Collaborative Learning Issues in Synchronous Online Interactions

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Abstract

This paper discusses the issues of focus, motivation and chatiquettes in a synchronous collaborative learning environment in graduate classes. Data collected from a live synchronous graduate class over a year show that even though a synchronous collaborative interaction has many of the same properties as face-to-face interactions, there are several issues that hamper the effectiveness of a synchronous communication. Professor’s role is very important in keeping the students focused, motivated and disciplined in their synchronous interactions with other students.

Key words: Online, Collaborative Learning, Synchronous, Chatiquette

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Introduction

Online courses are becoming an increasingly preferred mode of education for students in the USA. While many universities are in their early stages of experimentation with different modes of online and blended or hybrid learning, collaboration in traditional teaching methods have evolved over many decades as a result of research as well as increasing efforts of the faculty and their ensuing experience.

Literature

Research over decades has gathered evidence of the effectiveness of collaborative learning. However, collaborative learning theories have been based on empirical work in face to face learning environment [1]. With increasing inclination of students as well as teachers towards online courses using computer-mediated communication in order to save time traveling to distant campus locations, or to take care of family or work commitments, we are looking for theories to support our online teaching-learning efforts. This is even more important because while online courses are increasing in popularity, a debate about the effectiveness of collaboration in online learning is also becoming prominent among academicians. Although there is research available on collaborative learning in face to face environment [1] and on computer-mediated-communications in general [2], academics need research that informs them of ways in which effectiveness of collaborative learning can be maintained in communication technology assisted pedagogical environments. This research was done to explore how online interactions among students and teachers can be done effectively to achieve the same collaborative learning outcomes as desired through traditional learning methods, specifically face to face.

Collaborative learning involves situations “… in which two or more subjects build synchronously and interactively a joint solution to some problem” [3]. Clearly, an important component of collaboration is the discussion that occurs during task engagement, since the cognitive benefits that are claimed for collaborative learning [4] must be mediated by the verbal exchanges among learners. Interaction has long been recognized as an important component of any learning experience [5,6]. Research since the 1990s has also recognized it as an important construct in distance education [7,8,9].
Since technology assisted interactions are restricted in various ways, it is important to know how collaborative learning outcomes can be achieved in such situations. In most cases collaborative learning in a computer-mediated environment is restricted to asynchronous or synchronous exchange of text on screens [10]. The non-verbal cues that are so important in face-to-face communication are absent in computer mediated collaborative learning. Text-on-screen is a very limited mode for what should be semantically rich exchanges. Online conversations are also asynchronous, in that there is a relatively longer time gap in receiving a response from other participants. This time gap, though narrow, exists in synchronous online interactions too. This time gap (whether in asynchronous or synchronous environments), complicated further due to lack of any cues about a message being framed by another participant, can lead to loss of focus among others involved in the interaction. Even in a synchronous online text based interaction, the ‘silence’ created by a small gap in receiving a message can distract a participant. As a message can only be received after it is composed in a synchronous interaction, the short gap between sending a message and receiving a response opens a window for distraction, when a participant gets busy ‘multi-tasking’, which can take the focus away. This research explores how such issues with online interaction can influence the effectiveness of a synchronous online interaction.

In a graduate class of 19 students, we conducted part of the class using traditional methods while the other part using collaborative online methods. Student learning was then compared for effectiveness in both modes. The results of this experiment are discussed in this paper.

Research Setting

The unit of our study was a graduate supply chain management course in an American University. There were 22 students and one professor. Over the first few weeks, three students dropped the course, leaving us with 19 students to continue the experiment.

A. Participants

As mentioned above, nineteen graduate students (9 men and 10 women) enrolled in a supply chain course were involved in this study. The students ranged in age from 22 years to 50 years and were
employed part-time or full time in different industries. Some students had the experience of taking online course while others were experiencing it for the first time. Most students were located within a 30 mile radius of the main campus. Because the class was conducted in the night, and majority of the students were working full time, they were all motivated to experiment both modes of learning in order to save time and effort. All the students used email and internet, although at different levels of skill and comfort.

