

Development of a Participatory Integrated Learning Management Model in Collaboration with Vocational Education Networks for Enhancing Student Competencies at Ban Phai Industrial and Community Education College.

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ABSTRACT

The objectives of this research were to: (1) investigate the current conditions and guidelines for integrated learning management; (2) develop an integrated learning management model; (3) pilot the integrated learning management model; and (4) implement and evaluate the integrated learning management model through participatory collaboration with vocational education networks to enhance student competencies at Ban Phai Industrial and Community Education College. This study employed a Research and Development (R&D) approach using a Mixed Methods Research design to develop a participatory integrated learning management model in collaboration with vocational education networks for enhancing student competencies at Ban Phai Industrial and Community Education College. The research was conducted in four phases. Phase 1 focused on investigating the current conditions and guidelines for integrated learning management. Based on a synthesis of relevant literature and documents, a questionnaire was developed and administered to a sample of 48 participants, including educational administrators and teachers selected through stratified random sampling. In addition, nine experts selected through purposive sampling were interviewed to explore guidelines for integrated learning management. Phase 2 involved the development of the integrated learning management model. Data obtained from Phase 1 were synthesized to identify key components and formulate a draft model. The draft model was validated through a focus group discussion involving nine purposively selected experts and stakeholders. The model was subsequently evaluated in terms of its appropriateness and feasibility. Phase 3 consisted of piloting the model. An implementation manual was developed, and the model was pilot-tested at Phon Industrial and Community Education College. Phase 4 The results of the implementation and evaluation of the model revealed that the model was successfully implemented at Ban Phai Industrial and Community Education College in accordance with all 6 components and 31 sub-components.

The evaluation **results** were as follows. Regarding network collaboration, a total of 33 vocational education network partners participated in promoting and supporting the development of student competencies. In terms of academic achievement, students demonstrated higher learning outcomes after the implementation of the model. For vocational courses, the average achievement scores increased by 27.16% among Vocational Certificate (Vocational Certificate Program: VCP) students and by 23.64% among Higher Vocational Certificate (HVC) students. For applied basic courses, the average achievement scores increased by 32.01% among VCP students and by 27.16% among HVC students. Regarding student competencies, the overall mean scores for the dimensions of application ability and responsibility were at the highest level. Concerning employment and further education outcomes, among the 520 graduates, 171 students (32.88%) pursued further education, 240 students (46.15%) were employed in enterprises, and 109 students (20.96%) became self-employed. Regarding satisfaction and opinions toward the model, the overall mean scores of student satisfaction as well as the opinions of teachers and educational personnel were at the highest level across all three groups.

Keywords: Integrated Learning Management, Participatory Network, Vocational Competency, Research and Development (R&D), Vocational Education

Background and significance of the problem.

According to the National Education Act B.E. 2542 (1999) and its amendments, Sections 6 and 22 mandate that educational provision must aim to develop Thai people into complete human beings—physically, mentally, and intellectually—endowed with knowledge, morality, ethics, and a cultural foundation for living. This is based on the principle that all learners are capable of learning and self-development, regarding the learner as the most important entity. Furthermore, Section 23 specifies that education must emphasize knowledge, morality, learning processes, and appropriate integration. This principle reflects that quality education must connect learners with real-life contexts, communities, localities, local wisdom, and learning networks to ensure comprehensive learning and practical application. Therefore, educational institutions must design learning experiences that align with local conditions and wisdom, as well as learning networks. This encompasses human resources (e.g., local philosophers or experts), locations, materials, and community activities. Utilizing these proximate learning

networks enables learners to experience authentic learning, gain direct experience, and construct knowledge independently.

This concept aligns with the findings of Kunrisa Treechot (2021: 90), which revealed that managing collaborative networks in the dual vocational education system can resolve instructional issues across curricula, learning management, occupational training, and evaluation. Establishing collaborative networks is thus a crucial strategy for driving educational standards. This corresponds with Chatchawan Singhathong (2018: 11), who stated that building school collaboration networks is a key strategy for standardizing education. The operations should be systematic, involving joint problem identification, planning, and decision-making through the participatory mechanisms of various organizations, which reflects the educational law's intent for societal participation. Furthermore, Anan Meepotjana (2020: 2) concluded that developing educational quality requires network-based operations, allowing various sectors to collaborate, share resources and knowledge, and foster a learning society. Therefore, building collaborative networks and integrating local learning networks into the educational process is the "key" to transforming communities into living classrooms and stimulating diverse skill development in learners.

