DEVELOPMENT OF AN INSTRUCTIONAL DESIGN MODEL TO ENHANCE UNDERGRADUATE STUDENTS' PUBLIC CONSCIOUSNESS BY USING SERVICE LEARNING PROJECTS WITH COMPUTER-SUPPORTED COLLABORATIVE LEARNING*

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Abstract: This study was the research and development of instructional design model to enhance undergraduate students' public consciousness by using service learning projects with computer-supported collaborative learning. Data analysis was done to identify its necessity. Data about instructional circumstance to enhance public consciousness was collected from 40 instructors and 400 undergraduate students, and the analysis was reviewed and certified by 15 experts. Research findings could be concluded that there were 7 elements of instructional design model namely (1) purpose, (2) subject content, (3) roles of instructor/student, (4) service learning project, (5) instruction media, (6) computer-supported collaborative learning, (7) evaluation tools; and six major steps included (1) analysis, (2) design, (3) development, (4) implementation, (5) evaluation, and (6) monitoring.

Keywords: Instructional Design, Computer-Support Collaborative Learning: CSCL, Project-Based Learning, Service Learning, And Public Consciousness.

Introduction

One of the main problems of Thai society in globalization era was the influx of western culture that had changed traditional Thai society from a generous society into a consumerism. People helped each other less, did not respect the right of others and

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lacked of public interest awareness. This was especially true among youths and students (Office of the Higher Education Commission, 2008). The impact of such problem caused different higher education institutions to plan and develop instructional strategies to promote significant desired characteristics including public consciousness and social responsibility by using different instructional models for the 21st century. For example, project-based learning allowed students to do a project suitable for their interest with process step of design, implementation and presentation, so students could work in team. Project-based learning was also essential for problem solving in the real situation (Moursund, 1998). Service learning focused on and combined academic content and service learning activities. It emphasized on critical thinking, opinion rendering, and personal and social responsibility so that students would acquire learning skill and social responsibility (American Association of Community Colleges, 2012). To develop an instructional design model, instructor had to integrate project-based learning with service learning as a service learning project.

Moreover, information and communication technology (ICT) in the 21st century had been developed rapidly so there had been an effort to apply its pros and cons to support teaching and learning among students, students and instructor, and students and the learning source by using computer-supported collaborative learning (CSCL) through a synchronous and asynchronous tools (Kligyte and Leinonen, 2001). In addition, other applications such as google apps for education, facebook and line application were also applied for both synchronous and asynchronous support.

It was in accordance with Thailand Qualifications Framework for Higher Education (TQF:HEd) of the Commission on Higher Education of who defined the qualification of a bachelor. Bachelor or graduate was a person who was knowledgeable and responsible, had wisdom and skill, good communication and interpersonal skill, the ability to use information and technology, moral and ethics. The definition complied to the Revised National Education Plan (BE 2552 - 2559) which aimed to develop quality Thai people as a complete human in term of physical, mental, and intellectual maturity, be knowledgeable and ethical, can live with others happily, cooperate with creation of balance and secure society. The secure society referred to the society with 3 balances namely 1) quality society, 2) society of wisdom and learning, and 3) society of solidarity and generosity towards each other (Office of the Education Council, 2010). It was imperative that we study the instructional design model to enhance undergraduate students' public consciousness by using service learning projects with computer-supported collaborative learning and find out what elements and stages would promote different skills of students including thinking, working, problem solving and socializing skills so they would become quality and good citizens of the country.

Objectives

The objective of this study was to identify requirement to develop an instructional design model to enhance undergraduate students' public consciousness by using service learning projects with computer-supported collaborative learning which could be used as a guideline for effective higher degree class management.

Literature Review

Further to our literature review about instructional design to enhance public consciousness of learners including different concepts like instructional design, computer-support collaborative learning, project-based learning and service learning, we had found related studies as below.

Buch and Harden (2011) had studied about the influence of service learning project and learners' awareness towards homeless problem and people's attitude. They had investigated service learning design as a part of the training course and citizenship. 114 participants had participated with the study. The course included in class learning and experience learning of service for the poor and the homeless. Participants discussed and reported subject matter and process of experience sharing with other learners through multimedia. Findings revealed that learners had acquired direct experience by doing service learning project, been more aware of the homeless, dismissed their negative attitude, and obtained more positive attitude to be good citizen of the society.

