

# The Study on a Model for Monitoring and Supervising the Ability to Face and Cope with Obstruction for Students Participating in Work-Based Learning (WBL)

Benjamaporn Jantorn\*, Sumalee Chanchalo, and Surachai Suksakulchai

**Abstract**—The objectives of this research were 1) to synthesize and create a monitoring system model to develop the ability to face and cope with obstruction of interns in the Work-Based Learning (WBL) system; 2) to assess the suitability of the monitoring system to develop the ability to face and cope with obstruction of interns in the WBL system. The sample is five experts using a selective method of purposive sampling in evaluating a monitoring system model to develop the ability to face and cope with obstruction of the interns in the WBL system. From the results of the research, there was a monitoring system model to develop the ability to face and cope with obstruction of interns in the WBL system named the SP<sup>4</sup>D model. The results of the synthesized model evaluation showed that the most issue accepted by experts were 1) Component 2, Student Monitoring Process, Step 3 Promotion, and development of the ability to face and cope with obstruction, 2) Component 3, Cloud Computing system in Google Classroom for Adversity Quotient (AQ) development activities, and 3) Component 3, Cloud Computing system in Google Drive for data storage. The least acceptable issue by experts was Component 1, Defining the scope of users and students. The total synthesis was at the most suitable level (mean at 4.51, the standard deviation at 0.53) and experts agree that the synthesized model can be used appropriately.

**Index Terms**—Monitoring system, internship, learning system, work-based learning

## I. INTRODUCTION

The learning system, along with the work, is an education model that emphasizes learning in theory and practical training in the workplace called Work-Based Learning (WBL). The workplace has a part in teaching and learning. It is a teaching method that allows students to learn working skills from real experience and should be helpful to students [1]. It is a combination of knowledge from theories, experiences and things that have been done in practice that cause the new knowledge. The workplace is believed to be a good classroom, just like learning in a general classroom, and students will benefit directly. Management of teaching and learning at the higher education level is, therefore, necessary to promote and encourage students to learn from working in the workplace to create a thought process and reflect the ideas gained from actual practice and can be applied to situations that are similar and can be solved in real-life situations [2].

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Benjamaporn Jantorn is with Faculty of Industrial Education and Technology, King Mongkut's University of Technology Thonburi, Thailand.

Sumalee Chanchalo and Surachai Suksakulchai are with Faculty of Industrial Education and Technology, King Mongkut's University of Technology Thonburi, Thailand.

\*Correspondence: benjamaporn.jan@kmutt.ac.th (B.J.)

Obstructions of learning in the WBL system, workplaces have identified skill problems that still do not meet the demands of the labor market, i.e., problem solving, socialization, adaptation, teamwork, specialized problem-solving skills, creativity, leadership, time management and communication [3]. An internship in the workplace must work with diverse individuals. The important thing to consider is the ability to face and cope with obstruction (Adversity Quotient: AQ), which is one of the seven skills needed to teach in the WBL system. Students have to face diverse, complex and changing situations, which compare to an obstruction. If there is a problem, it must be corrected. It will be slow to achieve or hinder success or a crisis that causes distress in learning practice and life. Therefore, students must have the ability to face and cope with obstructions. Students' emotions must be controlled, tolerated, restrained, and managed appropriately.

This study looks at two Objectives: to synthesize and create a monitoring system model for developing the ability to face and cope with obstruction of interns in the Work-Based Learning (WBL) system, and to assess the suitability of the monitoring system for developing the ability to face and cope with obstruction of interns in the Work-Based Learning (WBL).

