



Development of an academic management model to promote service-learning in Chahom Wittaya School, Lampang Province, Thailand

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Article Info

Article history:

Received 11 September 2023

Revised 21 December 2023

Accepted 22 December 2023

Available online 27 December 2024

Keywords:

academic management model,
evaluation,
instruction,
measurement,
service learning

Abstract

The research aimed to develop an academic administration model to promote service-learning of Chahom Wittaya School, Chahom District, Lampang Province. This participatory method research was divided into three steps: the first step, focus group discussion with 13 experts and stakeholders in validating the draft of an academic administration model to promote service-learning; the second step, validating the appropriate assessing and feasibility for the academic administration model, 20 experts and stakeholders were invited for validation; and the third step, the academic administration model implementation with a targeted group of 54 participants, including 36 students, 6 teachers, 4 school administrators, and 8 community leaders and representatives. The data analysis forms, reflective thinking forms, suitability and feasibility assessments, and questionnaires were used in collecting the data, then analyzed by using quantitative analysis; descriptive statistics such as mean and standard deviation, while using content analysis for qualitative analysis. The research findings revealed that the overall model indicated the highest level of appropriateness and feasibility. This development led to the “Proactive Academic Management Model to Promote Service Learning” (PAM Model) focusing on four principles: (1) the principle of applying the curriculum based on social service learning focusing on engaging students’ learning activities both in the classroom and in the community, (2) the principle of systematic teaching, (3) the principle of diverse methods in assessing and evaluating student performance, and (4) the principle of the involvement and collaboration between schools and communities, aiming to build strong and effective connections and partnerships.

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Introduction

In many schools, teaching management involves encouraging students to study, research, and gather information from books, textbooks, documents, as well as engaging in experiments or simulations of situations in the classroom. This approach tends to emphasize theoretical learning over their practical learning, which in turn limits students' ability to apply the acquired knowledge in their daily lives as much as they should. Furthermore, it is also observed that this kind of teaching management tends to separate the school and the community or local area, widening the gap in the relationship between schools and communities. (Nuangchaler, 2015; Thaewanarumitkul, 2016). It can be concluded that education in the present era has moved away from society compared to education in the past, combined with the current learning framework that aims for learners to self-develop for their own progress as their priority. This might lead to the issues of individuals prioritizing their own knowledge enhancement over others and encountering the perpetual societal problem of insufficient resources, often leading to frequent comparisons and competition. Therefore, managing education for holistic human development encompassing physical, mental, intellectual, knowledge, and ethical aspects, along with values and cultural aspects in life, allowing for harmonious coexistence with others, seems to be a challenging possibility (Office of Basic Education Commission, 2004).

Therefore, to enhance students' learning through practical experience and involve various community members in promoting students' learning experiences, it is necessary to utilize the service-learning framework. This approach can lead to students' awareness of their own learning and its potential benefits for others and society. This necessitates the application of the service-learning framework, as it impacts the transformation of both students and the community in higher education settings (Bowen, 2014). It is noted that educational practices have a significant impact (Kuh, 2008), which suggests that service-learning could lead to changes within students, communities, and localities. This is in alignment with the goal of fostering human potential, raising the quality of education and learning equally and universally, instilling discipline, ethics, values, and virtues to contribute to the creation of a learning society which resonates with the 20 Year National Strategic Plan (2017–2036) and Strategy 3 of the National Education Plan (2017–2036), which outline a development approach to promote and support people in gaining skills, knowledge, capabilities, and

an improved quality of life, reaching their full potential. It also aims to foster and adjust Thai values toward discipline, civic-mindedness, and desirable behavior.