Meyers (2009) had studied about service learning to change people and the society as the supportive instructional tool about social justice. Service learning had been applied to develop person and social bond during spring semester in 2005-2007 by having students to do 6 hour of public service per week in order to promote people participations including assistance for the family with violence problem, tutorial class and care for children without parents. Learners were assigned to document their public service experience and complete other assignments in the semester. Finding showed that service learning could enhance learner's social awareness because this learning method allowed undergraduate students to access and interact with different people in the community. It was considered a precious occasion to work with underprivileged people in the community and a good practice to enhance students' experience that reflected their attitude and value.

Wilson (2011) had investigated about service learning of undergraduate students in the USA. His study aimed to evaluate how service learning influenced self-development. The study explored how different was the sympathy of students who participated and did not participate with service learning and found that students who participated with service learning showed their sympathy differently from students who did not participate with service learning statistically and significantly at .05. The former group of students showed more sympathy. In addition, it was found that service learning could provide a chance for learners to interact with other learners well.

Conceptual Framework

This conceptual framework was based on fundamental theory and design including instructional design, computer-supported collaborative learning, project-based learning, and service learning as shown in Figure 1.

(See Figure 1 on the next page)

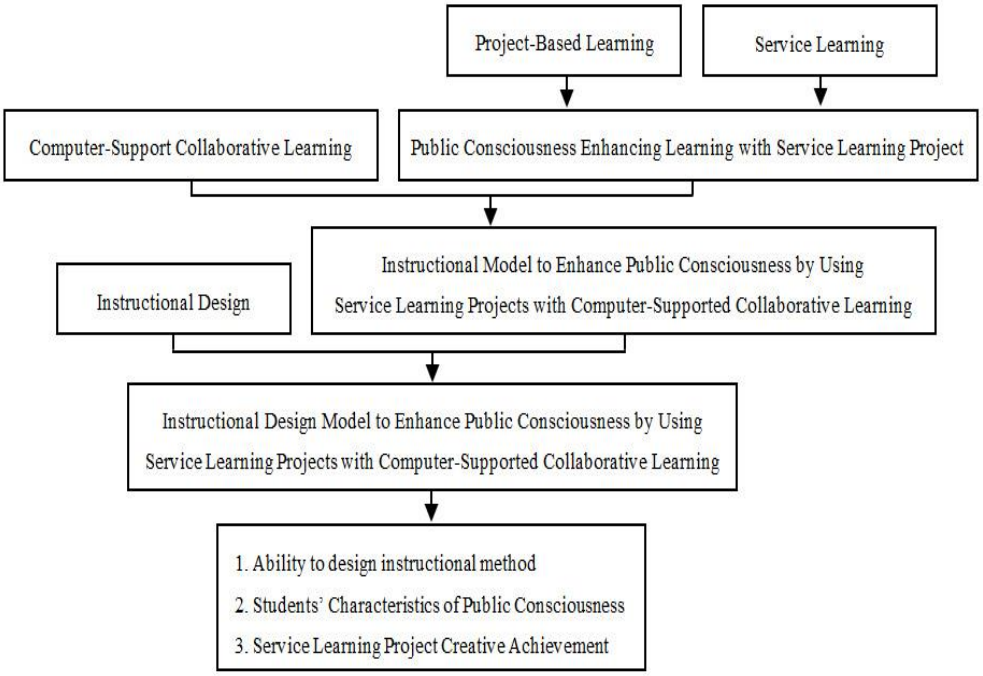

Figure 1: Conceptual Framework of The Study

Definition of Terms

Computer-supported collaborative learning meant using computer to support collaborative learning and facilitate communication, data sharing, and collaborative learning and working through internet network. Communication tools provided 3 supports as (1) synchronous communication (2) asynchronous communication, and (3) synchronous and asynchronous communication on cloud system.

Project-based learning referred to the learner-based instructional activity which was thoroughly planned its operation and practice until we got finding or answer of certain question or subject. The project would encourage learners to truly learn based on their individual potential and create their physical, mental, emotional, social and wisdom balance.

Service learning referred to the instructional activity integrating academic and public activity learning together in order to achieve objective of different subjects. It helped develop moral and ethics of the learners, and prepare them to be the good citizen of the society.

Public consciousness meant thought, awareness and action with moral and ethics, sympathy and public consideration, along with intention to avoid any method or process which might cause any damage to the community, society and the nation.