## II. RELATE WORK

Institutional administration is the factor that promotes teaching and learning in the WBL to be successful. It should be to systemize supervision, monitoring, and continuous assessment of student progress [4]. Creative problem solving must be encouraged [5]. It should prepare supervisors and mentors and develop systems or guidance processes to manage teaching and learning in the WBL effectively [6]. Participation in student care between teachers and parents and developing teachers to help students with differences is a characteristic of effective institutional administration [7]. It was consistent with Lunenburg and Omstein [8], who stated that student monitoring, consulting, guidance, recording, and using the information in the assessment and analysis of both the psychological and social data of each student. The assessment results can be used for student development to help students understand themselves, making it possible to solve problems with student behavior. There must be a meeting between teachers and parents to report the results for helping and solving behavioral problems of students. It is considered an important task of institutional administration. The adoption of a system for monitoring students has resulted

in a positive effect on solving students' problems. The student development process, teachers, and educational institutions play an important role in solving problems and cultivating students, relationships between supervisors and students, the attention of advisors and supervisors, and motivation of internships resulting in better student internship performance [9].

In a study of guidelines for the implementation of the student internship monitoring system, some academicians gave principles, processes, and procedures in the student monitoring system for internships; for example, the Department of Mental Health, Ministry of Public Health said that the components of the student support monitoring system consisted of five components: 1) knowing individual student; 2) screening students; 3) promotion and development students; 4) prevention and problem-solving; 5) passing students [3], and the Ministry of Education has the concept of a student support monitoring system consisted of 5 components: 1) knowing individual student; 2) screening students; 3) promotion and development students; 4) prevention and problem-solving; 5) passing students. In this study, the concept of the Office of the Basic Education Commission, Ministry of Education was used, which is the concept of a system for monitoring and helping students in five key components as follows [3]:

Component 1: Knowing individual students. Each student has a different background in their life. They were looked after in a different family, causing a variety of behaviors, both positive and negative. Therefore, it is important to know individual student information that will help to understand students. The data will be analyzed for each student and screened into groups. It is useful in promoting, preventing, and solving problems of students in the right way. This is empirical data obtained from a variety of tools and methods. Theoretically, it cannot use feelings or speculation, especially in solving student problems. This will make no errors or occur as little as possible in helping students.

Component 2: Screening students. It used data of students to analyze and group to match the problem and necessary needs for finding monitoring methods, taking care of, and helping students with speed, accuracy, and appropriateness. It could be divided into four groups as follows:

Group 1: Normal group refers to students who have received various data analyses according to the screening criteria of educational institutions. The normal group should be strengthened immunity, promoted, and developed.

Group 2: Risk group refers to students who are in the criteria of the risk group according to the screening criteria of educational institutions. This group must be protected and corrected by case.

Group 3: Problem group refers to students who are classified in the problem group according to the screening criteria of educational institutions. This group must be helped and solve problems urgently.

Group 4: Special group refers to students with special abilities. There is a genius that shows outstanding abilities in one way or another, or many aspects are evident compared to those of the same age and same environment. Educational institutions must encourage students to develop their talents to their fullest potential.

Component 3: Student promotion. It supports all students in the normal group, the risk group, the problem group, and the special ability group to develop and strengthen their skills to their full potential and with more outstanding quality have pride in themselves in various fields. This will prevent students in normal groups and special groups become to students in Risk group or Problem group and help the risk group or the problem group be a normal group. Students have skilled quality standards according to the expectations of educational institutions, workplaces, and society. There are several ways that schools can promote student development. The main activities that must be carried out are 1) organizing a homeroom activity, 2) organizing a home visit, 3) organizing a classroom meeting, and 4) organizing student development activities to enhance life skills.

Component 4: Prevention and problem-solving for supporting interns, supervisors must pay equal attention to all students. However, for students of the risk group and problem group, it is necessary to pay close attention, including finding ways to prevent, solve problems and help students without neglecting to become a problem to the workplaces and society. Building immunity, preventing, and solving problems of students is a great task and very valuable to develop students to be qualified students for the educational institution, workplaces, and society. The guidelines for prevention and problem-solving that need to be implemented are 1) providing initial consultation, and 2) organizing activities to prevent and solve problems.

