

## DEVELOPMENT OF A SERVICE-LEARNING MODEL BASED ON BLENDED LEARNING METHOD TO ENHANCE CRITICAL THINKING FOR STUDENTS IN HIGHER EDUCATION

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**Abstract :** The purpose of this research was to develop a service-learning model based on blended learning method to enhance the critical thinking for students in higher education. A content analysis was performed on papers collected from the literature related to this kind of model. The findings from the analysis were used to construct a draft model. Then, the draft model was evaluated by 5 experts in instructional management with an evaluation form for analyzing data collected from a focus group discussion of those experts, and the results were used to construct the final model. The statistics used in the analysis were mean ( $\bar{x}$ ), standard deviation (S.D.) and percentage. The draft model achieved a high level of appropriateness of  $\bar{x} = 4.29$  with S.D. = 0.46 from the experts' evaluation. Both the draft and final models consisted of 5 components: 1) collaboration, 2) preparation, 3) process, 4) assessment and 5) reflection, but the final model incorporated suggestions from the focus group discussion regarding instruction method, process learning and community selection.

**Keywords :** Service-Learning, Blended Learning Method, Critical Thinking, Kamphaeng Phet Rajabhat University

### Introduction

To manage the instruction in the age of technological and innovational advancement, the instructor should have an instructional management based on the principle that all learners have the ability to learn and develop themselves. The instructor should increase the learning process that encourages learners to develop competencies on integrating knowledge, cultivating morality and various thinking skills. In addition, there should be a

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blended learning with individuals, communities, communities' organizations, so that the community can manage education and training to develop communities in accordance with the problems and needs. Also, it is important to support for the critical thinking process to exchange development experiences between communities by designing the appropriate instruction for each level of education.(Ministry of Education, 1999)

Service-learning is an educational learning linked to community service with the goal of academic learning and volunteering. And the learners can learn the content of the course and strengthen thinking skills, learning social service. This reflects the belief that said education must be connected to the society, and the most effective instruction is to take action and experience with an objective to promote the current academic learning activities effectively. (Sally B, 2015; Chawala W, 2001) And provide academic contents that promote more valuable activities. There is also the integration of instructional technology that applies network for education that enables students to learn anywhere, anytime. This allows students to learn whether in the community or in the classroom with an instructional media that can communicate with teachers. Moreover, it enhances student critical thinking skills and problem solving skills from the actual local situations in the communities.

Kamphaeng Phet Rajabhat University, is a higher education institution under the Office of the Higher Education Commission, Thai Ministry of Education. The university has a philosophy that focuses on providing educational opportunities for the people, creating potential as a power source of wisdom, developing local community, producing capable and virtuous manpower with the key mission is to strengthen the local community. The university has an instruction with integration academic education (KPRU, 2017) which is the main mission of the university operations. In terms of service learning, the university should apply such activities in the instructional management so that teachers and learners understand the problems of the community and participate in activities with the community providing students to learn about academic services and knowledge sharing to third parties. As a result, from organizing the mentioned integration activities, there often have problems in activity planning with relatively unclear academic service plan and management. Also, the outcomes of academic service activities were summarized by analyzing from the report summary on the results of academic service activities management by integrating with courses. There was a problem found from the report of the teachers who led the students to the activity, stated that when encountering a real situation, students still have a low level of thinking skills, such as systematic thinking, rational thinking, critical thinking and problem solving. Importantly, participation in the

mentioned activities had done without the actual survey for service clients' needs. From a report by the Department of Academic Services and Income Procurement at Kamphaeng Phet Rajabhat University (2017)