However, in the dimension of practical implementation, several obstacles currently exist, particularly the lack of genuine cooperation from enterprises or various sectors. This is consistent with a report by Nattasit Rakkiatwong (2017: 28), which highlighted three main structural problems in the vocational education system: first, the system fails to accurately meet the demands of enterprises due to a lack of precise labor market databases; second, most instructors lack actual industry work experience; and third, the system faces a shortage of modern resources, materials, and equipment. Additionally, the limitations of network-based operations are reinforced by Chatchawan Singhathong's research (2019: 46), which found that current working systems hinder the design of organizational network structures. This leads to communication issues, misunderstandings, and mistrust between the public and private sectors. These obstacles are directly linked to the findings of Yotsarawadee Kruengkrai (2017: 93), who pointed out that major school administration problems include unclear structural issues, technological deficits, insufficient personnel, and ambiguous work systems, all of which negatively impact operational efficiency.

These structural problems and network management limitations inevitably impact educational institutions at the operational level, such as Banphai Industrial and Community

Education College. As an institution utilizing a competency-based curriculum, it was found that the quality of a portion of learners is hindered by management limitations, which subsequently affects instructional efficiency (Quality Assurance and Standards Department, Banphai Industrial and Community Education College, 2022: 89-98). A primary cause is the institution's failure to promote and support diverse participation from external agencies, specifically the lack of comprehensive, participatory, and integrated learning network management. Furthermore, some internal personnel lack a clear understanding of integrated learning management necessary to connect knowledge from enterprises in order to build genuine competencies for learners. These limitations emphasize that educational institutions must shift their paradigm toward participatory management (Raiwin Phonphet, 2020: 4; Siripan Suwanmakka, 2018; Somsak Donprasit, 2020) to allow networks to provide resources and serve as vibrant learning networks.

When considering the "learner's" perspective, data from the Curriculum and Instruction Development Department of Banphai Industrial and Community Education College (2018: 3) indicated that learners have a high-level desire to apply knowledge and skills in collaboration with learning networks for their future employment. This aligns with the success noted by Janya Pabu (2020: 360), who found that a dual vocational education system supported by strong networks results in the highest level of learner quality and satisfaction. It also corresponds with Subin Phon-anurakwong (2020: 219-220), who found that local networks highly desire to participate in the institution's instructional management, whether as guest speakers, curriculum co-developers, or designers of learning activities based on the true needs of the community. All these contexts and problems confirm that transitioning to "Participatory Integrated Learning Network Management" is the crucial answer to elevating the quality of competency-based vocational education. However, the college currently lacks a concrete model for developing learner quality based on this curriculum, as well as empirical, research-based guidelines for systematic network integration.

The researcher, in the capacity of an educational administrator, recognizes the severity and significance of these problems and sees the urgent need to develop a participatory educational network management model to seriously address this issue. Therefore, the researcher is conducting a study titled "The Development of a Participatory Integrated Learning Management Model with Vocational Education Networks to Enhance Learner Competencies at Banphai Industrial and Community Education College." The objective is for the research findings to provide both managerial and academic benefits, focusing on strengthening vocational learning

networks. Ultimately, this research can serve as a prototype for other educational institutions under the Office of the Vocational Education Commission (OVEC) to collectively drive and sustainably elevate the standard of vocational education in the country.

Research Objectives

1. To study the current state and guidelines for participatory integrated learning management with vocational education networks to enhance learner competencies at Banphai Industrial and Community Education College.

2. To develop a participatory integrated learning management model with vocational education networks to enhance learner competencies at Banphai Industrial and Community Education College.

3. To test the implementation of the participatory integrated learning management model with vocational education networks to enhance learner competencies at Banphai Industrial and Community Education College.

4. To implement the participatory integrated learning management model with vocational education networks to enhance learner competencies at Banphai Industrial and Community Education College into actual practice, and to evaluate the operational outcomes.

Research Methodology

The researcher conducted the study based on the Research and Development (R&D) methodology, which is divided into four phases as follows:

Phase 1: Studying the current state and guidelines for participatory integrated learning management with vocational education networks to enhance learner competencies. The researcher studied and analyzed secondary data from documents, textbooks, domestic and international research papers, as well as electronic media related to participatory management, vocational learning networks, integrated learning management, learner competency development, and research and development concepts. The essential content and theoretical frameworks obtained were applied to construct the research instruments. Subsequently, the field data collection process commenced, divided into two main parts. The first part involved studying the current state through quantitative and qualitative data collection using opinion questionnaires administered to 48 personnel at Banphai Industrial and Community Education College, which were then summarized to reflect

the actual current conditions. The second part involved establishing guidelines for integrated learning management by conducting in-depth interviews with 9 experts. The gathered data and recommendations were analyzed, key issues were summarized, and these were further integrated to form appropriate and effective guidelines for integrated learning management.