Currently, the concept of service-learning has been incorporated into the curricula and teaching methodologies in higher education institutions, and it has been applied to teaching management in secondary schools and vocational education. For instance, Thammasat University in Bangkok has implemented service-learning (Thammasat University, 2021). Similarly, Wangthongpitthayakom School in Phitsanulok province (Wangthongpitthayakom School, 2024) and Pansook Technical College in Chonburi province (Thapwong & Chaturanon, 2009) have integrated service-learning into their educational approaches. Nevertheless, when examining the methods of organizing learning activities through service-learning, it is evident that they are primarily prevalent within the realm of educational management and teaching methods. This could be due to the fact that these learning activities are contained within the academic scope of curricula, teaching, and teaching management. If the academic administration of a school plays a supportive role in endorsing the concept of service-learning, it will lead to the elevation of service-learning and its wider acceptance. This effective administration is a crucial mechanism in propelling various school operations forward in a progressive manner.

According to the survey conducted in rural secondary schools in Lampang province, which is part of Rajabhat University Lampang network, it was found that Chahom Wittaya School, located in Chahom Subdistrict, Chahom District, demonstrated a proficient management team and teaching staff. They possessed expertise, skills, and a positive attitude towards conducting research to enhance academic quality for student development. Additionally, the school was well-prepared for innovative and proactive teaching management methods to elevate the quality of education. This preparation aimed at equipping students with practical skills and knowledge applicable to the real world context. Furthermore, the school served as a professional teacher training ground for Rajabhat University Lampang, consistently hosting 12 to 14 student teachers for their teaching practice every year. In terms of community involvement activities, the school employed the Community Service approach. This was evident through various initiatives such as tree planting, wall painting, and cleaning temple premises, showcasing the school's active role in the community. Furthermore, the school curriculum includes inquiry-based learning or IS for students from Grade 7 to Grade 11. It is structured to enable students to engage in knowledge creation (IS1),

communication and presentation skills (IS2), and community service and social benefit activities (IS3). The research conducted by Oonjitt et al. (2023) revealed that the school has a need for a flexible curriculum development approach. This involves designing learning methods through service-learning tailored to the suitability of each subject. Students have their desire for experiential learning outside the classroom or through practical internships. Assessment of learning outcomes is carried out using diverse service-learning methodologies and involves multiple evaluators.

For this reason, it is evident that the academic management approach to promote service-learning is significant but requires further investigation into its specific characteristics. Therefore, in order to obtain answers to the aforementioned issues, the researchers set the research objectives as follows: to develop an academic management approach that enhances service-learning at Chahom Wittaya School. The aim is to develop an academic management model to promote service-learning at Chahom Wittaya School. This structure should be appropriate and feasible for implementation, facilitating the integration of active learning processes through service-learning. This will allow students to gain fundamental experiences in personal development as responsible members of society, which constitutes a sustainable aspect of development.

Literature Review

Service-learning is considered a preliminary synthesis of hands-on practice aimed at providing experiential learning and designing activities to serve the needs of the local community (Kinloch & Smagorinsky, 2014). Additionally, Thaewanarumitkul (2016) has said that service-learning is an effective form of academic management, a variant of active learning, allowing students to engage in practical experiences that hold genuine value. This is because a student's learning is not solely about the quantity of knowledge gained, but more about how that knowledge can be effectively applied (Chiangkul, 2016). Simultaneously, this method aids in the development of good ethical qualities, as it incorporates moral values through group processes and project work, fostering students' intrinsic understanding of ethics. This internalized understanding becomes a lasting aspect of the students' character and contributes to their long-term role as responsible citizens in society (Duncan & Kopperud, 2008, as cited in Currie-Mueller & Littlefield, 2018). The definition of Service-Learning,

as provided by Duncan and Kopperud (2008) is that it is a learning approach that supports an intention to recognize the value of assets, respond to the needs of the community partners, and elevate students' academic learning through deliberate reflective thinking.

