Develop a Driving System of Management in Work-Integrated Education for Rajabhat Universities in the Upper Northern Region

Jiraporn Supising[1*], **Sirimas Kosanpipat** [2], **Choocheep Puthaprasert** [2] **and Phubet Poungkaew** [2]

[1] Educational Administration, Graduate School, Western University, Watcharapon Campus, Thailand.
[2] Educational Administration, Graduate School, Chiang Mai Rajabhat University, Chiang Mai, Thailand.

Abstract

This research was aimed to 1) construct a primary draft of a driving system of management in work-integrated education for Rajabhat Universities in the upper northern region, 2) verify the accuracy and suitability of a driving system of management in work-integrated education for Rajabhat Universities in the upper northern region, and 3) complete a driving system of management in work-integrated education for Rajabhat Universities in the upper northern region. The instruments used were a primary draft of a driving system of management in work-integrated education and a verification form. Data were analyzed using frequency and percentage and categorized into a system. The results of the research were as follows: 1) a developed draft of a driving system of management in work-integrated education for Rajabhat Universities in the upper northern region consisted of 5 components as follows: 1.1) information, 1.2) matching, 1.3) co-designing and implementation, 1.4) assessment and development, and 1.5) outreach activities; 2) the verification of the driving system of management in work-integrated education showed that the accuracy was averagely 91.70 percent and the suitability was averagely 90.91 percent; and 3) the complete driving system of management in work-integrated education for Rajabhat Universities in the upper northern region consisted of policy, curriculum, implementation, students and workplaces, and employers according to input, process, and output process.

Keywords: Driving system, Work-integrated Education, Management, Rajabhat Universities, Upper northern region

1. Introduction

The announcement of the Higher Education Act 2019 [1], Section 35 states that higher education institutions should collaborate with governmental organizations, the private sector, and industrial sectors to support the management of teaching and learning in higher education institutions so that students can learn by doing real-world jobs and develop their knowledge, skills, competencies, and other characteristics in line with the needs of the nation. The higher education institutions might make a memorandum of understanding with the agencies in educational curriculum management, learning and teaching, measurement, and evaluation by allowing the students to spend part of their time working in higher education institutions and part in the workplaces of those agencies.

Many Thai universities have attempted to design work-integrated education management in teaching and learning that focuses on practices, provides for student monitoring, supervision, and performance evaluation, and allows students to reflect on their practice. Khasuwan, Hongsiriwat Polsaram [2] re-

vealed the current conditions and problems of work-integrated learning management for learners and graduates as follows: 1) the structure of some courses was not conducive to work-integrated learning and lacked supporting factors to meet the work-integrated learning curriculum; 2) the work skills of learners and graduates did not meet the requirements of the workplace for professional experience; 3) instructors, lecturers, advisors, and supervisors did not realize the importance of work-integrated learning, so it could be seen as an increase in the workload; 4) workplaces (also called establishments, enterprises, and companies), administrators, advisers, and mentors were unaware of the value of work-integrated learning; and 5) finance or budget was not allocated in proportion to the cost responsibility for work-integrated learning.

Similarly, Supising, et al. [3] studied the needs assessment for developing the driving system of work-integrated education management. It was found that under the current conditions in terms of policy, some administrators who did not see the benefits of cooperative and work-integrated education programs for instructional management were frequently changed, resulting in policy changes, as well as responsible personnel was also often changed, affecting work inter-

mittently. Regarding the curriculum, some administrators are unaware of the advantages for students, despite the fact that the cooperative and work-integrated education curriculum was common in educational institutions. In terms of implementation, the method of enhancing the quality of education had not been used to preserve and promote the work-integrated education program. Furthermore, as for the students, the curriculum was not provided for all students and all faculties. Most students misunderstood that the work-integrated education programs might be more difficult than normal training. Regarding the workplaces and employers, there was no official Memorandum of Understanding (MOU) with the workplaces (also called establishments, enterprises, and companies).