Component 5: Passing prevention and problem-solving of students, the supervisors may have difficult problems to help beyond their abilities, or the students still have bad behavior. It should pass to a specialist. Therefore, students' problems can be helped in the right way and faster. If left the problem to the responsibility of the supervisor or a person involved only, the complexity of the problem may increase or escalate into a large problem that is difficult to solve. Passing can be divided into two types:

- 1) Internal Passing: The supervisors can pass to the consulting teachers or those involved in educational institutions who can assist students depending on the aspects of the problem, for example, full-time teacher, nursing, or student affairs department.
- 2) External Passing: If there is a case of a problem that is too difficult for the educational institutions. The supervisors are responsible for passing to external experts or those involved outside, such as a psychologist, a trainer, or someone involved from the workplace.

Stoltz defined the ability to face and cope with obstruction (Adversity Quotient: AQ) as the ability to cope with obstruction and difficulty or the intelligence to cope with the crisis is considered the most important factor in success in life. Individuals with a high ability to face and cope with obstructions will not be discouraged by obstruction. On the other hand, an individual has a low ability to face and cope with obstruction; when faced with them, they will give up. Stoltz proposed the idea that obstruction and the difficulty in life can be divided into three levels: [10]

Level 1 Social Adversity is the suffering that occurs at the level of the society, such as crime, insecurity, economic tension, destroyed environment, family warmth, the

deceleration of the morals of the people in society, and a lack of faith in customs including the educational system.

Level 2 Workplace Adversity is career insecurity due to the current economic condition. People do not work hard due to the uncertainty of their company. Because at present, many changes affect workers, such as organizational changes.

Level 3 Individual Adversity is an obstruction to adversity that affects the individual through a sequence of impacts from social obstruction and occupation.

If comparing life to climbing, reaching the top requires determination and patience, which can compare to a person who has faced a change to achieve continuous development. Stoltz categorized individuals, teams, and organizations into three groups:

Group 1: The Quitters are the group that avoids climbing. People of this group lack vision. They emphasized slightly in time, money, and self-improvement. They did not risk-averse and were not creative. And they will exert the least effort into the work as well.

Group 2: The Campers are the group trying to find a more convenient way to climb the mountain. This group differs from the first group because it takes the initiative to climb. However, when they have done it for a while, they will stop doing it because there is an idea that they have come so far. People of this group would stop with success there and refuse to climb to the top of the mountain. These people lack AQ. When they are faced with new obstruction, they will choose to stop in the middle and live the rest of their life in a simple way.

Group 3: The Climbers are the group trying to reach the top of the mountain without being discouraged by obstruction. People of this group have a lot of patience, uncompromising effort, faith, and confidence. They have a broad vision, motivation and be a good leader.

In addition, Stoltz divided AQ into four dimensions, collectively known as CO2RE, with the following details [10]:

The 1<sup>st</sup> dimension: Control refers to the level of awareness of the ability to control oneself through difficult incidents or obstructions.

Characteristics of people with high control dimensions are having a high level of awareness of one's ability to control oneself through incidents and difficulties, being proactive, not giving up, and trying to find a solution to the problem.

The 2<sup>nd</sup> dimension: Origin and ownership refers to the ability to analyze causes and constituent factors of obstruction by applying past self-learning experiences to improve and correct. Self-blame will lead to regret or remorse, which Stoltz considered to be a motivation. If it is used correctly, it will be beneficial. People realized it was their responsibility to find a solution and could not pass the burden of responsibility to others.

Characteristics of people with causal and high responsibility dimensions are those who could find out what causes the obstructions to occur by considering themselves first to bring learning from mistakes to improve. People with these dimensions are more willing to take responsibility for the consequences of their actions, not pushing the burden of responsibility on others.

The 3<sup>rd</sup> dimension: Reach refers to the measure of the

impact of a difficult problem on an individual's lifestyle.