An Academic Administration to promote Service-Learning

The educational management approach that promotes service-learning enables researchers to summarize the synthesis of academic management into three dimensions (Office of the Education Council, 2007; Wonganuroj, 2010, and Office of the Education Council, 2017): (1) curriculum development planning, (2) management and execution of teaching and learning processes, and (3) outcome measurement and evaluation. Drawing from the synthesis of ideas and theories on service-learning by Heffernan (2001), Center for Service-Learning and Civic Engagement (2015), University of Central Arkansas (2018), University of Northern Iowa (2021), Boise State University (2021), and National Future Farmers of America Organization (2022), as well as the research findings of Oonjitt et al. (2023), service-learning encompasses six methods:

1. Discipline-based: Students apply their academic knowledge to organize activities that convey or exchange academic learning to individuals in the community.
2. Problem-Based or Project-Based: Students collaboratively study, investigate community problems, and needs, subsequently executing activities to propose solutions and suggestions for the community's benefit.
3. Capstone: Students employ the knowledge acquired from their curriculum in serving the community, either through interdisciplinary or innovative endeavors.
4. Community-based Action Research: Students conduct fieldwork and interviews within the community to gather information on issues and community needs. They then develop and implement practical research projects based on community insights.
5. Pure Service Learning: Students assess community needs to provide assistance through voluntary service, aiming to contribute positively to the community's well-being.
6. Service Internship: Students participate in social service internships within governmental agencies or industry sectors. This experience exposes students to new perspectives and possibly aligns with their ideal or career aspects.

These diverse approaches in service-learning underscore its significance as an active learning tool that cultivates not only academic knowledge but also ethical values and practical skills in students, while actively engaging and benefiting the local community.

Model Development

The model development refers to the process of creating or enhancing a visual model or conceptual representation that aids in explaining significant dimensions of an organization and essential characteristics of anticipated phenomena. Researchers have examined and synthesized methods for developing frameworks based on processes and steps (Asawapoom, 1994; Khammanee, 2005), including:

1. Study and Analysis of Fundamental Data: Analyzing essential data is vital in constructing a framework. This involves scrutinizing the educational management context of the school to promote service-learning-based learning.

2. Constructing a Causality-Based Framework: Building a framework based on causal relationships is significant as it aligns with a systematic and comprehensive approach to educational management. It encompasses the relationships within various components of educational administration.

3. Validation of the Framework: Qualified individuals examine the framework to ensure its accuracy. Subsequently, the researchers assess its suitability and feasibility, followed by experimental application.

4. Revision and Enhancement: The framework undergoes refinement based on data gathered from experimental applications. It is continuously improved to ensure appropriateness and practicality in implementation.

Based on the literature review of concepts, theories, and the aforementioned research findings, an academic management model can be developed to promote service-learning. This is intended to obtain insights into a suitable and feasible model for implementation. Additionally, the research should explore the conditions for the successful implementation of the model within educational settings.

Methodology

This research is a qualitative study employing a Participatory Action Research (PAR) methodology, divided into three stages (Keeves, 1988; Asawapoom, 1994; Kerlinger & Lee, 2000; Kaemkate, 2008; Chantavanich, 2010). The process is as follows:

Stage 1 Focus Group Discussions: A group discussion involving 13 qualified individuals with relevant expertise was conducted to examine an academic management model to promote service-learning at Chahom Wittaya School. The research tools in this research were group discussion recording forms.

Stage 2 Evaluation of Suitability and Feasibility: A suitability and feasibility assessment of an academic management model to promote service-learning at Chahom Wittaya School with 20 qualified individuals with relevant expertise. The tools used included a suitability and feasibility evaluation questionnaire with a 5-level Likert scale.

Stage 3 Implementation with Sample Group: The model was implemented with a sample group comprising 54 participants, including 36 students, 6 teaching staff, and 8 community leaders and representatives. The tools included reflective thinking record forms and satisfaction questionnaires, which were content validated by 3 experts. The calculated Index of Content Validity (IOC) for each questionnaire item ranged from 0.80 to 1.00, indicating strong content alignment and suitability for data collection.