Phase 2: Developing a participatory integrated learning management model with vocational education networks to enhance learner competencies at Banphai Industrial and Community Education College. The researcher proceeded with three main steps. First, the components of the model were synthesized by integrating data from three primary sources: the results of document and theory synthesis, the results of the college personnel's opinion survey, and the findings from the experts' in-depth interviews. This yielded a total of 6 key components. Second, all components were used as a database to draft a comprehensive learning management model. In the final step, the researcher verified the appropriateness of the drafted model by conducting a Focus Group discussion and having experts evaluate its suitability and feasibility. This was to certify and refine the model into a practical and efficient integrated learning management framework.

Phase 3: Testing the implementation of the participatory integrated learning management model with vocational education networks to enhance learner competencies at Banphai Industrial and Community Education College. The operations in Phase 3 began with the creation of a manual for utilizing the integrated learning management model, which consisted of four main parts: Introduction, Details of Model Development, Operational Guidelines, and Implementation. Subsequently, the manual was piloted at Phon Industrial and Community Education College, Khon Kaen Province, during the second semester of the 2023 academic year. The trial covered 6 components and 26 activities within two departments: the Auto Mechanics Department and the Accounting Department. The results of the trial were studied by evaluating learner satisfaction.

Phase 4: Implementing the participatory integrated learning management model with vocational education networks to enhance learner competencies at Banphai Industrial and Community Education College into actual practice and evaluating the operational outcomes. The implementation covered 6 components and 31 activities, driven through the operations of the Steering Committee and the department-level working groups. For the evaluation of operational outcomes, the study assessed dependent variables across 6 main issues, collecting data from two primary sources. The first source was statistical data from the Information Technology Data Center and the Registrar's Office regarding the number of

vocational education networks and the percentage of graduates who were employed or self-employed. The second source was assessment data from target groups, which included the evaluation of learner competencies, learner satisfaction, opinions of administrators and teachers, and the satisfaction of learning network representatives. All these results were utilized to evaluate the overall efficiency of the learning management model.

Research Results

1. The results of studying the current state and guidelines for participatory integrated learning management revealed that the overall current state of operations was at a moderate level. The areas requiring urgent development were the input factor, which had up to 3 activities at a low level, and the output factor, which had 2 activities at a low level. Regarding the appropriate development guidelines, the focus should be on comprehensive management covering three main domains: inputs, processes, and outputs.
2. The results of developing the integrated learning management model revealed that the developed model consisted of 6 main components and a total of 31 sub-components, logically structured according to system cycles and management theories. These included:
 - **Integrated Input Support (Input: I)** – 6 sub-components
 - **Participatory Planning (Planning: P)** – 5 sub-components
 - **Internal Organizing (Organizing: O)** – 4 sub-components
 - **Network Coordinating Leadership (Leadership: L)** – 3 sub-components
 - **Controlling and Monitoring (Controlling: C)** – 7 sub-components
 - **Learner Professional Competency Output (Output: O)** – 6 sub-components
3. The results of testing the integrated learning management model revealed that the model implementation manual was comprehensive and covered all 4 essential structural parts. When practically tested at Phon Industrial and Community Education College, it was found that learners, teachers, educational personnel, and vocational education network partners had an overall satisfaction level towards the integrated learning management model at a moderate level.
4. The results of implementing the model into actual practice and evaluating the operational outcomes revealed that Banphai Industrial and Community Education College was able to successfully drive the model across all departments. The outcome evaluation demonstrated an increase in supporting vocational education networks, totaling 33 networks. Regarding the professional and applied basic competencies of

Vocational Certificate (Voc. Cert.) and High Vocational Certificate (High Voc. Cert.) learners, academic achievement increased across all subject categories. Furthermore, their competencies in application capabilities and responsibility were at the highest level. Ultimately, up to 51.42 percent of the graduates successfully entered the workforce in enterprises. Consequently, learners, teachers, administrators, and learning networks expressed satisfaction and **agreement with the developed model at the highest level across all evaluation groups.**

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