

Learning beyond Classroom: an Exploratory Study

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Abstract. This study explored the effect of collaborative online learning with Synchronous Online Collaborative method and Asynchronous Online Collaborative (AOC) method, which served as an experimental group. Using a quasi-experimental method, 84 students had been selected randomly and they were divided into three groups (two experimental groups and one control group). Questionnaires were used to get data and information from the students. Results from the study showed that the students in experimental group significantly outperformed in their team work skills mean score. The results also indicated that the questionnaire instrument was reliable and valid.

Keywords: Collaborative Online Learning, Synchronous Online Collaborative, Asynchronous Online Collaborative, Experimental Group

1. Introduction

In the era of knowledge advancement, majority of us involved with online activities in our daily lives. We need internet and computers for business transactions, online conferences and other activities. As a result, some educators have expanded their teaching and learning tools to online learning rather than traditional face to face learning. Online learning can train students to become collaborative partners in the knowledge-building process (West & West, 2009). Although some tools such as e-mail, chat and forums have allowed effective online communication, it has often been a challenge to collaborate learning using these tools (Palloff & Prett, 2005). Some of the exits tools and technologies that can support the collaborative online learning of students are Wikis, Face book, Yahoo messenger and others. However, how many of the undergraduates fully use these facilities for learning? Or how many lecturers have facilitated students to use them?

According to Kurz, Perry and Smith (2003), the amount of time that students spent on academic online discussion only lasted for about 0.18 hour per week as compared to 13 hours per week for non-academic activities. It is a known fact that younger generations like to spend time on social activities rather than having discussion online. With students spending so little time on online-discussion, will universities produce quality undergraduates? With the explosion of the technological revolution, the growing use of modern technologies has become necessary. Malaysia with the vision of enhancing an e-learning society has to upgrade the quality of undergraduates through various forms of learning. Hence, most of the universities have developed e-learning environments for undergraduates. However, many lecturers would still like to implement chalk and talk rather than online learning (Becker & Watts, 2001; Khoo, 2008). Some lecturers that realized the changes in the pedagogies have encouraged students to do self- learning after their lectures (Chuang, 2004).

Many university - assessment programs have used group projects to evaluate students' performance. In reality, when students are busy attending all types of co-curriculum activities, sometimes it is quite difficult

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to meet each other. Therefore, group projects that take into account of an e-learning environment requirement should be implemented, especially in the courses that students always face difficulty, for example, Economics (Khoo, 2011).

2. Statement of the Problem

Prior researches indicated that online collaborative learning require different teaching approaches from the traditional classroom. However, many online learning strategies duplicate the model from the traditional teaching. Therefore, an effective online collaborative learning approach needs to be implemented in the online environment.

Besides, a review of past literature indicated very few studies of learning economics online in Malaysia. This is the research gap that has yet to be filled. Furthermore, prior researches focused on effective online learning but not specifically stressed on teamwork (Graham, 2002). Principle of Economics is always classified as a difficult course by students. The enrolment of economics students is deteriorating year by year in this university due to government policies and students' preferences (UPSI, 2010).

3. Purpose of the study

The main purpose of this study was to examine the effect of online collaborative learning in the teaching of Principle of Economics. This study was undertaken to find out the extent to which the Synchronous Online Collaborative (SOC) method and Asynchronous Online Collaborative (AOC) method was promoting students' team work skills. Besides, this study also determined the reliability and validity of the questionnaires.

These methods are:

- Synchronous Online Collaborative (SOC) method that served as an experimental group;
- Asynchronous Online Collaborative (AOC) method that served as an experimental group; and
- Conventional Collaborative (CC) method that served as a control group.

4. Methodology

4.1. Design

This exploratory study employed a quasi-experimental pre-test-post test design. There were about 84 undergraduate students for Principle of Economics from one public university in Perak, Malaysia. The experiment was divided into three groups. Two experimental groups -- SOC and AOC were formed. Each experimental group contained 28 students. CC was served as a control group.

4.2. Data Collection Procedure

The experiment was divided into three groups (SOC, AOC and CC). SOC was an experimental group of students who discussed a project at an allocated time instructed by the researcher and AOC was another experimental group that discussed the topic whenever the students were free (more independence in terms of time). CC used the conventional group learning during tutorial, which functions as a control group. However, CC followed the same pattern of testing and instructions as the two experimental groups except no collaborative online technique were taught. A set of questionnaires was administered to the students before and after the intervention. The survey was distributed through email to all the students. The same questionnaire had been used in the pre-post intervention in order to have minimum threats. A checklist was formed to control the external threats when having the online session. Besides, one training session had been held to train the instructor and students. The field supervisor received a manual guide and was contacted from time to time to monitor the progress of the experiment. Yahoo messenger and Face book had been selected as devices on this online collaborative experiment. These two devices had been selected because they were free services and user friendly. Interventions had been conducted for about six weeks in a semester. This project involved two topics: The Economic Problem: Scarcity and Choice and Demand and Supply.

