

Online Multi-user Interactive Learning Activities on Social Cloud

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ABSTRACT

The purposes of the research study were 1) to design online multi-user interactive learning activities on social cloud 2) to evaluate the design of online multi-user interactive learning activities on social cloud by experts. The sample in this research study consisted of ten experts who had experience in learning activities, collaborative learning, social cloud, collaboration skills and programming. A purposive sampling method was used in this research study. The research instruments included online multi-user interactive learning activities on social cloud and evaluation form of the learning activities. The research methodology can be divided into 2 steps. The first step was to design online multi-user interactive learning activities on social cloud. The second step was the evaluation of the design of online multi-user interactive learning activities in the social cloud by ten experts; the statistics used were mean and standard deviation. The results of the research study were concluded as follows: 1) the components and processes of online multi-user interactive learning activities in the social cloud were 1.1) online multi-user interactive learning activities in the social cloud consisted of four components as follows: 1.1.1) collaborative coding editor 1.1.2) multi-user interaction 1.1.3) online multi-user interactive learning activities on social cloud processes and 1.1.4) social cloud and 1.2) online multi-user interactive learning activities on social cloud consisted of five processes as follows: 1.2.1) engagement phase 1.2.2) exploration phase 1.2.3) transformation phase 1.2.4) presentation phase and 1.2.5) reflection phase. 2) The experts perceived that the instruction model was highest appropriate.

Keyword: Learning Activities, Multi-user Interaction, Collaborative Learning, Collaboration Skills, Social Cloud, Programming, Cloud Computing.

1. Introduction

Thailand has set a policy framework 2011-2020 for information and communications technology, according to the vision: "Information and communication technology is the driving force in bringing people to knowledge and wisdom of Thailand's economy. Thailand Bringing to sustainable growth, social equality" (Ministry of Information and Communication Technology, 2011). That means that Thailand will develop economic and social activities based on knowledge and intelligence, by providing opportunities for all citizens to participate equally in the development process, to contribute to a balanced and sustainable growth consistent with the strategy of the Ministry of Education, which is assigned to support teaching and learning through the use of information and communications technology to enhance the education of the country (National Economic and Social Development Board, 2011) (Pima, Odetayo, Iqbal and Sedoyeka, 2016). Its purpose is to enhance the capacity of the country by focusing on the development of the

students through the use of information and communications technology as a tool for teaching (Nilsook et al., 2014) (Nsolly and Charlotte, 2016).

Collaborative Learning is a learning environment focusing on learning by learning together in small groups (Alanis-Funes, Neri and Noguez, 2011) (Reid, Forrestal and Cook, 1989). Students rely on and have a responsibility to group together (Berkley, Major and Cross, 2014). A key goal of the study is to exchange learning and share learning resources to interact for joint success (Kordaki and Grigoriadou, 2010). This practice allows the students to learn how to share with others. The most important principle is the creation of knowledge by the students themselves within the act or practice of that thought process (Nilsook and Wannapiroon, 2012) (Panlumlers and Wannapiroon, 2014) (Reynolds, 1994). Used as a guide to the solution and extraction it is thought to be enlightening, Encouraging students to think critically about the learner's activities (Jonsson and Johnson, 1987) (Mukerji and Tripathi, 2010).

Social network is the connection to people who are interested in the same subject and information. The exchange of ideas and opinions through various websites offering the community; communication between members is a social network. It is used in many fields including education as well. Currently, the use of social media is collaborative worldwide (Panlumlers, Nilsook and Jeerungsuwan, 2015). Assist in data collection Share information with each other Story Discuss together and to build a community for those who are interested in the same subject can exchange information quickly. Social media is divided into three types as follow: communication, collaboration and multimedia (Dillenbourg, 1999). In this study, we use social media in the workplace interaction of students with multiple people (Multi-user Interaction); this is a collaboration of many people together helping to make it work, better, quicker and more coordinated. The social cloud is a framework for sharing resources by sharing resources, or services associated with relationships among individuals and determine access to social networks (Cogburn et al., 2010) (Chu and Kennedy, 2011) (Hiltz and Goldman, 2005) (Kongrugs, Nilsook and Wannapiroon, 2016) (Rodmunkong, Wannapiroon and Nilsook, 2014). The basis of the social cloud is the social relationships in the digital social network to identify the level of trust that supports and influences the online community where they live (Anupan, Nilsook and Wannapiroon, 2015) (Ficapal-Cusía and Boada-Graub, 2015) (Nilsook and Wannapiroon, 2014).