Characteristics of high-impact individuals include those who can control negative emotions, impact, and damage that affect their lives when difficulties arise. They are prepared to face adversity in any situation. They were not shaken by the suffering that comes with difficulties and has the idea that obstructions are like past incident and will pass

The 4<sup>th</sup> dimension: Endurance refers to the perception of the existence of obstructions and the ability to deal with the problem, including elimination.

Characteristics of people with a high endurance dimension include those who perceive that obstructions are temporary and can be solved by practicing skills, knowledge, ability, hope, encouragement, and efforts to find a way to cope with obstructions. At the same time, people with low dimensions would despair. They thought that the obstructions would continue. They will not try to find a solution and accept what has happened or is faced.

Stoltz proposed a technique for developing AQ called The LEAD Sequence [10]:

L (Listen to your adversity response) is talking or telling yourself that at the moment, you have encountered obstructions or problems with yourself and want to respond to them with the level of strength it can solve.

E (Explore all origins and your ownership of the result) is to find out the cause of the problem or obstruction. It should identify clearly what has to do something specific to improve the situation, what is the responsibility, and anything beyond our responsibility.

A (Analyze the evidence) is the analysis of clarity by finding evidence or incidents to support what is out of control, the duration of the obstruction, the way to get rid of the obstruction, as well as analyzing the possibility of solving and developing the potential.

D (Do Something) is an action to get rid of the obstructions quickly by finding out more information and how to control obstacles do not give a role in life.

From the importance of teaching and learning management of the WBL, the monitoring of the student internship system, and the ability to face and cope with obstruction (Adversity Quotient: AQ), researchers would like to learn about the approach to designing and developing a monitoring system to enhance the ability to face and cope with obstruction of interns in a WBL system, what should it look like and what elements it consists. Researchers will apply educators' principles, concepts, and theories to synthesize and develop that may affect the effectiveness of teaching and learning management systems, along with working.

### III. METHODOLOGY

From the synthesis of the model on monitoring system on the ability to face and cope with obstruction of the interns in the WBL, the researchers have been following steps:

#### A. Studying Articles, Documents, and Related Research

The researchers divided the study into two parts: 1) studying articles, documents, and related research with the concept of teaching and learning in the WBL system, developing a monitoring system for interns, theory of the

ability to face and cope with obstruction, information systems, cloud computing system, and a variety of software used in the development, and 2) assessing the need and requirement of the monitoring for interns in the WBL system, focus group, experts, and groups of people involved in the student internship.

*B. Synthesizing the Conceptual Framework of the Monitoring System*

The researchers have synthesized the conceptual framework of the monitoring system to develop the ability to face and cope with obstruction of the interns in the WBL system in three issues as follows: 1) monitoring procedures, 2) developing the ability to face and cope with obstruction, and 3) model of monitoring in a cloud computing system.

*C. Defining a Group of Experts*

The researchers have defined a group of experts using a selective purposive sampling method of five experts. The experts have the following qualifications: 1) being an expert or an instructor in a learning system along with WBL in the field of Educational Technology, Psychology, or related fields, and 2) having at least five years of working experience, divided into each area as follows: 1) educational innovation, 2) student development, and 3) information technology of a cloud computing system.

*D. Creating an Assessment Form*

The researchers created an assessment form for the suitability of the monitoring system model to develop to face and cope with obstruction of the interns in the WBL system. Five experts examined the Index of Consistency (IOC) to analyze the content of the consistency index of the assessment by selecting items with an IOC at the level of 0.50 or above [11]. The appropriateness assessment form of the monitoring system model created for all items was between 0.80 and 1.00 and passed all criteria.

*E. Presentation of the Conceptual Framework and Monitoring System Model*

The researchers have proposed the conceptual framework of the monitoring system model to develop the ability to face and cope with obstruction of the interns in the WBL system for relevant experts to assess acceptance that it is appropriate to be developed in the next step. Mean, Standard Deviation [12], and a 5-level Likert Rating Scale were used to analyze expert opinions on a synthesized monitoring system model, as showed in Table I.