Moreover, Sebolao Ntshoe [4] studied work-integrated practices in a technology education setting. Thematic data analysis revealed that a work-integrated learning approach seemed to be a workable paradigm for outcomes in education related to real-world technology transfer. The use of field practice; for example, customer service-focused abilities, curriculum improvement, the transfer of technology, and professional development, was among the benefits that lecturers believed Universities-industry collaboration brings to learning and teaching.

In line with Pažur Aničić Divjak [5], who studied work-integrated learning in higher education, the results of this study showed that common motivators for stakeholders' participation in work-integrated learning included student learning, student career development, and improving learning and teaching quality. Additional elements relevant to the expectations and motivations of the respective stakeholders were also found. The findings of this study might assist higher education institutions (HEIs) in structuring work-integrated learning practices to boost motivation and satisfy all stakeholders' expectations.

The obstacles to the work-integrated education program at Rajabhat Universities were the development and strengthening of human capital to enhance necessary skill development, which still did not focus on improving students' ability to effectively manage their learning and encouraging their learning abilities and skills to create more applications in the workplace and in daily life, which is inconsistent with the announcement of Thailand's 20-year National Strategy (2018–2037) [6]

However, the driving system of management in work-integrated education at universities can take several forms to enhance skills and work experience and is recognized as making a significant contribution to the transition of graduates to the workplace. It includes ensuring that each work-integrated education management activity meets the needs of students and enables them to engage in work practices that are relevant to their degree. Additionally, the driving system ensures that students are given the opportunity to demonstrate progress toward the necessary professional standards of practice in accordance with professional accreditation requirements. Furthermore, the study of the driving system of management in work-integrated education will help to establish policy, curriculum, implementation, students, workplaces (also called establishments, enterprises, and companies), and employers to ensure the same direction of the driving system of management in work-integrated education for the next semester and compliance with the Higher Education Standards Framework.

2. Research Questions

2.1 What is the primary draft of the driving system of management in work-integrated education for Rajabhat Universities in the upper northern region?

2.2 What are the accuracy and suitability of the primary driving system of management in work-integrated education for Rajabhat Universities in the upper northern region?

2.3 What is the complete driving system of management in work-integrated education for Rajabhat Universities in the upper northern region?

3. Research Objectives

3.1 To draft the primary driving system of management in work-integrated education for Rajabhat Universities in the upper northern region.

3.2 To verify the accuracy and suitability of the primary driving system of management in work-integrated education for Rajabhat Universities in the upper northern region.

3.3 To complete the driving system of management in work-integrated education for Rajabhat Universities in the upper northern region.

4. Research Objectives

The research process was divided into three phases as follows:

Phase 1: Construct a primary draft of the driving system of management in work-integrated education for Rajabhat Universities in the upper northern region. This phase was subdivided into three steps:

Step 1.1: The researchers synthesized components of the driving system for management in work-integrated education. The instrument used was a synthesized record form. The data were analyzed by frequency [7].

Step 1.2: The researchers investigated the requirement for developing the driving system of management in work-integrated education at Rajabhat Universities in the upper northern region. The instrument used was an in-depth interview form. Data were analyzed by content analysis [3].

Step 1.3: The researchers drafted a primary driving system of management in work-integrated education for Rajabhat Universities in the upper northern region by analyzing the synthesis results of components from step 1.1 and the investigated results from step 1.2. Data were analyzed by content analysis.

Phase 2: Verify the accuracy and suitability of the primary draft of the driving system of management in work-integrated education for Rajabhat Universities in the upper northern region. The key informants were eleven experts as stakeholders with work-integrated education. The instrument used was a verified form. Data were analyzed by percentage and frequency.

Phase 3: Complete the driving system of management in work-integrated education for Rajabhat Universities in the upper northern region. The key informants consisted of thirteen experts positioned as supervisors and workplace employers. The instrument used was a record form in the workshop via the Zoom meeting program. Data were analyzed by summarizing into issues.