Collaborate With Others: it is also one of the skills of learners in the 21st century to work with diverse teams effectively, and have respect for diversity (Brewer et al., 2015). Also, to be flexible and willing compromise to achieve common goals and hold a responsible job as a team member and appreciate their value to the participation of team members (Choeda, Penjor, Dupka and Zander, 2016).

From the following its necessity is demonstrated: "Online multi-user interactive learning activities on social cloud", which was organized learning and collaborative learning. The students have worked together with many people in the cloud and on the sharing of knowledge and social contribution through the cloud. The purpose is to activate the group to achieve even more and create pride in the work of the group. Students can work the

better. It also can bring the work back to future or collected works portfolio and to be useful in collaboration with others in future. This would be learning together to benefit both present and future.

2. Scope of Research

2.1 Objective

The purposes of this research study are:

- To design online multi-user interactive learning activities on social cloud.
- To evaluate the design of online multi-user interactive learning activities on social cloud by experts.

2.2 Population

- The population in this research study consisted of ten experts who are involved in online multi-user interactive learning activities on social cloud and had relevant experience of at least 3 years. The experts are consisted of learning activities, collaborative learning, social cloud, collaboration skills and programming experts.

2.3 Sample

- The sample in this research study consisted of ten experts who are involved in online multi-user interactive learning activities on social cloud and had relevant experience of at least 3 years. The purposive sampling method was used in this research study. The experts are consisted of learning activities, collaborative learning, social cloud, collaboration skills and programming experts.

2.4 The duration of the study

- Semester 1 of the Academic year 2016.

2.5 The variables

- Independence variable is online multi-user interactive learning activities on social cloud.
- Dependence variable is the evaluation result of the online multi-user interactive learning activities on social cloud.

3. Research Methodology

There are two phases of the objectives of the research.

3.1 Analyze and synthesize in online multi-user interactive learning activities on social cloud

With the following steps:

- Study data analysis, documentation and research papers related to online multi-user interactive learning activities on social cloud.
- Analysis of the students and the learning environment.
- The researchers synthesized the online multi-user interactive learning activities on social cloud.

3.2 Evaluation of the online multi-user interactive learning activities on social cloud

An evaluation of the online multi-user interactive learning activities on social cloud by five experts will be described below:

- The sample in this research study consisted of ten experts who had experience in learning activities, collaborative learning, social cloud, collaboration skills and programming. The purposive sampling method was used in this research study.
- The research instruments included online multi-user interactive learning activities on social cloud and an evaluation form of the learning activities.
- The design of online multi-user interactive learning activities is evaluated.
- The statistics were mean and standard deviation.

4. Result

This study presents the results of research in three parts.

4.1 The online multi-user interactive learning activities on social cloud

The online multi-user interactive learning activities on social cloud consist of the components and details that are shown in Figure 1

