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Steps of Cooperative Learning on Social Networking by Integrating Instructional Design based on Constructivist Approach

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Abstract

The purpose of this article is to study the process and steps of cooperative learning on social networking with integrated instructional design for learning based on Constructivist approach. Three groups of samples were selected from the experts in Collaborative learning, Instructional design and Social networking by using questionnaires and interviews as the instruments. The results found that there are 5 steps of processes from Cooperative learning; 1. Analysis. This step consists of contexts, learners and problems described by learners with assigned appropriate tasks to them and giving key concepts. 2. Design. To determine learning goals, identify learning sequences and assess learners by context-driven evaluation were considered in this steps. 3. Development. Construct learning resource was used in order to develop learners. 4. Implementation. Instructors focus on consulting and facilitating. On the other hands, learners play an important role in directing and controlling emphasizing problem solving. From step 2 to 4, instructors evaluate in the topic of teacher –student interaction, student-student interaction and student-materials interaction involved with situation analysis, appropriate task, grouping, bridge, question and presentation. 5. Evaluation. Study how students learn with expectation on student roles. Social networking online used in cooperative learning is Blogs, Wikis, Photo sharing, video sharing, instant message and Social networking sites.

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1. Objectives

Synthesis steps of cooperative Learning and Instructional Design on Constructivist Approach and Synthesis social networking for learning

2. Cooperative Learning

The concept of cooperative learning is an attempt of western educators to develop a group learning method for increased learning efficiency. Slavin (1995) and Strommen (1995) stated that cooperative learning can be employed effectively to all levels of teaching and learning facilitation. This included mathematics subject, reading, writing, and Science subject as well as subjects which need computer to help solve complex problems and facilitate convenience in cooperative learning. Uslik and Walker (1994) and Serra (1997) claimed that cooperative learning can be managed in various forms in which it comprises 2-6 learners depending on types of learning activities. However, one research finds that a group of 4-5 learners is the most appropriate.

Johnson and Johnson (1994), Johnson and Johnson (1987), and Slavin (1995) have proposed the method of cooperative learning facilitation as follows:

1. Appropriate Tasks Coordination is an appropriate method for teaching and learning facilitation which needs skills for problem solving, creative thinking, high quality achievement and knowledge, and complex tasks. In addition, cooperative learning method is employed when social development of learner is needed.

2. Teach – Student Interaction In cooperative learning, there is a tight relationship of roles of a teacher and students. The teacher introduces students about learning content, explains learning objectives, construct learning conditions, and provides a guideline for creative thinking and making conclusion. Besides, the teacher is an observer and assists students when needed. Meanwhile, the teacher also assesses learning achievement of students. Students must take part in suggested learning process and use their knowledge to seek for answers leading to the goals of learning.

3. Students – Students Interaction each students must perceive that their group members are the ones who can assist, support, and enhance in learning. Students are required to form small groups and everyone must sit near to one another to share opinions and create the feeling of unity.

4. Students – Materials Interaction There is difference in the preparation of learning materials based on forms and objectives of learning content. Normally, students will receive a set of learning materials to be studied. The preparation of learning materials is based on the discretion of the teacher. The learning materials may be used for group tasks or an individual. Ideas obtained from learning will be shared among group members. Thus, students must be responsible for the management of their learning materials.

5. Student Role Expectation Cooperative learning expects students to have interaction among group members. That is, there is opinion and learning material sharing as well as learning support. They must set clear learning goals and all group members are expected to achieve the goals of learning.

3. Instructional Design In Accordance with Constructivist

Cooperative learning relies on the principles of instructional design of Hannafin, Hannafin, Land, & Oliver (1997) and Robert Resier, John Dempsey (2002). They proposed a framework for designing learning activities. The following are teaching and learning activities in accordance with constructivist: 1) analysis stage which comprises analyses of learning context, learner, problem described, key concepts identified for the occurrence of learning concept; 2) design stage which comprises learning goals, identify learning sequences, and context – driven evaluation; 3) development stage which comprises the construction of learning resource/artifacts; 4) implementation stage which comprises the teacher, consulting, facilitating, directing, controlling, and problem solving; and 5) evaluation stage – how a learner knows.

George, Gagnon, and Michelle Colley (2014) proposed learning design in accordance with constructivist. It focuses on 6 important components as follows: 1) situation, 2) groupings, 3) bridge, 4) questions, 5) exhibit, and 6) reflection. It explains the relationship that the teacher will prepare learning situations for students to explain their knowledge and existing experience as well as the selection of a learning group process. After that, the teacher will encourage students to present ideas and exchange it to one another.

4. Cooperative learning on Online Social Networks

A synthesis of the cooperative learning concept by David Johnson (1994) showed that there are 5 important components of cooperative learning as follows:

1. **Positive Interdependence** This includes all group members share common goals of their task, materials, equipment, various data roles, and success. All group members perceive that their success is dependent on the success of group members. All of them will obtain benefits or rewards equally.

2. **Face to Face Promotive Interaction** This is in the form of opinion exchange and knowledge explanation among group members. It is important characteristics of cooperative learning. Hence, it should have data/opinion exchange in order to provide group members to propose their ideas and select the most appropriate thing.

3. **Individual Accountability** All group members must be responsible for their own learning and others' learning. That is, they must help one another in learning in order to achieve the goals of their group. Besides, each of them must be ready for the evaluation.

4. **Interdependence and Small Group Skills** These are important skills which help group tasks be successful. In addition, the teacher must prepare learning situations in order to enhance students to do their tasks effectively.