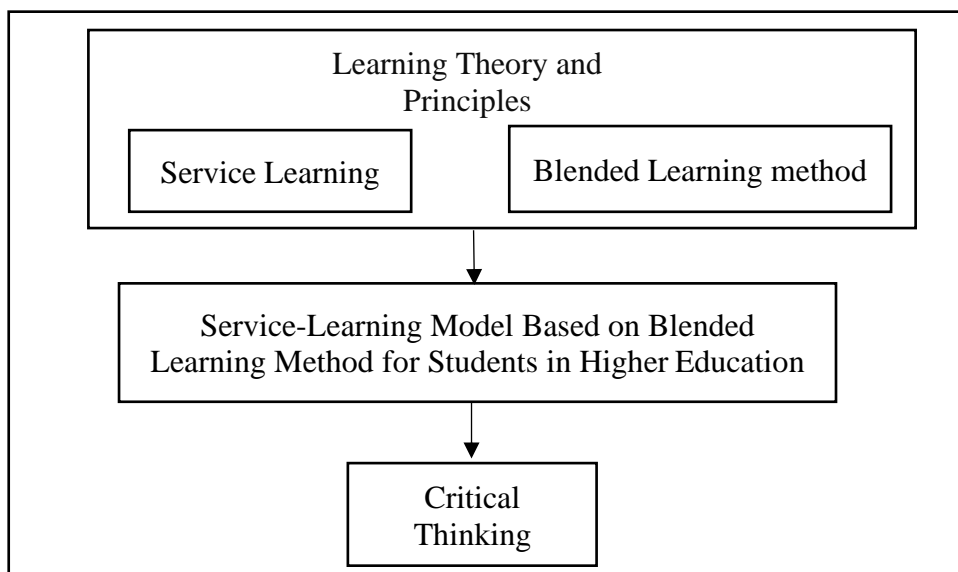
For this reason, we had the idea to develop a service-learning model based on blended learning method to enhance critical thinking for students in higher education. The model was based on the instructional principles in accordance with the context of Rajabhat University focusing on educational opportunity for people to create potential power source of wisdom for local development. The instructors must focus on planning service-learning activities, identifying community, community needs, and organizing blended learning methods for students to learn through online media and classroom. In addition, teachers must adhere to the learning methods, whether they are case-based learning, brainstorming, questioning practice, thinking practice, so that students will develop critical thinking skills.

### Objective

To develop a service-learning model based on blended learning method to enhance the critical thinking for students in higher education.

### Conceptual Framework

The author studied the principles, concepts, theories and related researches about service learning, blended learning method and critical thinking. The author applied them to create the conceptual framework as follows:



**Figure 1: Conceptual Framework of the Study**

## **Literature Review**

### *Service-learning*

Service-learning is an education that has principles of learning together with the community. The activities to serve the society must be truly consistent with the community's needs, which students can learn together with the community, society, or real-life situation. It begins from the course objective of learners, which is set by the teacher to be integrated with social service activities, to help learners learn by allowing them to have experience in working with society, to think and consider for the final idea of principles or assumptions that can be experimented or applied in new situations. Finally, there must be an appropriate assessment according to the objectives of the course. (Sally B, 2015; Weigert, K.M., 1998; Thitsana K, 2014) There are 5 important steps of organizing service learning activities, including 1) stimulating and raising awareness 2) preparing service learning activities project 3) conducting service learning activities 4) thinking of service learning activities and 5) evaluating the result (Chawala W, 2001; Singh H, 2005) For social service learning activities, there are scholars who applied technology to support the service learning by online note taking, and applied online media for communication while the learners engage in social service activities. (Kathy & Holly, 2010)

In conclusion, the service learning is an instruction that encourages learners to learn with the community, society, or real-life situation, where students will be able to share their courses providing knowledge, and the instructor will oversee and advise them.

### *Blended Learning*

Blended learning refers to a form of learning that applies learning materials combining classroom learning or face-to-face learning and learning with computer media.(Bonk & Graham, 2006) The computer media enables students to learn by themselves, communicate with teachers and classmate, track their learning results. There are various types of learning management depending on the suitability of different applications for the most effective learning achievement. (Chalinuch K, 2011; Boonliang T, 2016) Conducting blended learning should focus on the instruction design to determine the direction of integration, learning activities and learning supporting tools, which will vary according to the course objective and content, learners' age and educational level. (Panita W, 2008) The proportion of blended learning should be divided into 70 percent of online learning and 30 percent of classroom learning. More presented content should be in the online form. (Allen I.E; Seaman J; & Garrett R, 2007)

In conclusion, the blended learning model is a type of learning that combine internet learning with face-to-face learning, resulting in more effective learning than only in-class lecture. This model focuses on the use of media and the proportion of blended learning to be suitable for students.