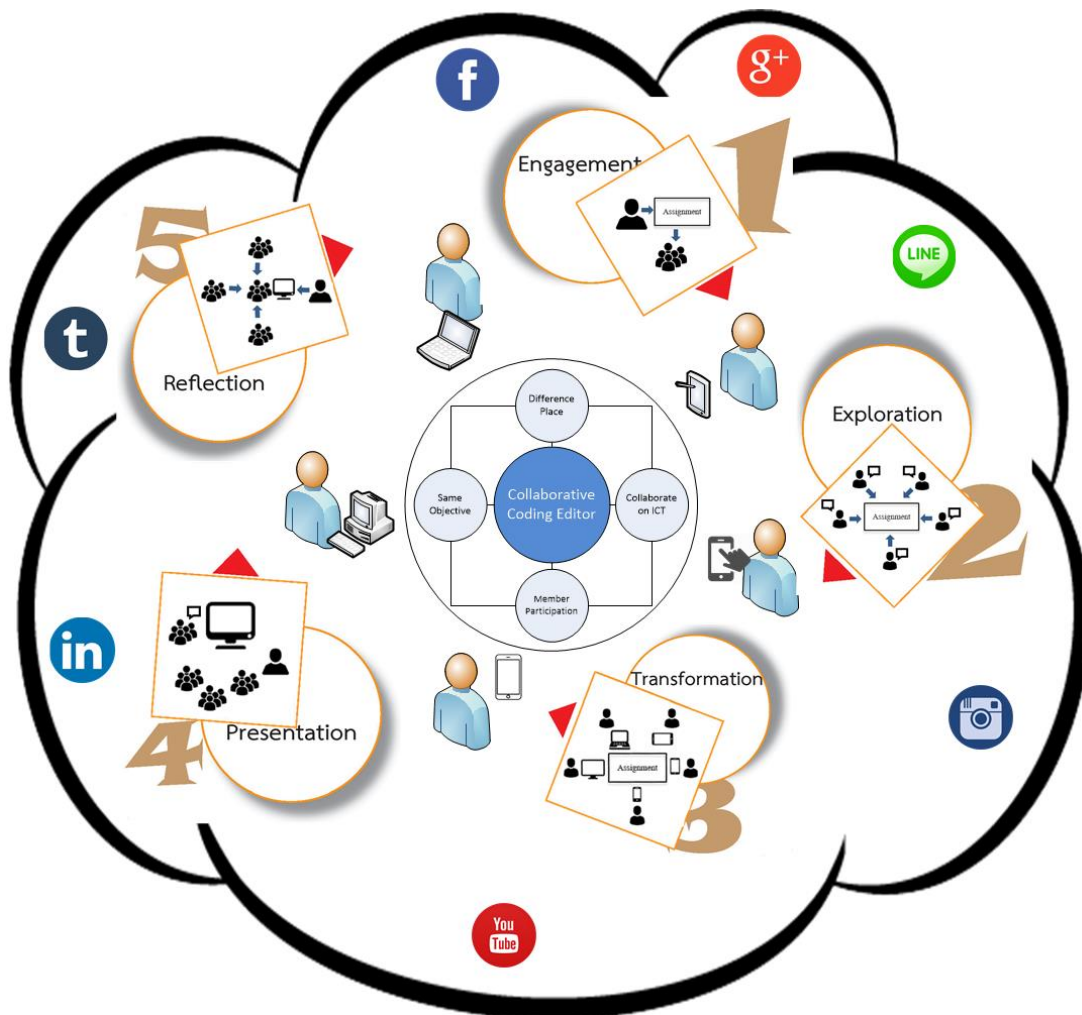


Figure 1 The online multi-user interactive learning activities on social cloud

The online multi-user interactive learning activities on social cloud consist of four components as shown below:

4.1.1 *Collaborative coding editor*

The Collaborative coding editor is a system of teaching and learning together in cooperative programming. The system consists of the learner management, clustering, communication, assignment, collaboration management, task evaluation, collaboration evaluation and learning assessment. The communication is connection between learners in each teams, in the classroom and between students versus instructors. The system connects to the social cloud to knowledge sharing and presentation (Soller et al., 1994). The principle of collaborative learning with virtual collaborative learning is used in this system.

4.1.1.1 Users are in the different locations working together with virtual teams. Users will be able to work together, interact and communicate with each other based on information and communications technology to help in the work. This reduces the limits on collaboration with traditional members needing to be in the same place (Laisema and Wannapiroon, 2013) (Saraubon, Nilsook and Wannapiroon, 2016).