Data Collection and Participants

The informant group utilized a purposive sampling method (Kerlinger & Lee, 2000; Kaemkate, 2008) to select key informants who were directly relevant stakeholders in the school's educational management (Chantavanich, 2010). The group consisted of 54 participants, including 6 teaching staff, 8 community leaders and representatives, and 36 students. The selection criteria for students involved those in the fifth year of secondary education who were enrolled in the same academic program and expressed willingness to participate in the project. Additionally, they were capable of engaging in service-learning activities within the specified time frame (Kerlinger & Lee, 2000). There were 24 students with a science curriculum and 12 students with an industrial technician curriculum.

The Focus Group Discussion (FGD) were 13 experts and stakeholders at Chahom Wittaya School, in Chahom District, Lampang Province. The criteria for selecting qualified participants were those directly associated with Chahom Wittaya School, including educational administrators, educational supervisors, and teachers under the jurisdiction of the Lampang-Lamphun Secondary Education Service Area Office.

The assessing appropriateness and feasibility were 20 experts and stakeholders, including educational administrators from the Basic Education Commission office, educational administrators from the Lampang-Lamphun Secondary Education Service Area Office, educational management experts, and administrators and teachers from Chahom Wittaya School.

Data Analysis

Data Verification and Analysis were made by using Triangulation Techniques: Data triangulation involves confirming the accuracy of data by considering multiple dimensions such as time sources, location sources, and personnel sources. Investigator triangulation entails cross-verifying information from various participants to directly confirm its accuracy. Methodological triangulation involves the researcher collecting data through different methods like observation and interviews. Additionally, the data are collected from research participants involved throughout a 24-month operational research cycle. This includes recording emotions, thoughts, and experiences during participation. Alongside this, information from documents is studied, coupled with an analytic induction approach. This involves analyzing gathered data, which includes documents, interview transcripts, and observations, to validate and draw conclusions based on the research objectives.

Results

The research findings reveal that the development of an academic management model to promote service-learning is generally highly appropriate and feasible. The model's name derived from these findings is the Proactive Academic Management (PAM) Model to promote service-learning. The objectives of the model are to empower teachers to manage learning effectively through service-learning methods across three dimensions: (1) teachers are capable of designing curricula for learning management through social service; (2) teachers possess knowledge and understanding of service-learning management methods; and (3) teachers are proficient in employing diverse assessment methods, incorporating key principles: (1) Application of social service to analyze curricula for classroom and community-based learning activities; (2) Systematic teaching principles that promote teaching, learning, and activities following the Action, Learning, and Reflection stages; (3) Embracing diversity in assessment methods such as observation, interviews, questioning, evaluation, testing, etc., supported by assessments from individuals involved in the service area, such as peers, parents, community leaders, religious figures, government and private sector representatives; and (4) Inclusivity, where the school adheres to the principle of Community Engagement, fostering connections between the school and the community, or individuals directly involved – students, teachers, and the community.

The results of the experimental implementation of an academic management model to promote service-learning at Chahom Wittaya School indicate that overall, students are highly satisfied, and all parties involved express a high level of satisfaction as well. Additionally, significant findings have emerged from the implementation experiment regarding outcomes obtained from organizing service-learning activities: (1) discipline-based approach served as the foundation for the “Peer Teaching” activity, with teachers from the mathematics subject group acting as advisors; (2) the problem-based or project-based approach formed the basis for addressing the “Community Traffic Issues” problem, guided by teachers from the mathematics subject group; (3) Capstone approach elevated the creation of a “Community Map and Tourist Service Point Diagram, Presented via QR Code,” with teachers from the science and technology subject group as advisors; (4) community-based action research approach, using the community as a base, tackled the research topic of “Air Pollution Issues in the Community,” guided by teachers from the social studies, religion, and culture subject group; (5) pure service learning approach focused on “Utilizing Construction and Repair Skills to Improve Housing for the Underprivileged,” with teachers from the vocational subject group as advisors; and (6) the service internship approach led to internships in social service at the District Hospital and Police Station, under the guidance of advisory teachers.

