THE DEVELOPMENT OF ACTIVE LEARNING BASED ON A SERVICE LEARNING MODEL TO ENHANCE PUBLIC CONSCIOUSNESS OF UNDERGRADUATE STUDENTS

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Abstract: The objective of this study was to develop active learning based on service learning model to enhance public consciousness of undergraduate students studying educational technology. A total of 7 experts were employed to design the instruction in terms of teaching and learning management, information technology, and educational innovation. Moreover, they evaluated the appropriate of the design and provided suggestions. The research instruments used were: (1) a draft of active learning based on service learning model. (2) an appropriate evaluation form. Data analysis was done by mean ($\bar{X}$), standard deviation (S.D), and content analysis. From the results research, the draft of development learning model was found to be highly appropriate ($\bar{X}$ = 4.45 SD = 0.513). A model for learning management in 5 steps was obtained, including Stimulation, Investigation, Action, Reflection, and Evaluation. The factors that were found to promote learning included local community and computer-supported collaborative learning.

Keywords: Active learning, Service learning, Public consciousness

Introduction
The global community in the 21st century is a highly dynamic society wherein change always happens quickly. With advanced technologies, economic, social and political conditions around the world need to be developed faster to meet social demand. Social change creates adaptation for survival and competition. From a report by the United Nations Development Program (UNDP, 2014), Thailand aims to develop its people's potential for material prosperity rather than psychological development. As a result, Thai people lack awareness in terms of public consciousness, which is an important component for coexistence in society.

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Education is an important tool to develop humanity. Thailand has established national education standards according to the National Education Act, the 12th National Economy and Social Development Plan (2017-2021), and the National Education Plan. These strategic plans aim to develop students to be complete citizens physically, mentally, and intellectually. This means people who are good, disciplined, and responsible for family, as well as the community, society, and nation (Office of the Education Council, 2018). In higher education, the Thailand Qualifications Framework (TQF) is used to determine and plan strategies for teaching and learning management to promote desirable graduate qualifications (Office of the Higher Education Commission, 2009). Therefore, the promotion of morality and ethics is an important duty, especially in higher education, to provide knowledge, morality and ethics at the same time.

Teaching people to have public consciousness is dependent on internal as well as external factors through a learning process, experience creation, practice, and proper stimulations. These factors make people know, learn, and change their mindsets. Scholars who have proposed guidelines for behavior development in public consciousness underlined that students should learn from many sources and practice (Dewey, 1976; Krathwohl, Bloom & Masai, 1974). From that guideline, active learning by service learning is consistent with the human development process to have public consciousness. Active learning uses a learning method which encourages students to learn actively and allows students to participate in teaching and learning activities themselves rather than only being receivers (Sweller, 2006). Moreover, service learning allows students to have the opportunity to think by themselves with social service until they are aware of various problems in society (Freire, 1998).

From the background and importance of the mentioned problem, the author is interested in developing active learning based on service learning model to enhance public consciousness of undergraduate students. The active learning can be a development guideline for public consciousness of students in higher education, which leads to happy and sustainable social development and having a good sense of being good citizens of Thailand and the world.

Literature review
Active Learning Concept
This is a student-center learning process in which students have roles in the activities. They actively participate in activities by using various teaching methods to emphasize, the creation of knowledge from practice during the study, and the ability to link knowledge and experience together. The author

synthesized the components of active learning based on previous work (Fink & Fink, 2009; Fisher, 2010; Hazzan, Lapidot, & Ragonis, 2011; Songkhram, 2012), which consist of 1) Stimulation, 2) Investigation, 3) Action, 4) Reflection, and 5) Evaluation.

Service Learning Concept
Service learning includes teaching activities by integrating classroom learning with social service experience where social service activities are consistent with the course objectives. Students are on-site in the community area to study the needs and problems in the community. After that, students will apply the knowledge from the courses as well as connect the knowledge and experience in social service. The author synthesized components of Service learning based on (Cazzell, Theriot, Blakey, & Sattler, 2014; Coverdell, 2010; Meyers, 2009) which consist of 1) Social service preparation, 2) Problem survey and data collection, 3) Problem selection and analysis, 4) Action, 5) Reflection, and 6) Evaluation

Public Consciousness Concept
Public consciousness is the characteristic of a person who is aware and prioritizes society by being dedicated to public benefit, including the use and treatment of public concerns. The author synthesized the components of Public Consciousness based on the work of several previous studies such as Kohlberg (1984). Meeboonya S., Khlaisang J, & Natakuatoong O. (2017), Raj (1996), and Sooksomchitra (2015), which consist of 1) Behavior of avoiding damage to the public, 2) Awareness of duty to care for public things, 3) Respecting other's rights, and 4) Being helpful to others.