4.1.1.2 Members need to have a common purpose for the group. It must begin with a common purpose. The group aims to help members collaborate on joint operations or solutions to complete the goal (Laisema and Wannapiroon, 2013) (Soller et al., 1994).

4.1.1.3 Working together by using information and communications technology. Because they are working together, members do not need to be in the same place. Therefore, there is the need for information and communications technology to provide members in each location with the means to communicate and interact with each other (Laisema and Wannapiroon, 2013) (Soon and Sarrafzadeh, 2010).

4.1.1.4 Members participate in the collaboration. The group members have their own work to make the group successful. They are responsible for their own work to achieve the objectives set by the group (Laisema and Wannapiroon, 2013) (Paiva, Machado and Valença, 2013).

4.1.2 *Multi-user interaction*

The Multi-user interaction is a collaboration of the students in each group, which can work in the system simultaneously. The students can enroll in a learning management system, multi-user interaction in the social cloud. The devices such as personal computers, laptop computer, tablet and smart phones, which are portable devices can be used. The system can work in multiple operating systems such as Windows, Android, iOS (Apple) and so on (Soon and Sarrafzadeh, 2010).

4.1.3 *Multi-user interactive learning activities*

4.1.3.1 The engagement phase: the instructor introduced the purpose of the study. Students register to use learning management systems. Teachers group students into small groups. Instructors guide the process of learning activities. Students learned trial management systems. And the problem was presented to the students (Zemliansky, 2012).

4.1.3.2 The exploration phase: group members divide the analysis workload into smaller tasks. Identifying each task according to the skills and abilities of each individual and the timing and method of working together (Palacheewa, Suwannatthachote and Nilsook, 2012).

4.1.3.3 The transformation phase: group members can share the workload. The program has been collaborated programming together until the completion of the task is achieved. Then they test the result program until they found the success result.

4.1.3.4 The presentation phase: each group presents the program together through social cloud. They are summarized the results on social cloud. Members of each team evaluate of the collaboration working in the system. Members of each group summarized the evaluation of the entire group together as well as evaluating the effectiveness of joint working groups. Problems as well as solutions for the future were discusses.

4.1.3.5 The reflection phase: The instructor and student groups came together to discuss the work and the work of each group together. Each group assessed the pros and cons of working groups including solutions for working the next time. The teachers and students summarize the learning activities and lessons together. The teacher tells the students to learn the lessons to be learned next. To encourage each group to study the relevant content to get ready for work the next time.




4.1.4 Social cloud










The social cloud is a social framework for sharing resources or services used by a group of people involved in the relationship and scheduling of information in social networks. Currently, a variety is popular, especially among the goals of this research. The undergraduate students who have used the social cloud are everyday people. The use of social cloud in collaborative working is a shared experience, data exchange, information sharing and presentation sharing. For example, social cloud is currently popular and appropriate learning activities have been designed which include Facebook, Google Plus, line, Instagram, YouTube, LinkedIn and Tumblr and so on.



4.2 Online multi-user interactive learning activities on social cloud consist of processes and details

As shown in Table 1.

Table 1 Online multi-user interactive learning activities on social cloud processes

Process	Detail and tools
1. The Engagement Phase	
 Instructor introduces the purpose of the study.	Instructor introduces how to learn and use the Collaborative Coding Editor (CCE) through web board. The tools are web board and are the collaborative coding editor.
 Learners register to use the learning management system.	Learners register and login to the collaborative coding editor. The tools are web board and are the collaborative coding editor.
 Instructor divides group of students into small groups.	Instructor encourages students to segment; small groups consist of 3-5 people, s/he announced the names of each group through discussion forums. Teachers and students are organized into groups for the collaborative coding editor. The tools are web board and the collaborative coding editor.