Furthermore, it was found that crucial success conditions for effectively implementing the model include (1) collaboration and support for social service-based learning activities from all relevant parties, (2) student commitment to engaging in the activities, (3) teacher's knowledge and understanding of social service-based learning methods, and (4) school administrators providing support for the organization of activities.

Therefore, it can be concluded that an academic management model to promote service-learning at Chahom Wittaya School, in an overall sense, can be categorized into three parts: Part 1: Introduction; purpose, principle and elements. Part 2: Implementation; action, learning and reflection. Part 3: Conditions of success; collaboration and support from individuals of all parties involved in the service-learning activities, students' commitment to actively participate in the activities, Teachers' knowledge and understanding of service-learning methods and school administrators providing support for organizing the activities are illustrated below [Figure 1](#).

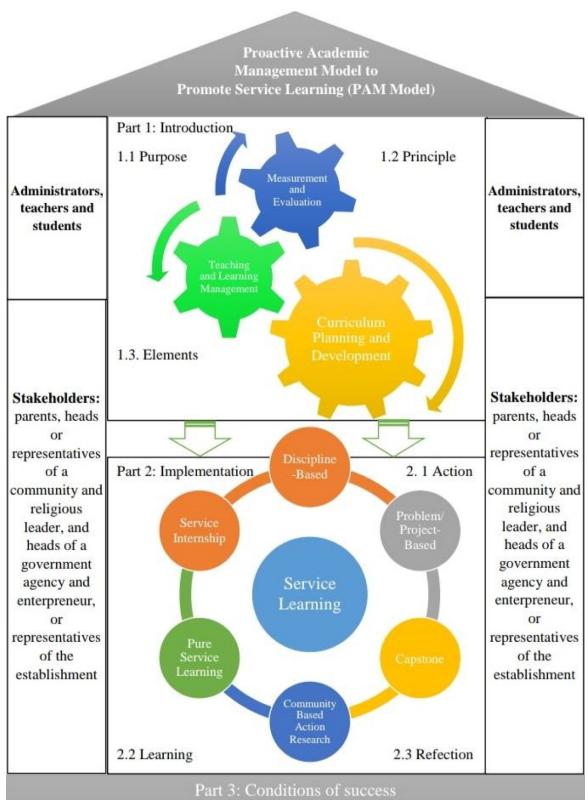


Figure 1 Proactive academic management model to promote service-learning (PAM Model)

Source: Oonjitt et al. (2023)

Discussion

From the results of developing an academic management model to promote learning through the social service in Chahom Witthaya School, it was found that the overall format is highly suitable and feasible. This might be due to the development of this model, which is based on problem data and the needs related to academic management and student learning at Chahom Witthaya School. Additionally, the concept of Gori's School Management-Output Model, which emphasizes the community as a center and importance as a source of resources and inputs that are managed through school management, played a significant role (Gori, 2019).

This model comprises two crucial components: the internal environment and the external environment (Gori, 2019). The model utilizes the concept of process-based model creation according to the ideas of Asawapoom (1994), Keeves (1988), and Khammanee (2005), which are widely adopted and popular concepts. This widespread usage ensures that the participants in the research study

have a clear understanding of the process of model creation and comprehension of the social service learning methods. Consequently, the model was evaluated as highly suitable and feasible from all perspectives.