TABLE I: CRITERIA OF LEVEL-SCORED OF EXPERT OPINION FOR MONITORING SYSTEM MODEL

Scored answer	Average scored range	Level of opinion
Level 5	4.21–5.00	Very high appropriate
Level 4	3.41–4.20	High appropriate
Level 3	2.01–3.40	Moderate appropriate
Level 2	1.81–2.00	Low appropriate
Level 1	1.00–1.80	Very low appropriate

*F. Modification and Conclusion*

Based on expert recommendations, the researchers modified the monitoring system to improve the ability to face and cope with obstruction of interns in the WBL system.

IV. RESULT AND DISCUSSION

*A. Result*

The research results were found as the followings.

- 1) The model on monitoring system on the ability to face and cope with the obstructions of interns in the WBL system was shown in Fig. 1.

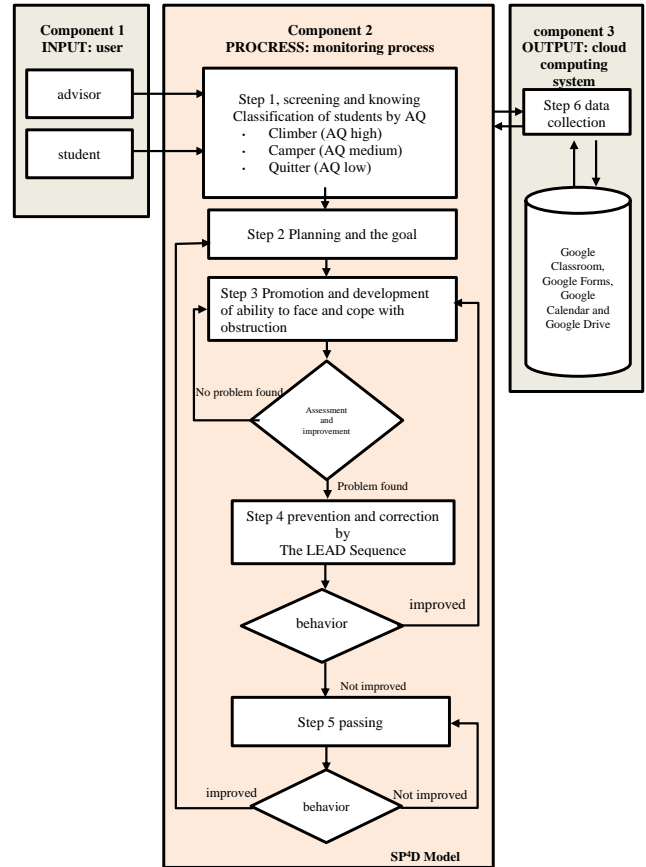


Fig. 1. Model on monitoring system on the ability to face and cope with obstruction of interns in the WBL.

The model on monitoring system on the ability to face and cope with obstruction of students participating on the WBL was consisted of three components as the followings.

Component 1—INPUT: user 1) advisors who managed on learning contents, activity room, teacher and student data, monitoring, interaction, exchanging of opinion, and 2) students who were responsible for data recording, testing form, and participating on the development for the ability to face and cope with obstruction in according to the monitoring and supervising system of SP<sup>4</sup>D Model 6 steps.

Component 2—PROCESS: monitoring and supervising process for students by SP<sup>4</sup>D Model 6 steps was as the followings.

Step 1: Screening and knowing. Knowing individual or personal information was important in order to understand the students. The analysis on individual students for screening and classification was useful for the promotion and prevention of the problems. The individual information collected were personal talent, health, and behavior. The tool used for knowing individual students were personal data record and screening process for findings the problems in order to find the solution on monitoring and supervising students effectively and appropriately. Testing form on the

level of the ability to face and cope with obstruction was also used.