Process	Detail and tools
 Instructor guides the role of person and the process of learning activities.	Instructor introduces how to work in groups. The role and functions of the members of the group through the process of programming a common set of 2 communication channels 2: the room channel is web board and discussion of members in each group in the chat room. The tools are web board, chat room and are the collaborative coding editor.
 Learners learned to trial the collaborative coding editor.	Learners use the system processor programming model together. Experimental group discussions through chat rooms. Select the position of group leader and group members. Roles and functions of each member. The announcement of position and duties of the members of each group to the web board and chat rooms.
 Instructor introduces the purpose of the study.	Instructor introduces how to learn and use the Collaborative Coding Editor (CCE) through web board. The tools are web board and are the collaborative coding editor.
2. The Exploration Phase	
 Group members work together to create a planning meeting.	Group members meeting together to plan the work. The analysis of the workload in smaller tasks through the chat room.
 Division of assigned tasks.	Identifying each task according to the skills and abilities of each individual. Assigned tasks by the deadline, and how to work together on the forum.
3. The Transformation Phase	
 Members work on small assignments.	Group members share the workload, the program were put together in a process of joint programming on the collaborative coding editor until the completion of the task assigned to individual processor programming model and to the chat rooms.
 Collaborative processing of the task.	Members shared a processor to test the program and handle the error of the program together on the collaborative coding editor together and chat rooms.
 Improving the work of the group.	Members commented on the program. Sharing comments on a program jointly developed. And improving the program based on a review of the work completed through the collaborative coding.
4. The Engagement Phase	
 Presentations	Each group presented the program together through social cloud.
 Task evaluation and collaborative work assessment.	Members of each group summarized anevaluation of the entire group together, including an evaluation of the effectiveness of joint working groups, problems

Process	Detail and tools
	and the problem solutions for the future through social cloud.
5. The Reflection Phase	
 Discuss the overall performance of all the groups together.	The instructor and learners group together to discuss the work and the work of each group together. Each group assesses the advantages and disadvantages of working in this group. The solution provides the functionality of their next time on social cloud.
 Summary of the learning activity.	Teachers and learners share lessons together. The teacher told the students to learn the lessons to be learned next. To encourage each group to study the relevant content to get ready for work the next time through the social cloud.

4.3 The evaluation of the learning activities in online multi-user interactive learning activities on social cloud

The evaluation of the learning activities in online multi-user interactive learning activities on social cloud by 10 experts who related fields. As shown in Tables 2, 3 and 4.

Table 2 The evaluation of the online multi-user interactive learning activities on social cloud components by the experts

Evaluate list	Mean (\bar{x})	Standard deviation (S.D.)	Appropriateness
1. The collaborative coding editor	4.86	0.23	Highest
2. Multi-user interaction	4.96	0.09	Highest
3. Multi-user interactive learning activities	4.86	0.38	Highest
4. Social cloud	4.83	0.32	Highest
Summary	4.88	0.26	Highest

Table 3 The evaluation of the online multi-user interactive learning activities on social cloud processes by the experts

Evaluate list	Mean (\bar{x})	Standard deviation (S.D.)	Appropriateness
1. The engagement phase	4.91	0.23	Highest
2. The exploration phase	5.00	0.00	Highest
3. The transformation phase	5.00	0.00	Highest
4. The presentation phase	5.00	0.00	Highest
5. The reflection phase	5.00	0.00	Highest
Summary	4.98	0.05	Highest

Table 4 The evaluation appropriateness results of the online multi-user interactive learning system on social cloud learning activities for usage

Evaluate list	Mean (\bar{x})	Standard deviation (S.D.)	Appropriateness
1. The online multi-user interactive learning system on social cloud learning activities are appropriate to enhance collaboration skills	4.86	0.38	Highest
2. The online multi-user interactive learning system on social cloud learning activities are possible for usage	4.71	0.49	Highest
Summary	4.79	0.43	Highest

5. Conclusion

To use the online multi-user interactive learning activities in the social cloud, any education institutions that want to apply these learning activities should be well prepared in terms of learners, instructors and the learning environment

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