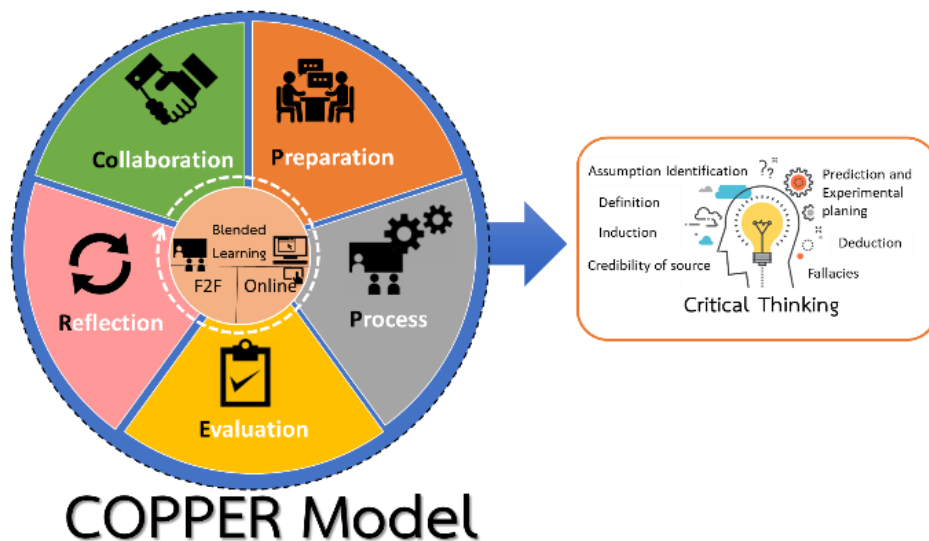
### *Critical Thinking*

Critical thinking refers to the ability to think clearly through reasoning to decide what to believe and what to do. It also means the ability to think freely and reflect thoughtfully. (Ennis, Robert H. & Eric Weir, 1985; Dressel P.L. & Mayhew L.B, 1954; Banjong A.,2013) The characteristics of people with critical thinking must be capable of these 6 areas of thinking, including 1) deductive summarization 2) giving meaning 3) considering the credibility of data sources and observation 4) inductive summarization 5) making conclusion by testing hypotheses and predictions 6) defining and specifying assumptions. (Panita W, 2008) Also, the standard Cornell Critical Thinking test Level Z is used as a measuring tool for critical thinking, which is suitable for measurements with high school, bachelor degree and graduate learners. The test covers comprehensive thinking ability. (Ennis, Robert H. & Eric Weir, 1985) Critical thinking development can be done using educational activities with the following steps, including 1) suggest the problem or situation 2) encourage the learners to analyze the situation 3) encourage learners to examine the reason 4) allow learners to interpret, summarize, and evaluate the situation 5) allow learners to decide the answer 6) allow learners to check the answer 7) final assessment for logical conclusion. (Thitsana K, 2014; Decaroil M.H, 1973)

### **Research Methodology**

The development of service-learning model base on blended learning method to enhance critical thinking for students in higher education has procedures as follows.

- 1) Study concepts and theories about the service-learning model base on blended learning methods from relevant domestic and international articles, documents and research; context information, such as the vision, mission, identity, etc. of the University Kamphaeng Phet Rajabhat University; as well as the book summarizing the results of managing academic service-learning projects integrating with the course.
- 2) Synthesize model of services learning, blended learning method and critical thinking skills.
- 3) Draft a service-learning model base on blended learning method to enhance critical thinking for students in higher education.