The name of the model is the "Proactive Academic Management Model to Promote Service Learning," abbreviated as the PAM Model. This name is derived from connecting the academic management concepts of the Department of Local Administration with the process of service learning, which is a form of proactive active learning. This aims to elevate academic management to promote active learning within an organizational context. Therefore, it is deemed necessary to define academic management as a proactive endeavor. Furthermore, qualified individuals who are involved also share the same perspective that using the term "proactive management" provides a clearer image, in line with Furco's (1996) notion that service learning is not just one form of active learning, but a foundation for enhancing the teaching and learning experiences for both students and educators. As for the four important principles, they are as follows: (1) the principle of applying service learning to enable educators to analyze the curriculum based on the foundation of managing learning through service learning. This approach leads to teaching that allows students to engage in learning activities both within the classroom and the community. This corresponds with the curriculum design in various subjects at Thammasat University, which incorporates service-learning teaching methods (Thammasat University, 2021); (2) the principle of systematic teaching by promoting educators to manage teaching and learning activities following three crucial steps: practice, learning, and reflective thinking. Please note that the text provided has certain terms and concepts that might require context-specific understanding to ensure accurate translation. Points of service-learning include the integration of academic content, content-related service, and thoughtful reflection, which collectively enhance the effectiveness of service learning (Fiske, 2002); (3) the principle of diversity in assessment and evaluation using various methods. Nuangchaler (2015) mentioned that evaluation can be carried out by both students and the community, as both service providers and recipients. Therefore, the community represents those who benefit from service learning in terms of innovation brought to the community, student outcomes residing in the community, community awakening and participation. This evaluation should be qualitative in nature (Crowther et al., 2008; Deeley, 2010; Nuangchaler, 2015); and (4) the principle of involvement, where schools engage in participatory management to establish connections with the community.

This is in line with the key components that support organizations for high-quality service learning in schools, indicating that effective service learning offers employees the opportunity to network, observe, and solve problems with other staff within and beyond the school and their districts, in order to consistently refine their social service learning practices (Cairn, 2003).

For the essential success conditions of this model, it is necessary to rely on: (1) school administrators providing genuine and systematic support to teachers in managing service learning; (2) teachers having accurate understanding and knowledge of service learning methodologies, possessing skills to guide and mentor, and being capable of providing appropriate and creative assistance to students; (3) students selecting communities, identifying problems or setting objectives, designing projects or activities in collaboration with teachers; and (4) collaboration and support from organizations and communities in facilitating and endorsing student service learning activities, for which Ash and Clayton (2009) and Nuangchaler (2015) have stated that those directly involved, namely, students, teachers, and communities, are key factors in the success of service learning.

Conclusion and Recommendation

Based on the research findings, it has been found that this model is highly suitable and feasible. Additionally, following the experimental implementation, it was observed that students exhibited an overall high level of satisfaction, and all stakeholders involved were also generally content. This suggests that the outcomes of this research have yielded positive results, as evidenced by the reflections of various directly involved parties: (1) the community expressed admiration and welcome for the school's organization of service-learning activities and showed a desire for such initiatives to continue and this is due to the fact that all activities directly contribute to the well-being of the community; (2) the school adapted its academic management approach to promote community-centered service learning, ensuring that it aligns with the community and local context; (3) every participating teacher reported a broadened perspective after engaging in the activities and expressed intentions to apply these techniques in teaching other subjects in the future; (4) students experienced increased self-pride and a deeper understanding of their own community's issues and context. These responses underline the positive impact and success of the research outcomes.

In terms of the impact of this research, the following observations were made: (1) the community has grown closer to the school due to the direct benefits received from the service-oriented activities, and government agencies have also benefited substantially from a systematic and clear process, and they are ready to assist, support, and oversee student learning; (2) the school has established strong community networks with institutions such as the district hospital and the police station, both of which have expressed enthusiasm for collaboration and even welcomed the idea of hosting student internships, suggesting that more clarity in scheduling would be beneficial; (3) teachers have translated their acquired knowledge into projects that align with assessment criteria and educational standards; and (4) students have gained a greater understanding of their community's problems, while also appreciating the responsibilities carried by adults in their community. Some students have even experienced workplace atmospheres in organizations they are interested in, resulting in clearer career aspirations. Finally, administrators are encouraged to integrate these research outcomes into policy development to enhance both educational institution quality and student quality. Additionally, high school administrators are advised to adopt proactive academic management models to promote service-learning, thereby fostering continuous educational improvement.

Conflict of Interest

The authors declare that there is no conflict of interest.