Methodology

Procedure

This article discussed about data of an instructional design model to enhance undergraduate students' public consciousness by using service learning project with computer-supported collaborative learning as two phases including (1) the study of instructors and students' opinion towards instruction, and (2) the study of experts' opinion towards instructional design model. Participants and applied tools in the research were discussed as the following.

Participants

Phase 1: 40 instructors and 400 students were randomly recruited by multistage random sampling method from different universities throughout the country and were divided into 2 groups of 3 universities or total 6 universities as the following. (1) public universities including Thammasat University, Silpakorn University, and Burapha University; (2) Rajabhat universities including Sisaket Rajabhat University, Chandrakasem Rajabhat University, and Nakhon Pathom Rajabhat University.

Phase 2: Total 15 experts including 3 experts specialized in instructional design model, 3 experts specialized in computer-support collaborative learning, 9 experts specialized in service learning project had participated with the study.

Instrumentation

In phase 1, we applied semi-structured interview with instructors to investigate different circumstances of the instruction including its element, instructional design process, its problem and barrier and the application of information and communication technology to support the instruction, we applied questionnaire with undergraduate students to collect their opinion about instructional circumstances including its element, instruction design model process, its problem and barrier and the application of information and communication technology to support instruction, and it consisted of check list and open-ended questions. The purpose of this phase was to study the opinion towards instruction circumstances to enhance undergraduate students' public consciousness.

In phase 2, we applied questionnaire with experts to study their opinion towards instructional design model to enhance undergraduate students' public consciousness by using service learning projects with computer-supported collaborative learning. Questionnaire for expert was applied to collect their opinion to evaluate element correspondence and step of instructional model. Three-point scale questions in the questionnaire included sure of its availability (mark 1), not sure of its availability (mark 0) and sure of its absence (mark -1) based on index of item-objective congruence (IOC), and IOC more than 0.50 was considered acceptable.

Results

Phase 1: Finding from phase 1 showed opinion of instructors and undergraduate students towards instruction circumstance to enhance undergraduate students' public consciousness.

Finding from Instructors' Opinion

Instructional model design to enhance undergraduate students' public consciousness should be proceeded according to the following steps.

1. Analysis, Instructors should done need analysis using different methods including questionnaire, interview with students and concerned parties such as people in the community, conduct instructional analysis to study instructional method, the application of instruction, instructing material, class management, entry behavior and learner characteristics. Instructors should observe learners' characteristics and body of normal and handicapped students. They should analyze student's social, culture and economic background by observing or allowing the students to tell about their experiences. Instructors should have students do pretest at the early classes in order to check student's basic knowledge, allow student to learn about program and course specifications so that students could pick up proper subject matter, and instructors could prioritize subject content, determine class period and evaluation, and do community analysis based on current problem and need obtained from the observation, survey and sincere discussion with people in the community.

2. Design, Instructional design involved with learning objective determination based on learners' need and interest, public interest, desired behavior of the learner after class, behavioral condition and minimum criterion of the expressed behaviors. Project duration was determined in line with the class number and week in the semester. It was usually 8-16 weeks period depended on circumstances of different courses in a week. Learners should be allowed to observe need and problem of people in the community by using question, observation, home visit, discussion or data analysis. Service learning project had to be done concretely, presented and publicized accordingly. During learning assessment process, students should be allowed to participate with the determination of assessment guideline and role determination of the instructor. Instructors were subject to introduce learning, encourage and motivate learners' interest, provide proper suggestions and activities to enhance learners' knowledge and experience, facilitate learners if necessary, teach moral and ethics consistently, review and follow up student's learning, properly and positively reinforce learners and evaluate their learning. In addition, instructors should be good role model, be sympathy, speak politely, give respect to students and be generous. These were important attributes of instructors to create successful instruction as desired.

3. Development, Instructors had to select instructing material in regular class and electronic media which complied with subject content and instructional activity. This could be done by choosing different self-developed media, instructing material produced by production or development department or application software that were suitable for the class or computer-supported collaborative learning. Instructors were subject to apply technology to create a lively and supportive instruction so that learners could share their learning with their group members and learn from their instructors synchronously through chat and video chat and asynchronously through web board, email, blog and synchronously and asynchronously on cloud system including google apps for education, facebook and line.

4. Implementation, Instructors could apply lecture, questioning, verbal suggestion, example raising or case study, practice thinking, discussion, brain

storming, role playing, and conclusion to create collaborative learning among instructors and students.