5. Results and Discussion

Phase 1: Construct a driving system of management in work-integrated education for Rajabhat Universities in the upper northern region. This phase was divided into three steps:

Step 1.1: The researchers synthesized components of the driving system for management in work-integrated education. The instrument used was a synthesized record form. The data were analyzed by frequency. The results of synthesizing components of the driving system of management in work-integrated education consisted of five preliminary components as follows:

1) Information consisted of an information technology system.

2) Matching consisted of an educational reform driving system, the development of education at all levels and types, a teamwork system, and a network.

3) Co-designing and implementation consisted of digital technology for education, the development of knowledge assets, and an educational supervisory system.

4) Assessment and development consisted of quality criteria and indicators, evaluation methods, durational conditions, evaluation by stakeholders, and evaluation by impartial agencies or institutions.

5) Outreach activities consisted of the management of educational service systems, service systems, and networks.

Step 1.2: The researchers investigated the current conditions for developing the driving system in work-integrated education at Rajabhat Universities in the upper northern region. The instrument used was an in-depth interview form. Data were analyzed by content analysis. [3]

In terms of policy, all levels of education institutions should follow the policy and strategy of Thailand HES 2563-2570 and Thailand SRI Plan 2563-2565 to drive a system for cooperative development among higher education institutions, and the cooperative and work-integrated education program should be implemented in accordance with an indicator.

In terms of curriculum, the management of cooperative and work-integrated education curricula should integrate studying with hands-on occupational experience and require participating companies to work in collaboration with all related sectors. Additionally, the courses should help equip students with real-world work experience that responds to market demand.

In terms of implementation, the Office of National Higher Education Science Research and Innovation Policy Council (2020) and the Higher Education, Science, Research, and Innovation Policy and Strategy (2020–2027) were developed by taking into account government reform, as well as local, state, and global current events pertaining to the growth of the workforce and of knowledge, particularly those aimed at enhancing knowledge, present, and future work skills, and capacities to meet the demands of an industry that was constantly being disrupted by technology.

In terms of students, the participative relationships the universities, employers, mentors, and organizational environments had an impact on students' performance and provided students with pre- and post-knowledge of cooperative and work-integrated education programs.

In terms of workplaces (also called establishments, enterprises, and companies) and employers, a needs assessment should be aimed at strengthening engagement with employers. There should be the provision of an official Memorandum of Understanding (MOU) with the workplaces, which should give importance to the workplaces by honoring certificates or awards. There should be a budget from the government in order to motivate workplaces (also called establishments, enterprises, and companies) willing to welcome students.

Step 1.3: The researchers drafted a primary driving system of management in work-integrated education for Rajabhat Universities in the upper northern region by analyzing the synthesis results of components from step 1.1 and the investigated results from step 1.2. Data were analyzed by content analysis.

Similarly, Dollinger D'Angelo [8] mentioned the principles of co-design were to share responsibility, and solve problems, and strengthen our relationships. By working with everyone, we gain mutual respect and trust that can invigorate our communities.

Phase 2: Verify the accuracy and suitability of a primary draft of the driving system of management in work-integrated education for Rajabhat Universities in the upper northern region. The key informants were eleven experts who were stakeholders in work-

Table 1. Results of drafting a primary driving system of management in work-integrated education for Rajabhat Universities in the upper northern region