Computer-Supported Collaborative Learning Concept (CSCL)
The computer-supported collaborative learning concept is a tool that helps students to learn together. Moreover, it can promote communication, idea and knowledge sharing, and create cooperation through computer technology and information and communication technology, which are used to support the learning process. It can be classified into 2 types as 1) Synchronous Tools and 2) Asynchronous Tools (Resta, 1995; Yoon & Brice, 2011).

Research Objective
The objective of this study is to develop active learning based on service learning model to enhance public consciousness of undergraduate students.

Conceptual framework

The author studied the principles, concepts, theories and related researches about active learning, service learning, computer-supported collaborative learning, and public consciousness. The author applied them to create the conceptual framework as follows:
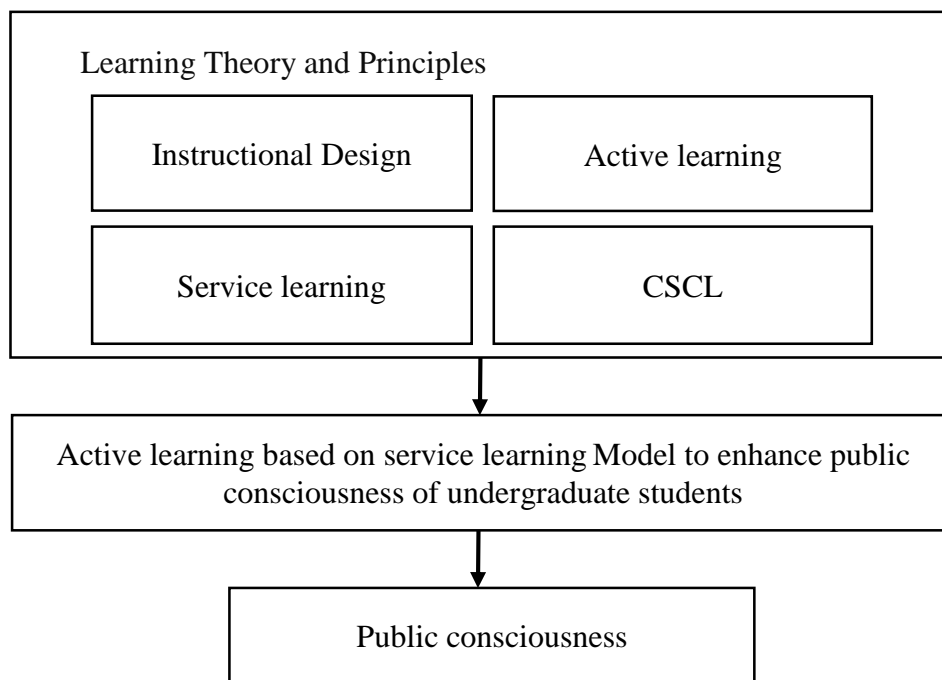
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│  Learning Theory and Principles                        │
│   ┌───────────────────────┐  ┌──────────────────────┐ │
│   │  Instructional Design │  │   Active learning    │ │
│   └───────────────────────┘  └──────────────────────┘ │
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│   │   Service learning    │  │        CSCL          │ │
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│ Active learning based on service learning Model to    │
│ enhance public consciousness of undergraduate students│
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Figure 1. *Conceptual Framework*

Methodology

This study involves research and development process which was. The research process can be classified into 4 phases as follows: (1) Study conditions and problems of teaching and learning, (2) Develop a learning model (3) Study the results of the learning management, and (4) Learning management certification. This study presents the 2nd phase, Model development stage, which has the following steps:

1. Study, analysis, and synthesis of concepts, theories, researches, and data about teaching design of active learning, service learning, and public consciousness. Moreover, data obtained from the 1st phase, conditions and problems of teaching and learning is used as information for determining the learning process.

2. Draft of the learning model by data obtained from the analysis and synthesis of the theory and related documents about learning model development to draft the learning model.

3. Develop a research instrument to evaluate the appropriate of the model and ask 3 experts to verify the content consistency, objective, clarity of questions, and language accuracy. From the analysis, the range of Index of Item Objective Congruence (IOC) is 0.67-1.00.

4. Organize a focus group to present the developed draft model using 7 experts to consider the appropriate of the model and provide suggestions.