5. Evaluation, Instructional design evaluation consisted of 2 important parts including project evaluation based on the work piece, innovation of the project, project report, exhibition, website or online social network, project process, achievement of the community or target group. Project achievement could be evaluated by its work piece, innovation, evaluating form for the exhibition, website or online social network, project learning evaluation form, interview with concerned parties; and learner evaluation. It was measured and evaluated by public consciousness measurement, public consciousness behavior observation, interview with concerned parties, and feedback record or blog.

6. Monitoring, Instructional design model was monitored by direct interview with students, community member or target group and concerned parties such as friends. Duration of the monitoring should comply to characteristics and circumstances of different subject learning.

Finding from The Study of Undergraduate Students' Opinion (See Table 1 and Table 2)

Table 1: General Data of Undergraduate Students

General Data of Undergraduate Students	Number	Percentage
1. Gender		
Male	123	30.8
Female	277	69.2
2. Year of education		
1	41	10.3
2	119	29.7
3	186	46.5
4	54	13.5

Table 2: Opinion about Instructional Circumstance to Enhance Public Consciousness

Opinion Particular	Number	Percentage
1. Project Title Determination		
Determination of learners' need and interest	267	66.8
Determination of community's need and interest	243	60.8
Determination of concerned parties' need and interest	205	51.3
2. Learners' Role Determination		
Choose project title	220	55.0
Write outline of the project	130	32.5
Implement the project	374	93.5
Report progress of the report	118	29.5
Write project report	150	37.5
Present the project	209	52.3
Share knowledge obtained from the project	250	62.5
Record learning obtained from the project	144	36.0
Evaluate the project	150	37.5

Table 2: Opinion about Instructional Circumstance to Enhance Public Consciousness

Opinion Particular	Number	Percentage
Publish and do public relation of the project	234	58.5
3. Learner Grouping		
Group students based on their learning achievement from high to low	80	20.0
Group students based on their proficiency from high to low	72	18.0
Group students based on the same need and interest	284	71.0
4. Application of Computer-supported Collaborative Learning		
4.1 Synchronous tools	278	69.5
Chat	223	55.8
Video Chat	124	31.0
4.2 Asynchronous tools	194	48.5
Web Board	89	22.3
E-mail	135	33.8
Blog	51	12.8
4.3 The Application of Synchronous and Asynchronous Supportive Tools On cloud system	359	89.8
Google Apps for Education	293	73.3
Facebook	285	71.3
Line	214	53.0
5. Features of Computer-supported Collaborative Learning Tools		
To support conversation/knowledge sharing during project implementation.	310	77.5
To support report of project advancement	166	41.5
To support project presentation	203	50.8
To support writing/recording learning from the project	169	42.3
To support project publishing/public relation	242	60.5
6. The Evaluation of Service Learning Project		
Work piece/innovation from the project	203	50.8
Project report	210	52.5
Exhibition	222	55.5
Website/online social network	104	26.0
Project process	172	43.0
Achievement of the community / target group	238	59.5
Satisfaction of the community / target group	241	60.3
7. The Implementation of Learning Activity		
Continuous service learning activity	323	80.8
Continuous knowledge sharing forum	264	66.0
Website/online social network for public relation of the activity and communicate with members	212	53.0
Creation of new community to participate with service learning activity	178	44.5

Phase 2: Finding from experts' opinion towards instructional design model to enhance public consciousness of undergraduate students using public service learning with computer-supported collaborative learning.

The researcher had applied data from the first phase including data from the interview with instructors and undergraduate students to develop question items in the questionnaire asking about instructional design model. The questionnaire was reviewed its elements and steps of instructional design model by 15 experts specialized in instructional model design, instruction management using service learning project and instruction management using computer-supported collaborative learning. We concluded from the finding that the instructional design model could enhance undergraduate students' public consciousness by using service learning with computer-supported collaborative learning and came up with elements and steps as showed in figure 2 with the following detail.