Components	Input	Process	Output
1. Information			
1.1 At a policy level	-Expand knowledge and comprehension of the concept of WIE.	-Provide training workshops for all relevant personnel and students to access information.	-All relevant personnel and students have been trained on how to discover, utilize, and apply information to WIE.
1.2 At a	-Utilize the standards in organizing the curriculum of WIE.	-Organize the curriculum in accordance with WIE.	-The standard curriculum was adapted in accordance with WIE.
1.3 At the implementation level	-Give all relevant personnel and students access to information.	-Create and promote freely available information resources.	-Meet standards and quality assurance.
1.4 At the student level	-Explore how information affects work-integrated education. -Produce and share correct information.	-Synthesize the information based on its degree of routineness and complexity.	-Applying information can be as simple as making the operation easier.
1.5 At a workplace level/employer level	Apply knowledge to workplace communication.	-Create information for employers' acceptance and share ideals.	-Promote cooperation to use the information and mutual support in all parts of the workplace.
2. Matching			
2.1 At a policy level	-Prepare an MOU to coordinate between higher education institutions and workplaces.	-Investigate partners' needs. -Seek cooperation with the partnership.	-Share recommendations with one another. -Collect information from all relevant departments.
2.2 At a curriculum level	-Prepare a matching MOU to drive curriculum reform.	-Have a driving system of curriculum reform.	-Develop the curriculum at all levels and in all fields.
2.3 At the implementation level	-Provide teamwork. -Everyone on the team can speak openly and honestly without worrying about being critical.	-Arrange the priorities of each individual's readiness.	-There is information and a platform for demand and supply to take advantage of partnerships.
2.4 At the student level.	-Allocate roles and responsibilities between different levels and relevant personnel.	-Organize partnership and teamwork system.	-Cooperate with the discussion on common techniques of data manipulation.
2.5 At a workplace level/employer level	-Match demand-supply. -Guide new and engaging WIE.	-Guide new and engaging WIE.	-There is a One Stop Service system.
3. Co-designing and Implementation			
3.1 At a policy level	-Promote co-designing and implementation of a WIE program.	Appoint the responsible departments for the WIE program.	-Enable or empower people affected by a policy issue to contribute to its solution of a WIE program.
3.2 At a curriculum level	-Encourage co-designing curriculum among faculties, workplaces, and students to promote knowledge, professional skill, and digital literacy.	- Provide co-designing curriculum, lesson plan, and learning outcomes among faculties, workplaces, and stakeholders.	-Accept the change and empower faculties lecturers to make changes to the curriculum. -Have quality assurance at a program level.
3.3 At the implementation level	-Create a pilot work-integrated education program that will prove technical feasibility to top administrators.	-Have supervision at workplaces and create a monitoring system after graduation by communicating to all stakeholders, and graduates' employers.	-Assemble an implementation team to champion the new WIE program.
3.4 At a student level	-Launch the highest levels of participation in co-design activities of the WIE program to do with activities.	-Share responsibility in co-design activities of work-integrated education program.	-Students participate in co-design activities to have knowledge, professional skill, and digital literacy.

Components	Input	Process	Output
3.5 At a workplace level/employer level	-Treat students in the co-design process. -Set a suitable approach to employability preparation.	-Co-create designers and personnel to develop solutions to complex problems.	-Rely on the partnership of individuals who share a common objective but hold diverse perspectives and experiences.
4. Assessment and Development.			
4.1 At a policy level	-Define assessment by student self-assessment, peers, faculty lecturers, and employers/mentors.	-Provide participative assessment practices. -Guarantee by quality assurance.	-Aim policies aiming for greater clarity and interconnections for the assessment frameworks.
4.2 At a curriculum level	-Review competency-based assessment.	-Building assessment competencies among faculty lecturers and employers/employers.	-Students demonstrate a competency ability to work through the WIE program.
4.3 At the implementation level	-Test and review learning outcomes.	-Quantitative and/or qualitative assessments are made during a WIE program.	-Enhancing the quality and reliability of student assessments.
4.4 At a student level	-The WIE assessment is up-to-date and consistent with the modern working world.	-Evaluation by students, relevant personnel, and stakeholders.	-Use the authentic assessment for students' progress in developing skills.
4.5 At a workplace level/employer level	-Collaborative assessment and mutual recognition among faculties, workplaces, and students	-Evaluation by impartial agencies or institutions.	-Develop for continuous improvement.
5. Outreach Activities			
5.1 At a policy level	-Focus on scientific and technological research and scientific innovation.	-Collect other forms of innovation.	-Add value to higher education institutions. -Enhance WIE assessment to a world-class standard.
5.2 At a curriculum level	-Co-designing and implementing a WIE curriculum serves as a credible demonstration for other universities.	-Develop a curriculum to build competencies in accordance with the career for the future.	-Bring knowledge and expertise on a particular curriculum to the general public.
5.3 At the implementation level	-Utilize digital to provide information within a shorter timeframe.	-Provide management of educational service systems and add value to students.	-Facilitate student learning to employers or mentors at a workplace.
5.4 At a student level	-Practice presentations and workshops in real workplaces.	-Prepare a career for the future. -Be challenged while trying to learn a WIE program.	-Become professional skills and upgrade students to become an entrepreneur.
5.5 At a workplace level/employer level	-Create designers and people to develop solutions to complex problems.	-Solve problems using research studies and explain the benefits of research	-Upgrade the quality of the workplace through in-depth research questions and add value to the workplace.