5. Analyze the appropriate evaluation of the model by mean ($\bar{X}$) and standard deviation (S.D). Criteria for determining the weight of appropriate evaluation of the model is classified into 5 level according to the Likert concept as follows:

4.50 – 5.00	refer to	Highest appropriate
3.50 – 4.49	refer to	High appropriate
2.50 – 3.49	refer to	Medium appropriate
1.50 – 2.49	refer to	Low appropriate
1.00 – 1.49	refer to	Very Low appropriate

6. Improve according to the suggestions of the experts.

Results

This study presents the results in 2 parts as follows.

Part 1. Results for the appropriate evaluation of the model's draft

Appropriate evaluation of the model's draft is done by 7 experts. The results from the evaluation were shown seen in Table 1.

Table 1. *Results for appropriate evaluation of the model's draft*

List of evaluation	Result		Appropriate
	$\bar{X}$	S.D.	
Part 1. Overview of learning model			
1. Principles of teaching and learning model	4.57	0.53	Highest
2. Objective of model	4.43	0.53	High
3. Teaching and learning process	4.57	0.49	Highest
4. Learning evaluation	4.29	0.76	High
Total	4.46	0.57	High
Part 2. Teaching and learning processes			
1.Stimulation	4.14	0.69	High
2.Investigation	4.29	0.49	High
3.Pedagogies	4.57	0.53	Highest

List of evaluation	Result	Appropriate	
	$\overline{X}$	S.D.	
4.Reflection	4.71	0.49	Highest
5.Evaluation	4.14	0.69	High
Total	4.42	0.57	High
Part 3. computer-supported collaborative Learning			
1. Synchronous tools			
1.1 Online brainstorming (Padlet)	5.00	0.00	Highest
1.2 chat (line)	4.43	0.53	High
1.3 Video chat (line)	4.29	0.49	High
2. Asynchronous tools			
2.1 Web board	4.29	0.49	High
2.2 Online note (Google Blog)	4.57	0.53	Highest
2.3 Website (Google Sites)	4.43	0.53	High
Total	4.50	0.43	Highest
Part 4. Model application			
1. Model is appropriate for enhancing of	4.57	0.53	Highest
2. Procedures and activities of the model are appropriate for enhance of public	4.43	0.53	High
3. Duration of activities in the model	4.29	0.49	High
4. Feasibility of application	4.43	0.53	High
Total	4.43	0.54	High
Grand Total	4.45	0.53	High

From Table 1, the experts' evaluation results regarding the appropriate of the model of active learning by service learning to enhance public consciousness of undergraduate students showed that the mean was 4.45 and S.D. was 0.53, which was at a high level. However, the experts had opinions that the model was appropriate, but should be improved as suggested before use. Moreover, the experts had additional opinions for the improvement of the model as follows:

There should be a variety of tools and methods to stimulate the attentiveness of students.
1) It should increase the role of students in doing more activities and adjust the role of teachers to be the facilitators of learning or coaching.
2) For being on-site in the community, students should have maturity and know how to be in the community. There might be training and there

should be communication channels between teachers and students while in the community.

3) It should specify the learning resource online or wide sources for students to learn from many sources and share their ideas.
4) The word "Pedagogies" should be changed to "Action" so as to emphasize the active learning which comes from learning by doing.
5) Various and convenient learning channels should be easy to use for teachers and students.
6) Graphic design of the model's draft in the first and last step should have ended and present a clear order and local communities' components. Moreover, CSCL should not be separated.
7) Changes in the communities from schools to communities near universities allow students to learn how to serve society in a real context and edit instruction to be clearer.

Part 2. Active learning based on service learning model to enhance public consciousness of undergraduate students
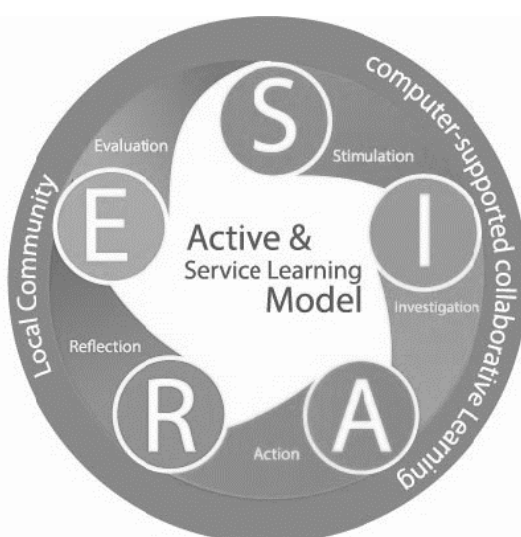

Figure 1. *Active learning based on service learning model to enhance public consciousness of undergraduate students*

The Active learning based on service learning model to enhance public consciousness of undergraduate students is organized into 5 steps as follows.