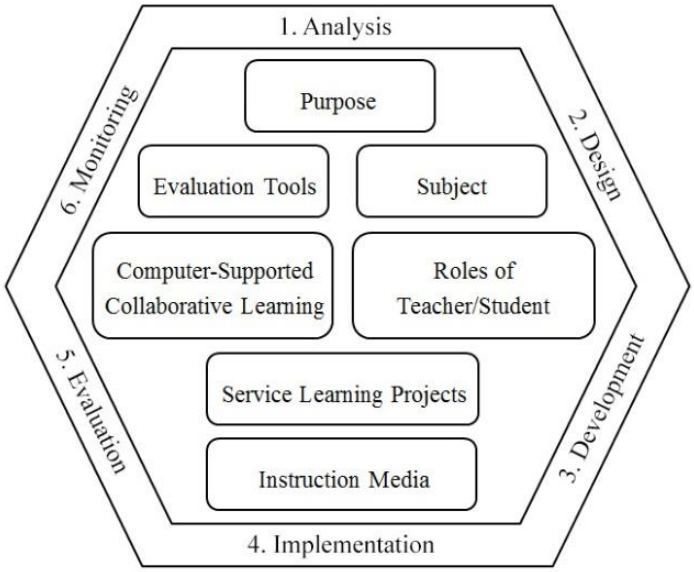

Figure 2: Instructional Design Model

Component of Instructional Design Consisted of Seven Components As Following.

1. Purpose was the applied goal to plan and develop instructional design that the researcher should determine its behavioral objective or particular objective so that students could follow accordingly based on shared need and interest among students, the community, target group and concerned parties.

2. The subject content should be consistent with subject matter of the course by setting outline of curriculum and allow students to enroll accordingly to other circumstances such as public service concept, problems and needs of the community/target, the level of knowledge of the students, purposes, instructional activities, and teaching period.

3. The role of instructors/students, instructors had to act as good role models for students and perform different duties including analyzing problems and needs of the community and students, creating community network for smooth project coordination, encouraging students' awareness, and monitoring and evaluating students' learning performance. Meanwhile, students' role was to engage with instructional activities using public service project. The survey result revealed that different roles of the students included practice (93.5%), acquire and share knowledge (62.5%), publish and make public relation for their project (58.5%), choose project topic (55%), and present their project (52.3%).

4. Service learning project was the process of learning by doing until the learners acquired result or answer, so they had acquired real knowledge based on their individual potential, strengthened their moral and ethics and came up with physical, mental and social balance to prepare them as responsible citizens of the society. The survey showed that 97% of the students agreed with collaborative project in the community, 70.3% of them had helped each other with the project in their class, and 51.3% of them had helped each other with online project.

5. Instruction media was the tool to support and encourage teaching and learning to help students to learn quickly. Instruction media choosing and application should be consistent with the subject matter, teaching activity, the ability of instructors, knowledge level and need of students, as well as some specific characteristics such as students with disability.

6. Computer-supported collaborative learning was the tool to support and encourage collaborative learning in various ways. For example, learning supported group discussion, counseling by the instructor, knowledge sharing discussion, transmitting and sharing data, and progress follow up, presenting the project, documenting students' learning, publicizing and evaluating the project. The learning also allowed students to learn new technology increasingly. Survey showed 89.8% of the students wanted to use both synchronous and asynchronous tools including google apps (73.3%), Facebook (71.3%) and line (53%). They were synchronous tools 69.5% and asynchronous tools 48.5%.

7. Evaluating tools were applied to measure and evaluate instructional achievement including students' achievement evaluating tool and project evaluating tool. Besides, online evaluating tool could facilitate the evaluation and feedback provision for the students rapidly. These tools could also monitor the students' learning performance.

Procedure of Instructional Design Consists of Six Main Stages and 22 Sub-Stages As Follows.

1. The analysis consisted of five sub-stages including (1.1) Need analysis which was to identify problem and barrier, and the need to arrange instruction for a subject matter. Analysis derived from data collected from questionnaire and interview with concerned parties. (1.2) Conduct Instructional Analysis was the analysis of students and instructors' working performance. (1.3) Entry behaviours and learner characteristics was the collection of data about social, cultural and economic aspects, expectation, interest, teaching and learning motivation, the ability to use interview and test technologies. (1.4) Content/Task analysis was the analysis of instruction's

nature by studying various elements including curriculum, course description, and detail of subject matter in the course. (1.5) Community analysis was done to collect community/target data regarding reachable and understandable problems and needs along with other circumstances such as interest, taste, and other problems related to the observation and collaborative learning.