Table 2. The verifying results of components of a primary draft of the driving system of management in work-integrated education for Rajabhat Universities in the upper northern region.

Components of a primary draft of the driving system	The verifying results			
	Accuracy		Suitability	
	Frequency	Percentage	Frequency	Percentage
1. Information	10.33	93.94	10.00	90.91
2. Matching	10.33	93.94	10.00	90.91
3. Co-designing and Implementation	9.67	87.89	10.33	93.94
4. Assessment and Development	9.33	94.85	9.00	81.82
5. Outreach Activities	9.67	87.89	10.67	96.97
Average	**91.70**		**90.91**	

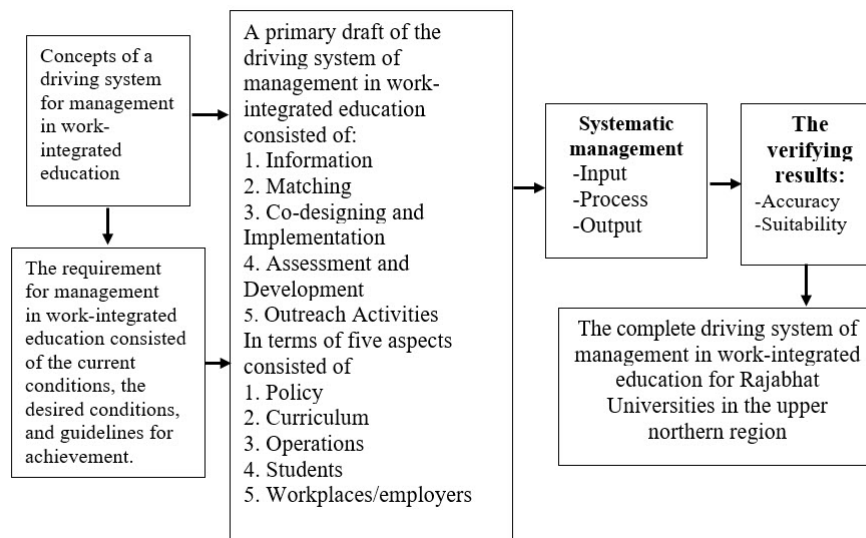**The research framework was as shown in Figure 1.**

Figure 1: Research framework

integrated education. The instrument used was a verified form. The data were analyzed by percentage and frequency.

From Table 2, results of verifying the components of a primary draft of the driving system of management in work-integrated education for Rajabhat Universities in the upper northern region by eleven experts found that the accuracy was averagely 91.70 percent and the suitability was averagely 90.91 percent

Phase 3: A complete management of driving system in work-integrated education at Rajabhat Universities in the upper northern region. The key informants consisted of thirteen experts positioned as supervisors and workplace employers or mentors. The instrument used was a recording form in the workshop via the Zoom meeting program. Data were analyzed by summarizing issues named IMCAO(IPO)PCISW/E as follows:

Components of the driving system of management in work-integrated education for Rajabhat Universities in the upper northern region.

1. I = Information: Explore and synthesize information that affects work-integrated education.

2. M = In accordance with educational reform, all relevant universities provided me with a Memorandum of Understanding (MOU) as partners. They are ready to work as a team and network.

3. C = Co-designing and implementation: Digital technology learning appears as knowledge assets by educational supervisory authorities and transfers education outcomes.