Funding

This work (Grant No. RGN 63-206) was supported by Office of the Permanent Secretary, Ministry of Higher Education, Science, Research and Innovation (OPS MHESI), Thailand Science Research and Innovation (TSRI), and Lampang Rajabhat University.

Acknowledgments

The author is grateful to all administrators, teachers, and students in the Chahom Wittaya School as well as all parents, heads or representatives of a community and religious leader, heads of a government agency and entrepreneur, or representatives of the establishment who participated in this study.

References

Ash, S. L., & Clayton, P. H. (2009). Learning through critical reflection: A tutorial for service-learning students (Instructor Version). Authors. <https://www.researchgate.net/publication/259398833>

Asawapoom, S. (1994). *Development of an administration model for primary education at the provincial level* [Unpublished doctoral dissertation]. Chulalongkorn University.

Boise State University [BSU]. (2021). *Six types of service-learning*. <https://www.boisestate.edu/servicelearning/faculty/planning-to-use-sl/review-syllabi-formats/types-of-service-learning/>

Bowen, G. A. (2014). Promoting social change through service-learning in the curriculum. *The Journal of Effective Teaching*, 14(1), 51–62. <https://files.eric.ed.gov/fulltext/EJ1060444.pdf>

Cairn, R. (2003). *Partner power and service-learning manual for community-based organization to work with schools*. Serve Minnesota in Cooperation with Minnesota Department Education.

Center for Service-Learning and Civic Engagement [CSLCE]. (2015). *Service-learning toolkit: A guide for MUS faculty and instructors*. Michigan State University. <https://communityengagedlearning.msu.edu/upload/toolkits/Service-Learning-Toolkit.pdf>

Chantavanich, S. (2010). *Qualitative research methods* (18th ed.). Chulalongkorn University Press.

Chiangkul, W. (2016). รายงานสถานการศึกษาไทย ปี 2557/2558 ปฏิรูปการศึกษาไทยให้ทันโลกในศตวรรษที่ 21 [Report on the state of Thai education, 2014/2015: Reforming Thai education to keep pace with the 21st century]. Office of the Education Council. <https://backoffice.onec.go.th/uploaded/Newssecgen/2015-09-29-slideSeminar4.pdf> [in Thai]

Crowther, F., Kaagan, S. S., Ferguson, M., & Hann, L. (2008). *Developing teacher leaders: How teacher leadership enhances school success*. Corwin Press.

Currie-Mueller, J. L., & Littlefield, R. S. (2018). Embracing service learning opportunities: Student perceptions of service learning as an aid to effectively learn course material. *Journal of the Scholarship of Teaching and Learning*, 18(1), 25–42. <https://scholarworks.iu.edu/journals/index.php/josot/article/view/21356/30047>

Deeley, S. J. (2010). Service-learning: Thinking outside the box. *Active Learning in Higher Education*, 11(1), 43–53. <https://doi.org/10.1177/1469787409355870>

Duncan, D., & Kopperud, J. W. (2008). *Service-learning companion*. Houghton Mifflin.

Fiske, E. B. (2002). *Learning in deed: The power of service-learning for American schools*. A Report for the National Commission on Service-Learning. W. K. Kellogg Foundation.

Furco, A. (1996). Service-learning: A balanced approach to experiential education. In The National Corporation for National Service (Ed.), *Expanding Boundaries: Service and Learning* (pp. 2–6). Corporation for National Service.

Gori, J. M. (2019). School management-output model. *International Journal of Liberal Arts and Social Science*, 7(3), 15–24. <https://so07.tci-thaijo.org/index.php/JLA/article/view/1458>

Heffernan, K. (2001). *Fundamentals of service-learning course construction*. Campus Compact, Brown University.