5. **Group Processing** It is a systematic working process or it is a method assisting students to do their tasks effectively. That is, all group members must understand the goals of their tasks. Also, they must do their tasks, improve and assess it together.

As a matter of fact, all of the 5 components are essential for cooperative learning and it is not considered as cooperative learning if one of the components is missing (Van der Kley, 1991).

5. Steps of Cooperative learning

Johnson and Johnson (1987) proposed the method of cooperative learning as follows:

1. **Assigning Appropriate Tasks** Coordination is an appropriate method for the facilitation of teaching and learning. Cooperative learning is employed in case of the following: problem solving skills are needed, creative thinking, high quality achievement, complex tasks, and social development of learners.

2. **Teacher – Student Interaction** In cooperative learning, there is a tight relationship between the teacher and students. The teacher introduces learning content to students, explains learning objectives, constructs learning conditions, observes classroom activities, and assists students when needed. Meanwhile, students take part in learning activities as introduced and they must do assigned tasks successfully.

3. **Student – Student Interaction** Each student must perceive that his group members can help, support, and enhance him in learning.

4. **Student – Materials Interaction** There is the difference in the preparation of learning materials based on form and objectives of learning content. Students will receive a set of learning materials for studying. The learning materials may be used for group tasks or individual tasks and obtained knowledge will be shared among group members.

5. **Students Role Expectation** Cooperative learning aims to make students have interaction among group members. This includes idea and learning material sharing as well as support. Each students group must have clear goals and each group member must take part in group activities in order to achieve the goals.

6. Online Social Networks and Learning

Current educational management is the combination of constructivist concept and technology on communication/computer networks as learning media. It also includes human contact for the construction of learning society. In fact, it is important for online teaching/learning facilitation (Paloff & Pratt, 2007; Fox, 2002). The success of teaching/learning facilitation related to communication and interaction by using various communication technologies places the importance of mutual learning. It is the learning method which is consistent with the nature of learning and the construction of body of knowledge (Brown et.al., 1989; Lave & Wenger, 1991). Cooperative learning in accordance with the constructivist concept aims to make students have coordination, creative thinking, capability in problems solving, and integrate various forms of communication for the construction of interaction among group members. This is particularly on the utilization of online social networks (Weller, 2007).

Online social media is applied to be a tool for concrete teaching and learning. Besides, it is popular throughout the world. Online social media is a tool promoting and encouraging learners to learn because it is Two-way communication. It has the following characteristics: 1) enhancing people to communicate, work together, and create online community; 2) providing/shorting data and information; and 3) making people learn and obtain benefits from learning (Farkas, 2007). Thus, it can be said that online social media is a matter of a group of people working together via applied programs e.g. social networks, block, and wikis (Bitter 2008:77; Kroski 2008:6). Liu, Y. (2010) conducted a study on important and popular tools used for communication through online society: Facebook, Wikipedia, and Youtube. It was found that there are 4 main reasons which it is used: 1) it is the communication method which straight to the point; 2) it has immediate response; 3)it creates good relationships among communicators; 4) there is attention among people in the group of social networks. Besides it is suggested to be used for teaching and learning facilitation.

Table 1 Online social networking for Learning

Social Technology	Content Generating	Online social networking		Collaboratively Socialising
		Sharing	Interacting	
Blogs	Sandars & Schroter,2007; Murray,2008;Hargadon,2008; Churchill,2009; Berger, Pam. (2010); Liu, Y. (2010)	Berger, Pam. (2010)	Churchill,2009	
Wikis	Sandars & Schroter,2007; Murray,2008;Hargadon,2008; Kane & Fichman,2009; Berger, Pam. (2010)	Kane & Fichman, 2009; Ras & Rech, 2009		Sandars & Schroter,2007; Kane & Fichman,2009; Ras & Rech,2009; Rhoadar, Friedel & Morgan,2009; Liu, Y. (2010)
Photo sharing	Sandars & Schroter,2007; Hargadon,2008; Berger, Pam. (2010); Liu, Y. (2010)			
Video sharing	Sandars & Schroter,2007;; Berger, Pam. (2010)		Mason & Rennie,2008	
Instant message	Sandars & Schroter,2007; Berger, Pam. (2010)			Sandars & Schroter,2007; Mason & Rennie,2008; Berger, Pam. (2010)
Social networking sites	Sandars & Schroter,2007; Murray,2008; Hargadon,2008; Virkus,2008; Berger, Pam. (2010); Liu, Y. (2010)	Murray,2008 Oradini & Saunders,2008; Berger, Pam. (2010); Liu, Y. (2010)	Murray,2008 Minocha,2009; Berger, Pam. (2010); Liu, Y. (2010)	Murray,2008 Oradini & Saunders,2008; Berger, Pam. (2010); Liu, Y. (2010)

According to article review and related study on online social networks, the research found that online social networks comprise members of online social networks and construction of networks for doing a particular activity. Its process includes the following:

1. Content generating User can generate content from technology in social networks by themselves e.g. message writing, picture posing, songs, and video. This can be done by using tools in online social networks i.e. Blogs, Wikis, Photo sharing, Video sharing, Instant message, and social networking sites.
2. Sharing This includes sharing of various message in files e.g. opinions, conservations, experience, knowledge, etc. This can be done by using online social network tools: Wikis and Social networking sites.
3. Interacting Users have interaction among social networks. This can be in the forms of verbal language, messages, opinions, etc. It can be done through online social network tools i.e. Blogs, Video sharing, and Social networking sites.
4. Collaboratively Socialising Members collaborate one another in a particular activity within online social networks e.g. mutual using, interaction, and sharing common goals. This can be done through Wikis, Instant message, and Social networking sites.

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