**Figure 1: Draft of service-learning base on blended learning method to enhance critical thinking for students in higher education.**

- 4) Create a tool for evaluating the appropriateness of the model, and check the consistency of the content, purpose, clarity of the question and language accuracy by 3 experts. According to the consideration, the obtained index of item – objective congruence was from 0.67-1.00 IOC.
- 5) Examine the draft of service-learning model by 5 experts in instructional management. and using focus group discussion is divided into 3 steps as follows.
  - 5.1 Prepare for various aspects before organizing focus group discussions, including issuing invitation letters for experts, documents for focus group discussion, meeting place, audiovisual equipment, audio-visual materials, participants, service providers or supporters of the focus group discussion, facilities, documents for use in focus group discussions and model suitability assessment.
  - 5.2 Send documents to experts for examination and consideration for the appropriateness of the service-learning model base on blended learning method to enhance critical thinking for students in higher education. Assign participants of the focus group discussion, including 1 moderator, 5 experts, 2 thesis advisor and co-thesis advisor, 2 data recorders, and the researcher as the director of focus group discussion.
  - 5.3 After finishing the preparation, conduct the focus group discussion on the specified date and time by the moderator welcoming the focus group participants, informing the discussion objectives, clarifying the details of the group conversation in order of the conceptual framework

and discussion points, explaining the conversation, then inviting the researcher to introduce the research as a guideline for group discussions. After that, start the group discussion by asking the experts' opinions according to the conceptual framework and the specified issues. Allow group discussion participants to reasonably comment and debate, while the moderator must control the conversation issues until the process ends.

- 5.4 When the focus group discussion is complete, the moderator summarizes the issues raised by the group discussions and proposes to the group participants to verify and confirm the information again, while adding the missing issues, and summarize the important basis as a further guideline for service-learning model development base on blended learning method to enhance critical thinking for students in higher education.
- 6) Analyze result of suitability assessment of the model with average and standard deviation, which are used in the criteria determining the 5 levels of appropriateness assessment according to Likert's guidelines as follows:
  - 4.50 – 5.00 refer to Highest appropriateness
  - 3.50 – 4.49 refer to High appropriateness
  - 2.50 – 3.49 refer to Moderate appropriateness
  - 1.50 – 2.49 refer to Low appropriateness
  - 1.00 – 1.49 refer to Lowest appropriateness
- 7) Improve the service-learning model base on blended learning method to enhance critical thinking for students in higher education, according to experts' suggestions.

## Results

This research result is divided in 2 parts as follows.

### *Part 1: Result for appropriate evaluation of the model's draft from experts*

Appropriate evaluation of the model's draft by 5 experts, it was found that the overall appropriate of the service-learning model based on blended learning method to enhance critical thinking for students in higher education (COPPER Model) is at a high level ( $\bar{x}$ = 4.16, SD.= 0.54). The details are shown in Table 1 as follows.

*Table 1. Result for appropriate assessment of the model's draft from experts*

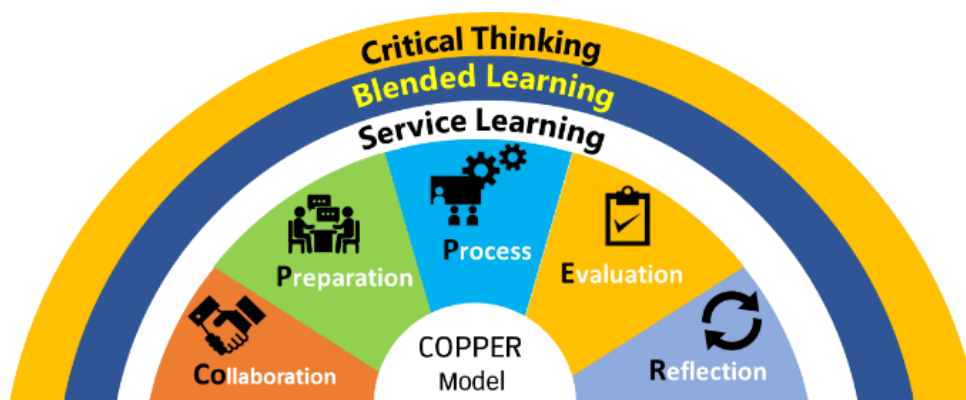
List of evaluation	Result		Appropriate
	$\bar{x}$	S.D	
1. Learning model	4.04	0.38	Highest
2. Components of the learning model	4.56	0.44	Highest
3. Tools used in the learning model			

List of evaluation	Result		Appropriate
	$\bar{x}$	S.D	
3.1 Online learning tools	4.36	0.54	High
3.2 In-class learning tools	4.27	0.50	High
4. Application of the learning model	4.20	0.45	High
Overview suitability of the model	4.29	0.46	High

According to the appropriate assessment from the focus group by 5 experts, there are suggestions for the service-learning model base on blended learning method for students in higher education or COPPER Model as follows.