1) **Stimulation** is a process that focuses on psychology, which responds to student characteristics. This will make students interested in learning. It is a presentation of lesson content by stimulation of the attentiveness of

students in various ways to have ideas, doubt, and imagination, which makes students interested in learning and finding answers.

2) **Investigation** is the search and examination of problems in the community as well as the data collection of various issues by survey and interview. This is done to get information and is used to analyze the causes of problems in order to figure out solutions to meet the true demand of the communities.

3) **Action** is the use of teaching and learning strategies to manage various learning approaches by choosing teaching techniques which focus on students and emphasize learning by themselves. It is an activity that encourages students to participate, act, and integrate the content into the curriculum together with social service.

4) **Reflection** is the process in which students share opinions, verify their understanding, and connect knowledge to practical use, including reflection learning process, teaching, working, advantages, and deficiencies to be lessons both in groups and individuals, while teachers support and achieve more completion of learning.

5) **Evaluation** involves determining how much students can achieve in terms of the purpose of teaching by appropriate evaluation, namely the learning achievement test and public consciousness test.

   5.1) Formative assessment by using an online note evaluation form and behavior observation form.

   5.2) Summative assessment is an evaluation using a learning achievement test, online public consciousness evaluation form, and behavioral interview form of public consciousness.

Factors that support learning to implement according to the draft model of active learning by service learning to develop learning achievement and create public consciousness among undergraduate students consist of 2 parts as follows:

1. Local Community
The area for social service is close to the university and has a good relationship as a university network. It is ready to be on-site to serve society.

2. Computer-promoted collaborative learning (CSCL) is a tool that helps students to learn together. Moreover, it can promote communication, idea and knowledge sharing, and create cooperation through computer technology as well as information and communication technology, which are used to support the learning process as classified into 2 types.

1) Synchronous Tools, namely only brainstorming (Padlet), conversation (Chat), Video and audio conversations by networks (Video Chat).

2) Asynchronous Tools, namely Web board, online notes (Google Blog), online lesson (Google site), and online test (Google form).

Discussion and Conclusion

From the study, the developed model for active learning based on service learning model to enhance public consciousness of undergraduate students consists of 5 steps as follows: 1) Stimulation, 2) Investigation, 3) Action, 4) Reflection, and 5) Evaluation. Factors which promote the learning include the local community and computer-supported collaborative learning.

Step 1. Stimulation is the presentation of lessons that begin with activities that stimulate the attentiveness of students, create challenges, motivation, and awareness by various techniques. This is in accordance with the study of Hazzan, Lapidot and Ragonis (2011), which stated that stimulation by using various learning activities through information and communication technology tools can make students more eager to learn and create abstract understanding.

Step 2. Investigation involves organizing the learning activities by focusing on students finding the solutions or issues which need to be studied by students collecting data. Students will be able to hypothesize, analyze, assess, select, and verify the useful data which can lead to solutions. This is in accordance with the study of Dingcong (2014), which said providing opportunities for students to search for information and share information before connecting together with knowledge sharing network will help them to create new knowledge. Students have opportunities to act and understand by themselves. This helps students have the characteristics of learning and seeking significant knowledge by themselves.

Step 3. Action is an activity that allows students to learn by taking action. Students will get information from self-learning, which is in accordance with the "Learning by doing" concept of Dewey (1976) and "Learning by experience" of Kolb (1984). Moreover, Lorenzen (2001) said learning is the result of actions that then become knowledge.

Step 4. Reflection is a teaching and learning activity that makes students show their knowledge and understanding of a learning concept. It helps students to explore the ideas more clearly, understand their concepts, indicate the confusion or error conception of students, and show what students should improve. The result of the study is in accordance with the concept of Meyers and Jones (1993), who said reflection is an activity that allows students to explore their own knowledge, attitude and value of learning.

Step 5. Evaluation is an opportunity for students to check the correctness and acceptability of the concept that they learned. Students can express what they learn while teachers are important to evaluate knowledge and understanding, including values and affection. Creating appreciation through various measurements and evaluation methods is consistent with the concept of Brookhart (2010), who said that advanced thinking, creation, evaluation, and analysis requires various skills in measurement and evaluation. Therefore, it is important to define appropriatee scope and measurement methods. The important principles of active learning based on service learning model to enhance public consciousness of undergraduate students' model involve teachers adhering to the student-centered learning approach and allowing students to participate in the learning process as much as possible. This is done by allowing them to act on their own and work with others. This can allow students to be able to listen to other's opinions. It is also an opportunity to receive diverse information and share experiences. This leads to the creation of relationships among students. Activities that focus on the students acting in their community will enable them to gain experience from using knowledge to serve society. In conclusion, these learning activities enhanced students' public consciousness.

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