Step 2: Planning and the goal. This step enabled students to share their experience on internship planning and the development of the ability to face and cope with obstruction cooperatively. Recoding, filing, and ordering of detailed action and activity would facilitate students to achieve their expected planning together with the stipulation on problem or obstruction prevention.

Step 3: Promotion and development. This step was the empowerment on the ability of students for their full competency and self-motivation. This would prevent normal students to be in a risk position as well as the support of those in risk position returning to be normal without problems or obstruction. Competency and skills according to the college and company and the expectation of the society were well observed. The process on the development of the ability to face and cope with obstruction were implemented through the activity of various media, View-Through Rate (VTR) watching, case study, brainstorming, storytelling, activity during internship. Those activities would promote the environment of learning and sharing among students and advisor.

Step 4: Prevention and correction. The provision of advisory and consultation by the theory of The LEAD by Stoltz [10] was to help students and to prevent problems for students on their felling, opinion, and the correction of their behavior. This process aimed for the changing behavior of students by giving consultation and the provision of activity leading to the prevention of problems effectively.

Step 5: Passing. This process was to cope with the problems unable to solve by the advisor. The passing was to pass to those concerned or the expert in the college or those outsiders. This would guarantee that students were effectively and correctly supported.

Step 6: Data collection and summary. Summarizing, data recording, data assessing, testing form, activity recording form for facing and coping with obstruction were used as the process of monitoring and supervising students. This would be useful in order to know the progress of students, problems and obstruction finding for the effective solution with present information and situation for further action.

Component 3—OUTPUT: The use of cloud computing system for data collection, data and information analysis were for recording the data on the ability of students to face and cope with problems. The activities for data collection consisted with Google Classroom for facing and coping with obstruction, testing form for measuring the ability for working and behavior, activity assessment form, Google Calendar for implementing the monitoring and supervising students, and Google Drive for student information collection.

2) The analysis of the developed model on monitoring system on the ability to face and cope with obstruction of interns in the WBL based on the correspondence.

The correspondence between the components of the developed model and theories, principles, and concepts was as follows in Table II.

TABLE II: THE CORRESPONDENCE BETWEEN THE COMPONENTS OF THE DEVELOPED MODEL AND THEORIES, PRINCIPLES AND CONCEPTS

Principles/Theories/Concepts	Component					
	Step 1 Screening and knowing	Step 2 Planning the goal	Step 3 Promotion and development	Step 4 Prevention and correction	Step 5 Passing	Step 6 Summarizing
1. Principles of monitoring and evaluation of the Policy and Planning Bureau, the processes are as follows: Step 1 Determine the objectives and scope of follow-up Step 2 Provide a follow-up plan. Step 3 Implement the plan Step 4 Analyze data Step 5 Report the results Step 6 Diagnose	-	✓	-	-	-	✓
2. Concepts of the student support system of the Basic Education Commission, Ministry of Education, the processes are as follows: Step 1 Know students individually Step 2 Screen the students Step 3 Promote and develop students Step 4 Prevent and problem-solving Step 5 Pass the students	✓	-	✓	✓	✓	-
3. Stoltz's theory of the ability to face obstruction, which believed that human beings could face obstruction, required mental strength, self-control, optimism, patience, and flexibility. When problems are found, they can understand and recognize the root cause, try to find a solution, and respond to problems in a prescribed way. The processes are as follows. Step 1: Listen to the response to obstructions (L). Step 2 Explore the starting point (E)). Step 3 Analyze the evidence (A) Step 4 Operation (D)	✓	-	✓	✓	-	✓
4. Principles of teaching and learning to enhance the ability to face and cope with obstruction in learning by Sukyaem with the following processes [13]: Step 1 Face problems and obstructions Step 2 Set the goals Step 3 Solve the problem Step 4 Gather information to summarize Step 5 Proper evaluation Step 6 Know and Empower	-	✓	✓	✓	-	✓
5. The development of the ability to face obstruction with the LOVE Model Nacharoen the processes are as follows [14]: Step 1 Deep Listening (L) Step 2 Optimism (O) Step 3 Appreciation into Action (V) Step 4 Valuation and Empowerment (E)	-	-	✓	✓	-	✓

3) The expert’s assessment of the developed model on monitoring system on the ability to face and cope with obstruction of students participating in the WBL was shown as the following Table III.