4.3. Instrument

The set of questionnaires employed was constructed by researchers for this study. The structured questionnaire consisted of 20 close-ended items. All the items were phrased positively based on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

4.4. Data Analysis Procedure

The pre-experimental study as well as the experimental study was presented. The analyses carried out through statistical techniques. Mean score was calculated to compare the difference among the learning approaches.

4.5. Validity and Reliability Tests

Content and face validity had been measured to ensure a set of systematic assessments can be employed in this study. First of all, a draft of the instrument of this study was distributed to relevant experts in order to get feedback concerning the content, adequacy, suitability and layout of the items. The instrument had also examined the clarity and found valid by referring to the experts. Besides, the reliability of the instruments had been measured by using Cronbach's alpha coefficient. Cronbach's alpha test was employed in this study to measure the internal consistency of the instrument. After running the data, the results indicated that all the items were high reliability ranging from 0.835 to 0.857. These results are in line with the benchmark that an instrument with the coefficient of 0.70 or above has a high reliability standard (Sekaran and Bougie, 2010). Therefore, all the items are reliable and usable.

5. Results

5.1. Teamwork Skill Questionnaire Outcomes

Table 1 the Analysis of Teamwork Skill Questionnaire

No.	Item	Pre-experiment			Post-experiment		
		SOC	AOC	CC	SOC	AOC	CC
1	I tried my best to solve the problem.	3.250	3.821	3.500	4.107	3.857	3.464
2	I was sure that the instructions were understood by team members before the discussion.	3.250	3.536	3.474	3.929	3.786	3.607
3	I tried to contribute as much as possible.	3.250	3.607	3.553	3.464	3.714	3.643
4	I shared my ideas with others.	3.571	3.786	3.684	4.357	3.750	3.750
5	I assisted other members if they faced problem.	3.214	3.214	3.500	4.214	3.536	3.679
6	I was assigned an equal important role in the group task.	3.000	3.321	3.605	3.821	3.571	3.714
7	I respected the views of others in the team.	3.000	3.321	3.553	4.107	3.429	3.750
8	I received immediate explanation when searching help from more capable members.	3.429	3.286	3.711	4.036	3.679	3.857
9	I led the team effectively.	3.357	3.429	3.579	4.036	3.679	3.786
10	I explained my views to group members.	3.643	3.500	3.816	4.143	3.929	3.929
11	I worked hard to complete my own task.	2.786	2.929	3.447	3.536	2.929	3.464
12	I worked hard and hoped that our group could score a good grade.	2.714	2.964	3.289	3.857	2.929	3.286
13	I completed my work on time.	3.000	3.143	3.658	3.821	3.321	3.607
14	I prepared the question before discussion.	2.964	3.107	3.421	3.464	3.321	3.429
15	I was able to change my answer based on my members' opinion.	3.107	3.000	3.447	3.357	3.143	3.500
16	I took part during the online collaboration.	3.500	3.607	3.763	4.107	3.429	3.786
17	I received immediate feedback when I explained ideas to members.	3.571	3.786	3.868	4.179	3.786	3.786

18	I treated all my members equally.	2.892	3.392	3.711	4.000	3.607	3.607
19	I could understand the economic concept during discussion.	2.821	3.179	3.316	3.964	3.250	3.179
20	I accomplished the assigned roles successfully.	2.964	3.357	3.368	4.071	3.143	3.321

The result of the teamwork skill questionnaire is reported in Table 1. The result indicated that the students in SOC were closely involved in the online collaborative learning and worked well together compared to AOC and CC. The result revealed that the SOC groups showed the highest mean score in all the items. It means that the group members like to tie together and discuss their task online. However, the students in AOC showed the decrease in mean on item 4, 16 and 20. The students in AOC indicated the highest mean score on the item 3. The students in CC also showed the decrease in mean on item 1, 12, 13, 14, 17, 18, 19 and 20.

6. Discussion

The result of the effectiveness of the Synchronous Online Collaborative (SOC) indicated that SOC is a powerful method for online learning. The advantage of SOC is that the students can get support from the facilitator during the online learning environment. This shows the effectiveness of online learning, facilitator's assistance and monitoring to the students during the online learning. With the absence of facilitator, students in the AOC groups were more independent and tried to contribute more during online discussion. However, the result indicated that SOC and AOC are more effective than face to face learning. The findings confirmed that online learning can encourage learners to work together and promote positive interactions among team members. It also provides an environment for students to discuss. Actually, the successfulness of online learning is related to the role of the facilitator. Facilitator has to face the challenge of preparing students to become a member of the collaborative teams.

The present results suggest that online collaborative learning has the potential of further development. Future research on this topic is warranted. Interviews with the selected group members from different groups can help determine factors that lead to the success of the groups.

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