1. How does the learning model lead the learners to develop their critical thinking skills?
2. How does the activity process lead to critical thinking skills development?
3. Community research and selection should be conducted for the real needs from the actual problems of the community.

*Part 2. Service-learning model based on blended learning method for students in higher education.*



**Figure 2.** *Service learning model based on blended learning method of students in higher education. (COPPER Model)*

According to experts' suggestions, the researcher developed the service learning model base on blended learning method for undergraduate students in higher education, or COPPER model, by applying the 5 components as follows; 1) Collaboration, 2) Preparation, 3) Process, 4) Evaluation and 5) Reflection.



## **Discussion and Conclusion**

From the results of the study, it was found that the overall appropriate of the service-learning model base on blended learning method for students in higher education (COPPER Model) is at a high level ( $\bar{x}$ = 4.16, SD.= 0.54), which is developed with 5 components, including 1) collaboration 2) preparation 3) process 4) evaluation 5) reflection.

### *Component 1 Collaboration*

Collaboration is creating an understanding of service activities, which students and teachers must cooperate. The instructor must create knowledge and understanding in the course, identify goals and objectives of the learning, in order to create critical thinking skills for students. In addition, the instructor must be the one who creates motivation for learning with the community helping to create thinking skills, and able to evaluate the learners. It is consistent with the concept of Singh (2005), Anchana Suksomchit (2013), which said about the collaboration that learners should work to help each other, including planning, thinking skills, problem solving skills for the community. This is in accordance with the set objectives and goals.

### *Component 2 Preparation*

Preparation is to prepare the service activities. The instructor and learners have to research the needs, problems or issues of interest in community in accordance with the course's objectives and goals. For the preparation component, the instructor and learners must have tools for communication and work to work with the community, such as online note, documents and work schedules. This is consistent with the idea of Songkram Meeboonya (2015) and Catheyn Berger keys MA (2010) who discussed the preparation of service activities that it is important to focus on researching community's needs, interests and related problems.

### *Component 3 Process*

There are 4 steps of the process as follows;

Step 1 Project planning and determining the duration of the project

Step 2 Conduct and perform social service activities

Step 3 Evaluate feedback during operations by communicating through online media and consulting directly with the instructor, while the teacher evaluates learners during the operation of the activities.

Step 4 Review operations / activities by brainstorming, discussing, expressing opinions, thinking, etc. and presenting for expression, such as allowing students to present their work. It is in accordance with the concept of Chawala Wechayan (2001) and Songkram Meeboonya (2015) who mentioned that the project arrangement for social service activities must

have steps for planning and activity, as well as student presentations and student evaluation.

#### *Component 4 Evaluation*

There are 3 types of evaluation as follows: 1) pre-evaluation of student readiness before learning and teaching 2) evaluation of results during course 3) post-evaluation after course. The evaluation has important tools for evaluation, including achievement test, critical thinking skill test and online assessment form for teacher and community to assess learners and social service projects. The important thing is that the evaluation must be evaluated according to the courses' objectives and goals. This is consistent with the concepts of Kerrissa Heffernan (2001) who discussed about the evaluation of activities' duration and objectives and goals, pre-evaluation and post-evaluation of the project.

#### *Component 5 Reflection*

It is a reflection of the ideas by allowing students to discuss in the classroom, recording data via online note for students to review the reflection of critical thinking skills, experiences and attitudes as a result from participating in the service projects in the target community. This is in accordance with the ideas of Weigert (1998), Tissana Kammani (2014) and Natalija Mazeikiene (2008) who discussed about reflection of attitude, student experience, summary writing and use of online media to record activities.

#### **Suggestions**

Development of service learning model base on blended learning for students in higher education is a process that applies the context and the mission of Rajabhat University (COPPER model). This model will be further developed for educational achievement with critical thinking skills.

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