TABLE III: ASSESSMENT OF THE MONITORING SYSTEM ON THE ABILITY TO FACE AND COPE WITH OBSTRUCTION OF STUDENTS PARTICIPATING IN THE WORK-BASED LEARNING (WBL)

No.	Assessment	Opinion scale		
		$\bar{x}$	S.D.	meaning
1	Model consisted of 3 components as 1 ) Component 1 —INPUT: user 2) Component 2—PROGRESS: monitoring process 3) Component 3—OUTPUT: cloud computing system	4.40	0.55	Very high appropriate
2	Component 1—INPUT: user and advisor	4.60	0.55	Very high appropriate
3	Component 1—INPUT: user and student	4.20	0.45	High appropriate
4	component 2: monitoring process step 1: screening and knowing	4.20	0.84	High appropriate
5	component 2: monitoring process step 2: planning and the goal	4.60	0.55	Very high appropriate
6	component 2: monitoring process step 3: promotion and development of the ability to face and cope with obstruction	4.80	0.45	Very high appropriate
7	component 2: monitoring process step 4: prevention and correction by The LEAD Sequence	4.40	0.55	High appropriate
8	component 2: monitoring process step 5 passing	4.40	0.55	High appropriate
9	component 2: monitoring process step 6: data collection and summary	4.40	0.55	High appropriate
10	component 3: cloud computing system Google Classroom development activity for AQ	4.80	0.45	Very high appropriate
11	component 3: cloud computing system Google Forms student data store	4.40	0.55	High appropriate
12	component 3: cloud computing system Google Calendar for monitoring plan	4.60	0.55	Very high appropriate
13	component 3: cloud computing system Google Drive for data store	4.80	0.45	Very high appropriate
Total		4.51	0.53	Very high appropriate

It was found that the experts assessed the model on monitoring system for the ability to face and cope with

obstruction of students participating in the WBL at the highest level ( $\bar{X} = 4.51$ , S.D. = 0.53). The developed model being analyzed would be able to be a prototype for system development. The experts have given the following advice:

- 1) User section, more coordinators should be added at workplaces or related persons. This coordinating group is very important in helping the assessment of advisors.
- 2) In the screening process, there should be problem assessment forms regularly. Sometimes students did not express themselves when doing assessments meanwhile practicing. However, the problem will come out from a real situation. Students should be assessed during work to increase flexibility and make the assessment more comprehensive. Students should be aware of their ability to face and cope with obstruction and know their problems to learn how to deal with the problems that happen.
- 3) In the goal-setting process, experts suggested that there should be a broader targeting sub-section and categorized to set goals for students, such as work, relationships, life balance, and psychological, or specify the desired aspect by themselves.
- 4) Corrective and preventive process, experts appreciated this model because it can be used. Experts suggested that there should be other forms of the model in reserve for students with different personalities to choose from when facing problems and obstruction.
- 5) Prevention of passing process, experts suggested that a category of problem type should be added to allow advisors to understand who should be sent to those concerned or should be met psychotherapy. Other advisors of educational institutions will understand that problems should be passed at each level of seriousness of the problem and know the guidelines for passing what should be done. It will help to solve more problems for students.
- 6) The process of collecting information and student claims, due to student practice in different workplaces, advisors should require students to write regularly in self-assessment and problem reporting. Students should record their self-report information and be accurate information. Collecting data at the end of the practice session might be false information. It was not a real problem that would help students not be in time.
- 7) Cloud computing technology is a good tool. Experts agreed to use Google Tools, which is very good, convenient, and easy to use. Both teachers and students already use it in teaching and learning. However, skill development activities should be added in other tools which have fun and appropriate for the age of the students.