Kaemkate, W. (2008). วิทยากรวิจัยทางพุธวิถีกรรมศาสตร์ (พิมพ์ครั้งที่ 2) [Research methodology in behavioral sciences (2nd ed.)]. Chulalongkorn University Press. [in Thai]

Keeves, P. J. (1988). *Model and model building educational research methodology and measurement: An international handbook*. Pergamon Press.

Kerlinger, F. N., & Lee, H. B. (2000). *Foundation of behavioral research* (4th ed.). Thomson Learning Academic Resource Center.

Khammanee, T. (2005). *Teaching sciences* (4th ed.). Darn Sutha Press.

Kuh, G. D. (2008). *High-impact educational practices: What they are, who has access to them, and why they matter*. Association of American Colleges and Universities.

Kinloch, V., & Smagorinsky, P. (2014). *Service-learning in literacy education: Possibilities for teaching and learning*. Information Age Publishing, Inc.

National Future Farmers of America Organization [National FFA Organization]. (2022). *Types of service: Living to serve*. <https://wwwffa.org/livingtositserve/types-of-service/>

Nuangchalearn, P. (2015). แบบเรียนที่ดีของการบริการสังคม [Service Learning]. *Prae-wa Kalasin Journal of Kalasin University*, 2(1), 9–18. https://so05.tci-thaijo.org/index.php/Praewa-ksu_Journal/article/view/89364 [in Thai]

Office of Basic Education Commission [OBEC]. (2004). *National education act B.E. 2542 (1999)*. Pimdeekarnpim. [in Thai]

Office of the Education Council [OEC]. (2007). *Education in Thailand 2007*. Amarin Printing and Publishing. <https://backoffice.onec.go.th/uploads/Book/759-file.pdf>

Office of the Education Council [OEC]. (2017). *Education in Thailand*. https://www.bic.moe.go.th/images/stories/pdf/EDUCATION_IN THAILAND_2017.pdf

Oonjitt, D., Siribanpitak, P., & Wingwon, B. (2023). การบริหารวิชาการเพื่อส่งเสริมการเรียนรู้ด้วยการบริการสังคม ของโรงเรียนแห่งที่มีพิทยา จ้าวเฉลิม [An academic management to promote service-learning in Chahom Wittaya School, Chahom Sub-District, Lampang Province]. *Educational Management and Innovation Journal*, 6(2), 75–91. <https://so01.tci-thaijo.org/index.php/emi/article/view/262205> [in Thai]

Thaewanarumitkul, P. (2016). แบบเรียนการสอนแบบ Active learning [Active learning teaching approach]. Training Materials for the Professional Educator Seminar for New Lecturers, Suranaree University of Technology. [in Thai]

Thammasat University. (2021). *Identifying and engaging with local stakeholder through service learning*. <https://sdgs.tu.ac.th/2021/11/07/identifying-and-engaging-with-local-stakeholder-through-service-learning/>

Thapwong, C., & Chaturanon, W. (2009). การประยุกต์ใช้เทคนิคการเรียนรู้ด้วยการบริการสังคมในการจัดการศึกษาระดับอาชีวศึกษา [Implementing service learning in vocational education]. *Journal of Education and Social Development*, 5(1), 67–80. <https://www.vanderbilt.edu/oacs/wp-content/uploads/sites/140/Implementing-Service-Learning-in-Higher-Education.pdf> [in Thai]

University of Central Arkansas [UCA]. (2018). *Types of service-learning*. <https://uca.edu/servicelearning/types/>

University of Northern Iowa [UNI]. (2021). *Types of service-learning*. <https://engagement.uni.edu/service-learning/course-designation/types-service-learning>

Wangthongpitayakom School. (2024, March 10). โครงการส่งเสริมความเป็นเลิศของผู้เรียน กิจกรรมนำองค์ความรู้ไปใช้บริการสังคม [Student excellence promotion project: Activity for applying knowledge in social service]. http://wtp.ac.th/gallery-detail_104677 [in Thai]

Wonganuroj, P. (2010). ภาคบริหารวิชาการ [Academic administration]. Bangkok Media Center. [in Thai]