students' vocational competence.

5. Discussion

The components of the active learning management model developed by the researcher were outlined as follows: 1) Principles of the model, 2) Objectives of the model, 3) Learning management process, and 4) Measurement and evaluation. This aligns with Doungwilai and Kanjug [18] who examined the current situation and the need to enhance teachers' competency in learning management and to develop a learning management model. The research findings showed that the components of the learning management model include four elements: 1) Principles and basic concepts, 2) Learning objectives, 3) Learning process and assessment, and 4) Learning outcomes.

The development of a learning management process that enhances the vocational competence of third-year vocational certificate students in Thai Dance at the College of Dramatic Arts, following a five-step sequence: Step 1: Career Preparation (C), Step 2: On-the-job training (OJT), Step 3: Ludic work (L), Step 4: Outcome-driven (O), and Step 5: Retrospective (R), aligns with Phoyen [29], who states that active learning is a teaching approach that meets the needs of the 21st century by encouraging learners to take a more active role in their own learning through hands-on activities and critical thinking, fostering direct learning experiences. This approach employs various activities, including small group discussions, role-playing, drama, and simulations. Active learning comprises five steps: Step 1: Stimulate Interest - involves motivating learners with questions or videos. Step 2: Present a Challenging Situation - engages learners in analyzing scenarios from media, working together to study, research additional information, and summarize key points and interesting issues. Step 3: Reflective Discussion - allows learners to share their perspectives based on their research. Step 4: Collaborative Knowledge Production involves learners sharing ideas and collectively extracting knowledge. Step 5: Reflection and Review - The instructor discusses with learners to help them reach correct conclusions, while learners document their learning outcomes and feelings about the activities.

The active learning model employed in the experiment to enhance the vocational competence of third-year vocational certificate students in Thai Dance at the College of Dramatic Arts significantly improved student learning outcomes in all aspects, demonstrating the effectiveness of this active learning model in improving student vocational competence. This finding aligns with Marušić and Gujinović [30] who stated that students receiving active learning management had higher academic achievement. The active learning model helps promote increased reasoning ability, encourages students to think creatively, and teaches problem-solving skills. Similar to what Asia, et al. [31] found, active learning methods are effective in increasing student knowledge.

6. Conclusions

This research aimed to develop an active learning model to improve the vocational skills of third-year vocational certificate students in Thai dance at the College of Dramatic Arts. This was accomplished by creating the model and having it validated by nine experts. Additionally, the active learning model was tested with these students at the same college.

The research results showed that active learning models clearly influence students' vocational competence in terms of knowledge, skills, application ability, and responsibility. This supports research that endorses active learning as a vital teaching approach aimed at developing students' vocational skills aligned with 21st-century requirements.

References

[1]   IPAG Business School, "Key professional competencies to succeed," IPAG Business School, 2025. https://www.ipag.edu/en/blog/competences-professional

[2]   R. A. Zaitoun, "Assessing nurses' professional competency: A cross-sectional study in Palestine," *BMC Nursing,* vol. 23, no. 1, p. 379, 2024. https://doi.org/10.1186/s12912-024-02064-y

[3]   Y. Shavit and W. Muller, "Vocational secondary education," *European Societies,* vol. 2, no. 1, pp. 29-50, 2000. https://doi.org/10.1080/146166900360710

[4]   T. Khammani, "10 key competencies to develop Thai children to be smart, capable, and socially responsible," Secretariat Office of the Teachers Council of Thailand, 2025. https://elibrary.ksp.or.th/index.php?lvl=cmspage&pageid=4&id_article=239

[5]   Wongsakittikul P. et al, "Research study on the transversal competencies of vocational students in the 21st century and Thailand 4.0, according to the needs of the business sector," Office of the Vocational Education Commission, 2025. https://anyflip.com/ibzak/ryuh/basic

[6]   Bunditpatanasilpa Institute, *Curriculum of dance and music arts for vocational certificate, B.E. 2567.* Bangkok: Thaiphumi Publishing Co., Ltd, 2024.

[7]   P. Aiemyeesoon, T. Kulket, K. Sinthukhot, and K. Yansang, *Evaluation of the dance music curriculum vocational certificate level, B.E. 2019, bunditpatanasilpa institute of fine arts.* Bangkok: Ministry of Culture, 2023.

[8]   B. Dogani, "Active learning and effective teaching strategies," *International Journal of Advanced Natural Sciences and Engineering Researches,* vol. 7, no. 4, pp. 136-142, 2023. https://doi.org/10.59287/ijanser.2023.7.4.578

[9] P. Dechakupt, P. Yindeesuk, and P. Chantraukrit, *Active learning for competency enhancement*. Bangkok: Chulalongkorn University Press, 2023.