2. Design procedure consisted of 8 sub-stages including (2.1) Determination of instruction objectives by writing down the objectives that learners could practice and instructors could evaluate or observe. (2.2) Determination of instructional format and attribute. This was done by proportionating theory, practice, normal and online class management, and writing down instruction detail process. (2.3) Determination of subject content and its presentation was based on its outlining subject content so that students could choose suitably to their interest. Subject content was subject to be taught appropriately step by step and suitably for the course period. (2.4) Determination of instructional activities including lecture, example, case study, discussion, and describing activity process in detail were subject to be suitable for their timeframe. (2.5) Determine the instructional summary by using collaborative learning was determined by instructors and students. (2.6) Determination of the application of instruction media in regular classes and electronic instruction media along with writing down detail of each instruction step was done properly and suitably to its time frame. (2.7) Determination of computer-supported collaborative learning by using synchronous and asynchronous tools or both, and was written down with their details. (2.8) Determination of measurement and evaluation included 1. project evaluation based on different aspects including work piece/invention, project report, website/online social network, project procedure, achievement of the community/target; and 2. Evaluation of learners' public consciousness, public consciousness behaviour, testing, interview with concerned parties and blog writing.

3. Development consisted of three sub-stages as (3.1) Instructional media production and development which consisted of instruction media for regular and online classes. (3.2) Production and development of computer-supported collaborative learning included synchronous tools, asynchronous tools, and synchronous and asynchronous tools. (3.3) Production and development of learner evaluating tool included public consciousness evaluation form, public consciousness behavioural evaluation form, test, interview with concerned parties, blog, online social networking, and project evaluating tools namely work piece/invention evaluation form, project evaluation form, exhibition evaluation form, project learning observation form, and interview with concerned parties.

4. Instruction implementation consisted of two sub-stages as (4.1) Instruction in the real environment using various instructional activities such as lecture, questioning, case study, discussion, and brainstorming about service learning project. Process to implement the instruction included 1. Encouraging and creating students' awareness by asking challenging questions, providing samples of problem/interesting social issues regarding the lack of public consciousness using video clip. 2. Studying problem and selecting project topic by determining need and interest of students, community/target, brainstorming, and discussing to select project topic. 3. Planning the project by assigning student groups according to their need and interest, determining the roles of instructors and appropriately proportionating theory and

practice learning. 4. Implementing the project by encouraging students to practice according to the plan and summarizing collaborative learning among students and instructors. 5. Presenting the project. Students could exhibited their project to the public and render their comments and critics against the project. (4.2) Application of the produced instruction media was to implement computer-supported collaborative learning media and evaluating tools with different process of instruction.

5. Evaluation consisted of two sub-stages including (5.1) Project evaluation of work piece/invention, project report, exhibition, website, online social network, project procedure, achievement and satisfaction of the community/target. (5.2) Student achievement was evaluated from their public consciousness, public consciousness behaviour, testing, and interview with concerned parties, blog updating, and online social network.

6. Monitoring consisted of two sub-stages including (6.1) Further learning activity namely continuous public service activity, continuous learning sharing, creating website/online social network for public relation and communication, creating new community/network to proceed public service activity, (6.2) Follow up students' learning by using direct interview with the students, community/target, concerned parties, setting time frame to monitor and evaluating students' learning properly and effectively.

Discussion

Objective based discussion was to define need and necessity to develop instructional design model, and it consisted of instructional design elements and process as the following.

1. An instructional design model had unique characteristic because there was a framework for its design focusing on creating public consciousness by using service learning project with computer-supported collaborative learning for undergraduate students particularly. It applied the concept of instruction implementation including instructional design, computer-supported collaborative learning, project-based learning and service learning. The concept of public consciousness was consistent with the study by Meyers (2009) who studied about public service learning to change people and the society. The study results showed how service learning could help students develop more self-awareness and self-esteem. In addition, it could represent social changes because service learning could generate meaningful interaction in the society and promote students to experience their attitude and value. The study was consistent with the study by Wilson (2011) about service learning and sympathy development of students. The study aimed to assess how service learning experience influenced self-development of students attended and did not attend service learning. His finding revealed that students who attended service learning showed more sympathy than the students who did not attend service learning. In addition, the former students could apply their learning with self-development because it supported students to interact with other students and could reflect their self-awareness.