*B. Discussion*

The developed model on monitoring system on the ability to face and cope with obstruction of students participating in WBL was analyzed by using SP4D Model. After analyzing, the appropriateness of the model, it was studied and approved by five experts. This model was consisted of 3 components. Component 1—INPUT, Component 2—PROCESS consisting of 5 steps as screening and knowing, planning and the goal, promotion and development, prevention, and correction, passing, and data collection and summary, and

component 3 OUTPUT.

The study was in line with Ramthakaporn and Wetchashiwa studying on the behavior of intern students of faculty of education, Kasetsart University, on their striving during 2 months of summer internship. The study found that students were equipped and realized on the value and benefit of striving on working showing from their performance in 4 behavioral aspects as 1) expression behavior on intention and responsibility, 2) expression behavior on efforts and patience, 3) expression behavior on encourage in working, 4) expression behavior on self-improvement [15].

In addition, Modesuwan and Sanensuk studied on factors affecting self-improvement and the ability to cope with problems of personnel from non-formal and informal education center. The study found that the opinion on career path and income consisting of career planning, career development, and the ability to cope with problems were at high level. The sampling used in this study were classified into gender, age, education, and position which were not different in term of their need of self-development. However, the factor on the different positions revealed that their need of self-development was different as well as those with different incomes. The study also found that the factor on career path development was based on the success of work affecting the need for development [16].

The opinion of the experts on the model of monitoring system on the ability to face and cope with obstruction of students participating in the WBL was revealed that the model was very high appropriate. (An average of 4.51 S. D. at 0.53)

The highest acceptance of the experts' opinion on the developed model was 1) component 2 monitoring process: step 3 promotion and development of the ability to face and cope with obstruction; 2) component 3 cloud computing system: Google Classroom development activity for AQ; 3) component 3 cloud computing system: Google Drive for data store.

The lowest acceptance was component 1 input: user and student component 2 monitoring process: step 1 screening and knowing.

This study was also in line with the study of Thitipetchakul *et al.* studying on the model development on leaning system using cloud computing and the concept of Nativism for promoting of learning for university students by using ICT. This research found that the learning model was consisted with four main components as 1) learning model on cloud computing system; 2) learning assessment on learning ultimate outcome; 3) learning assessment using ICT; and 4) satisfactory assessment. Those components were most satisfied by the experts. Learning ultimate outcome of students was higher after their learning using the model at the statistical significance of 0.5 as well as the satisfaction of the students was at the highest level [17].

Riangthaison *et al.* studied the development of internship program in company for competency development for students in Auto-mechanics. The developed model was consisted with four main components as 1) function and responsibility of staff of in-company training; 2) availability of operating and implementing budget; 3) quality of company for in-company training; and 4) cooperative management between college and company for implementing in-company

training based on the standards of dual system leading to the competency of students and the standards of the curriculum [18].

## V. CONCLUSION

The model on monitoring system on the ability to face and cope with obstruction of the interns in the WBL was significant for supporting students for their internship. Internship was recognized as the most benefits to students to learn in real situation which is the heart of education. It promoted the development in all aspects not only students' competency but the cooperation with private company, teacher development, curriculum development, and the development of the educational institutions also. The effective developed model was, of course, regarded as the development of education at large.

## VI. SUGGESTION

Recommendation was given that the monitoring system on the ability to face and cope with obstruction of students participating in the WBL being analyzed would be used with other education systems and those additional groups of students.

For further research, the component on developed monitoring system would be used for new model of learning, monitoring, project work, and the project using cloud computing.

## CONFLICT OF INTEREST

The authors declare no conflict of interest

## AUTHOR CONTRIBUTIONS

Benjamaporn Jantorn conducted the research and wrote the paper. Sumalee Chanchalo and Surachai Suksakulchai analyzed the data.

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