4. A = Assessment and development: Set up the quality criteria and indicators by evaluation methods.

5. O = Outreach activities: Management of educational service systems with a partnership among the universities and workplaces (also called establishments, enterprises, and companies) should be aimed at expanding the cooperative and work-integrated education program and strengthening engagement with employers.

The driving system of management in work-integrated education at Rajabhat Universities in the upper northern region was studied through the IPO system as follows:

- Input: Begin with a Memorandum of Understanding (MOU), hold a workshop, and use technology to connect.

- Process: Investigate the needs assessment, implement work-integrated education, and formulate the driving system.

- Output: Collaboration is authored and collectively accepted among faculty lecturers and employers by communicating clearly and sharing knowledge effectively to promote professional skills for the future.

The driving system of management in work-integrated education at Rajabhat Universities in the upper northern region consists of:

1. P = Policy: According to the Higher Education Act 2019, students learn by practicing real careers and acquire knowledge, skills, competencies, and other characteristics by training to hold great promise for policymakers in accordance with the requirements of the country.

2. C = Curriculum: Develop students as specialists with the Digitech curriculum in both science and art through work-integrated learning and participatory processes for implementation to be a key force in driving the digital economy for the development of the country.

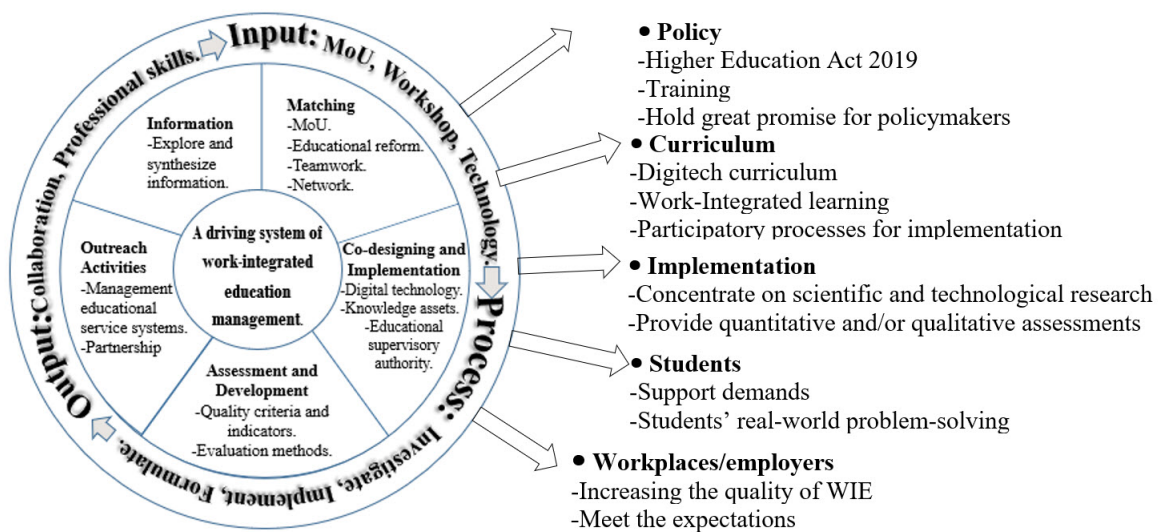3. I = Implementation: Higher education institu-

Figure 2: A driving system of management in work-integrated education for Rajabhat Universities in the upper northern region

tions concentrate on scientific and technological research and provide quantitative and/or qualitative assessments.

4. S = Students: Additional support perceptions and demands can be both long- and short-term or can simply refer to helping students get through a difficult period, and students may require flexibility, resilience, resourcefulness, and interaction with the environment during real-world problem-solving.

5. W = Workplaces (also called establishments, enterprises, and companies) or employers: Increasing the quality of the cooperative and work-integrated education program to meet the expectations of faculty lecturers, employers, students, and stakeholders. A complete driving system of management in work-integrated education for Rajabhat Universities in the upper northern region was shown in Figure 2.