2. The instruction process focused on participation of concerned parties, instructors, students, and people in the community/target group. So the instructors were subject to have enough public consciousness and acted as a good role model. They had to explain definitions, encourage student's interest leading to knowledge

sharing and opinion rendering, apply proper instruction tool to generate creative interaction among students and instructors. It was consistent with community learners bonding online learning strategy by Nasongkhla (2007) who pointed out that there were 3 stages of participation including (1) establishment phase that included joint goal setting by designing a challenging, meaningful, and practical curriculum for learners. Its secondary goal was to support need of all members, determining implementation plan for experience sharing in accordance with the set goal, and creating collaborating skills in the community along with the rules of coexistence. (2) Strengthening the community phase consisted of creating the community's identity, building a cycle of work that encouraged continuous participation, communicating with students, and continuous adding new contents to the community. Having good participation as the foundation, instructors had to appropriately communicate and apply presentation tools so students played different roles in their team and the community. Instructors should assign proper topic so that students could solve different problems and practice by their own and they were deserved to get reward based on their cooperation. (3) Maintaining and retention phase consisted of respectful assembly that allowed students to share knowledge and opinion about the similarity and difference of various topics. The creation of collaboration required diverse perspectives to stimulate exchange of experience and point of view. Project development could be furthered its advantage for other learners as well. When students had practiced certain skill, they would be able to solve problem and coach their peers using different skills when they changed their group. This was consistent with social presence concept by Jithkrikroun (2010) which influenced interaction in online learning. It could create students' motivation and inspiration, co-presence and the sense of engagement with the other. It was considered sense of co-existence though students did not live together. The higher social presence students had, the better interaction they had which was considered similar to face-to-face interaction.

3. Computer-supported collaborative learning was useful in different ways including to support conversation and instructors' counselling, discuss and share knowledge, transmit data, follow up students' progress, present data, record learning, publish and publicise the project, evaluate and monitor students' learning. Computer-supported learning could be applied with any subject pertaining to public consciousness. It should be applied to allow students to interact with members in their group and instructor lively through synchronous and asynchronous tools. This was consistent with computer-supported collaborative learning concept developed by Talamo and Ligorio (2001) which divided the tools into two type's namely asynchronous tools which students could access it all the time without online the internet, and synchronous tools which were for students to contact and communicate with each other by going online at the same time. This concept was consistent with the study by Quek (2010) about the analysis of learners' participation and interaction in the online project learning environment using asynchronous media. The study found that learners had highly participated with the learning while instructors facilitated the process. In term of interaction among learners, it was found that most learners or 82.7% used online project to compare and share data, 3.7% of them meaningfully discussed and shared knowledge. This was consistent with the study of Guthrie and McCracken (2010) about virtual online service learning course to support

different students' learning, discussion, experience sharing, and collaboration. The study found that learners were positively influenced by learning. Students were also enhanced and encouraged their wisdom, civic engagement, participation with the discussion and the ability to understand and gain self-awareness through the use of diverse media. This was consistent with the study by Jones (2010) on technology integrated with computer-supported collaborative learning. Its objective was to evaluate the effectiveness of blended instruction by using online social media to promote and support situation based experience learning. It allowed students to discuss their project in their group asynchronously. Finding revealed that students were happy and acquired precious skills. The application of supportive tool with collaborative learning enhanced students' collaboration, team working, attention, understanding and analysis, and the learning satisfied learners. In addition, computer-supported collaborative learning in the class was also successful in utilizing capacity or strength of communication and information and technology system, and it increased flexibility of the instruction.

Conclusion

When we considered instructional design model to enhance undergraduate students' public consciousness by using a service learning project using computer-supported collaborative learning in this research, we had found that it consisted of 7 elements, 6 stages and 22 sub-stages. Our suggestion for its application was to focus on project implementation process by practice with collaboration as critical parts. We could convey long-term social responsibility concept to students by encourage them to acquire public consciousness. Undergraduate students should be nurtured their self-awareness so that they could make benefit for others and the organization later on. Instructors, therefore, had to act as good role model in explaining and translating the meaning of public consciousness to their students. This depended on instructor's level of public consciousness and being role model as well. Instructors were subject to encourage students to acquire learning process no matter role they played in the group. Choosing computer-supported instruction media should be consistent with objective and attribute of different supportive instruction activity and instructors needed to concern about students' convenience. Learning evaluation and project assessment was based on the whole picture including assessment of students' participation with the project which could generate students' awareness because public consciousness could happen though the project did not achieve its objective. Suggestion for future research included adding variety of evaluation namely self-evaluation and evaluation by group members. Its data analysis, therefore, would be applied as the guideline to develop more complete instruction design model to enhance undergraduate students' public consciousness by using service learning with computer-supported collaborative learning later on.

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