[10] L. T. Cardozo, M. A. R. d. Azevedo, M. S. M. Carvalho, R. Costa, P. O. de Lima, and F. K. Marcondes, "Effect of an active learning methodology combined with formative assessments on performance, test anxiety, and stress of university students," *Advances in Physiology Education,* vol. 44, no. 4, pp. 744-751, 2020. https://doi.org/10.1152/advan.00075.2020

[11] O. Wannaruetai, D. Seekheio, and L. Wangphasit, "Development of an active learning management model to develop learning management competencies for religious education students," *Journal of Buddhist Anthropology,* vol. 7, no. 6, pp. 17-32, 2022.

[12] A. Sornsanam, S. Vongpeang, P. Angboonta, S. Bootchai, and T. Sripanom, "The development of active learning model together through google site for industrial materials and manufacturing course," *Journal of Modern Learning Development,,* vol. 7, no. 9, pp. 327–340, 2022.

[13] Nanyang Technological University, "Three competency dimensions," Nanyang Technological University, 2025. https://www.ntu.edu.sg/nie/about-us/programme-offices/office-of-teacher-education-and-undergraduate-programmes/te21/three-competency-dimensions

[14] SkillsFuture Singapore, "WSQ for individuals, employers and training providers," SkillsFuture Singapore, 2025. https://www.skillsfuture.gov.sg/initiatives/mid-career/who-is-wsq-for

[15] Training Partners Gateway, "Singapore workforce skills qualifications (WSQ) framework," Training Partners Gateway, 2025. https://www.tpgateway.gov.sg/plan-courses/course-accreditation

[16] A. C. Amran, G. P. Ananta, M. A. bin Mat Hanafiah, A. Ali, and C. K. N. C. K. Mohd, "Development of the Malaysian Skills Certification for lecturers in tertiary TVET institutions," *Journal of Technical Education and Training,* vol. 12, no. 1, pp. 125-133, 2020.

[17] ISE Education, "TVET in Malaysia – 5 essential things you must know," ISE Education, 2025.

[18] D. Doungwilai and I. Kanjug, "A learning model promoting higher-order thinking skills and active citizenship with global mindedness," *International Journal of Evaluation and Research in Education,* vol. 2252, no. 8822, p. 8822, 2023. https://doi.org/10.11591/ijere.v12i2.24218

[19] T. P. Rahayu, "Development of a problem-solving learning model assisted by a learning management system to develop students' critical thinking skills," *Journal of Learning and Technology,* vol. 1, no. 2, pp. 63-72, 2022. https://doi.org/10.33830/jlt.v1i2.4176

[20] S. Somnual, *The development of an active learning management model for enhance of active citizenship competencies of Prathomsueksa students*. Bangkok: Srinakharinwirot University, 2022.

[21] H. S. Leslie and N. Johnson-Leslie, "Reflection on business communication in a" fishbowl": Increasing active learning and course effectiveness while lowering disconnection," *Journal of Higher Education Theory and Practice,* vol. 23, no. 18, pp. 60-71, 2023.

[22] C. C. Bonwell and J. A. Eison, "Active learning: Creating excitement in the classroom," The George Washington University, 2025. https://files.eric.ed.gov/fulltext/ED336049.pdf

[23] M. Chabeli, A. Nolte, and G. Ndawo, "Authentic learning: A concept analysis," *Global Journal of Health Science,* vol. 13, no. 4, pp. 1-12, 2021. https://doi.org/10.5539/gjhs.v13n4p12

[24] C. Pappas, "Authentic learning model: Creating meaningful learning experiences," eLearning Industry, 2025. https://elearningindustry.com/educational-technology-and-authentic-learning

[25] T. Khammani, *Teaching science: Knowledge for organizing effective learning processes*. Bangkok: Chulalongkorn University Press, 2023.

[26] T. L. Birhanu, "The effects of content and language integrated learning (CLIL) instruction on Grade 11 EFL students' reading comprehension," Research Square, 2025. https://www.researchsquare.com/article/rs-4118884/v1

[27] N. Latifah and I. Priantari, "Implementasi Metode Role Playing untuk Mewujudkan Merdeka Belajar," *Jurnal Teknologi Pendidikan,* vol. 1, no. 4, pp. 10-10, 2024.

[28] S. Ghavifekr, "collaborative learning: A key to enhance students'social interaction skills," *MOJES: Malaysian Online Journal of Educational Sciences,* vol. 8, no. 4, pp. 9-21, 2020.

[29] K. Phoyen, "Active learning: Learning satisfy education in 21st century," *Journal of Education Silpakorn University,* vol. 19, no. 1, pp. 11-28, 2021.

[30] M. Marušić and L. Gujinović, "The impact of active learning of physics on student scientific reasoning," *Revista Cubana de Física,* vol. 40, pp. 4-11, 2023.

[31] A. Asia, T. Srivastava, and S. Motewar, "Effectiveness of construction and presentation of physical models by first mbbs students as an active learning tool in physiology," *Future of Medical Education Journal,* vol. 13, no. 2, pp. 3-7, 2023.