Likewise, Poungkaew Puthaprasert [9] studied a model of work-integrated learning to prepare educational administrators in Thailand. It was concluded that the universities also played a crucial role in giving students the chance to complete internships within their educational institutions so they could apply what they learned to their future employment. Although work-integrated learning was not a novel concept in higher education, Thai institutions adopted it because students needed to change with the times. As a result, practicum was made a requirement for one of the student's courses.

6. Conclusion

From the studying, synthesizing, and analyzing of the driving system of management in work-integrated education, all information was essential and affected work-integrated education for all relevant universities as a partnership through digital technology with criteria and indicators. Startups with MOU, workshops, and the use of technology for collaboration among faculty lecturers and employers will support students during real-world jobs. Therefore, the driving system of management in work-integrated education at Rajabhat Universities in the upper northern region can be a benefit for all relevant sectors. The majority of work-integrated education at universities should take place at the undergraduate degree level, although it can also occur at the postgraduate level. Universities, workplaces (also called establishments, enterprises, and companies), and organizations must collaborate on work-integrated education.

7. Recommendations

7.1 The Office of the Board of President of Rajabhat Universities should take its involvement in the driving system of management in work-integrated education seriously.

7.2 The Office of the Board of President of Rajabhat Universities should use the network of Rajabhat Universities in the upper northern region to develop and share a teaching management system for all courses in order to meet the policy and strategy of Thailand HES 2563-2570 and Thailand SRI Plan 2563-2565.

7.3 The Ministry of Higher Education, Science, Research and Innovation should provide tax incentives for workplaces that accept students for the work-integrated program.

8. Recommendation for Further Research

8.1 In the other programs, there should be research on the management of work-integrated education by quality teachers.

8.2 There should be monitoring and follow-up research on the continuity of the management in the work-integrated education network, involving all faculty lecturers and stakeholders.

9. Acknowledgment

References

[1] Royal Thai Government Gazette. (2019). Higher Education Act 2019. Retrieved from http://www.ratchakitcha.soc.go.th/DATA/PDF/2562/A/057/T_0054.PDF

[2] Khasuwan, S., Hongsiriwat, A., Polsaram, P. (2021). Current Conditions and Problems of Work Integrated Learning Management of Learner and Graduates Major Architecture of Thailand Universities. The Journal of Education Studies, Chulalongkorn Universities, 49(3), 1-12. DOI: 10.14456/educu.2021.59

[3] Supising, J., Kosanpipat, S., Poungkaew, P. Puthaprasert, C. (2022). Needs Assessment for Developing the Driving System of work-integrated education Management of Rajabhat Universities in the Upper Northern Region. The Golden Teak: Humanity and Social Science Journal, 28(5). 158-175.

[4] Sebolao, R. Ntshoe, I. (2017). Work-integrated practices in a technology education setting. Journal of Psychology in Africa, 27(1), 97-100. DOI: 10.1080/14330237.2016.1219573

[5] Pažur Aničić, K. Divjak, B. (2022). Work-integrated learning in higher education: Student, teacher and employer motivation and expectations. Retrieved from https://files.eric.ed.gov/fulltext/EJ1346543.pdf

[6] Royal Thai Government Gazette. (2018). Thailand's 20-Year National Strategy (2018-2037). Retrieved from http://www.ratchakitcha.soc.go.th/DATA/PDF/2561/A/082/T_0001.PDF

[7] Supising, J., Kosanpipat, S., Poungkaew, P. Puthaprasert, C. (2020). Components of Driving System for work-integrated education Management. Referred Proceedings of the 18th. National Academic Conference and Research Presentations, Western University. (pp. 1-18)

[8] Dollinger, M. Belinda D'Angelo, B. (2020). Co-design for Student Success. Retrieved from https://www.ncsehe.edu.au/wp-content/uploads/2020/08/Dollinger-DAngelo-Co-design-Handbook-1.pdf

[9] Poungkaew, P. Puthaprasert, C. (2020). A model of work-integrated learning to prepare educational administrators for Thailand. Interdisciplinary Research Review, 15(3), 7 – 13. Retrieved from: https://ph02.tci-thaijo.org/index.php/jtir/article/view/240610