Given the inherent limitations of computer-mediated communications, we made sure that the pre-conditions for successful network communities as suggested by Levin, Kim and Riel (1996) are met. The participants in this research were 1) members of the class group that had limitations in meeting face to face because of time and distance constraints; 2) the tasks on which the class had to work were clearly defined; 3) all members had easy access to technology and the skills to use it effectively; 4) there was a common (though varying) sense of responsibility towards the assigned task and process; 5) the class was led and coordinated by the professor and evaluated on the completed tasks

**B. Procedures**

Part of this course was on-campus while the other part was online. The online interaction was facilitated by the course website that contained information about the class schedule, assignments and resources. The website also supported live text chat, which was the method used for discussions of various cases and other assignments. The idea of doing part of the course online was first discussed with the students and agreement on the procedure sought.

**C. Data Collection and Analysis**

All in-class interactions were observed by one of the researchers. Focus group discussions were conducted after every three sessions. The main purpose of these sessions was to get the participants’ points of view on interactions and collaboration. In addition, all discussions were analyzed providing information on how often each student interacted and the quality of those
interactions. Furthermore, detailed notes and memos were created throughout the process to document notes and reflections on the process.

We followed the inductive and deductive procedures of data analysis for this research (Erickson 1986). Propositional statements were generated to indicate relationships and generalizations that occurred on repeated reading of the data. Generation of these assertions (Erickson 1986) was followed by the deductive stage of the research. Deduction involved detailed examination of the data for evidence in support or disconfirmation of the initial assertion. The initial assertions were retained, refined or rejected based on the evidence gathered in the deductive stage. Interviews, observations and discussions were used in this stage to find support for or against an assertion from a variety of sources. Two researchers individually worked for both the stages and only those assertions and evidences thereof were retained for further processing that were agreed on by both researchers. The recurring themes that occurred in this process are being grouped as that of focus, motivation and etiquette. We discuss each of these themes in detail below.

Results

The analysis brought out issues of focus, motivation and manners. This section discusses each issue in detail.

A. Focus

It is well accepted in academics that the primary requirement for effective teaching-learning experience is focus on the process. In collaborative learning processes, it is important that the students are concentrating on the ongoing discussions and interactions to be able to contribute meaningfully to them. However, unlike the traditional student whose main occupation was education, today majority of the students are doing several things at the same time. An active student will at the least have a part-time or full-time job, an active social life, and a hobby to pursue. To add to these activities that compete for student’s time and attention, is the increasing desire to be connected at all times. Teachers in on-campus classes face these issues and develop methods to keep a control on student “multi-tasking” so that the attention can be maintained. However, in an online environment, keeping this control becomes difficult. The students in an online class are most likely sitting in an environment which is very familiar to them and probably
created by them (for instance home or office). This creates enough reason for the student to multi-task, where online collaboration is one of the tasks the student is performing. When we asked our students if they multitasked during online discussions, 55% of the students multitasked at least 30% of time, while others multi-tasked more. In further discussions, students reported that others got distracted every once in a while due to handling more than one task at a time.

Given the lack of social pressure of being caught multi-tasking, the presence of cues inviting multi-tasking and the … students are more likely to be engrossed with more than just the collaborative learning and so lose focus. In class neighborhood watch creates a desirable level of check on distractions. Given that other events are in suspension due to the presence of peers and teacher, students focus more in face-to-face environment than in online collaboration. Students felt that they could do many tasks because there was a time gap between two messages and they were utilizing that time to do other activities. However, what students do not realize is that in class that time is spent in absorption and reflection. Doing other activities at this time interferes with absorption and reflection which not only reduces the degree of learning, but also reduces the effort taken in challenging others. When we closely looked at the interactions, most frequent inputs from majority of the students were to convey that they agree with another person or that the other participant made a good point. It becomes a challenge for the moderator to get the attention of the participants beyond that point, so that they may extend the discussion or challenge the line of thought. Because of reduced focus during online discussions, there was a constant need for the moderating teacher to challenge the students or question an individual student to continue the discussion meaningfully. The same set of students would make very useful contributions when in class.

B. Motivation:

The issue of motivation arises as a consequence of diminishing focus of the group. In a collaborative learning environment, a discussion develops and takes shape as a result of continuous inputs from the participants. An analysis of the online live discussion logs showed diminishing motivation as a result of dissipating focus of the majority of participants. In a typical discussion on a case, within the first 5 minutes of a discussion, most participants would give their observations on the topic or case being discussed. At this time the responses were fast. After this phase, the time span between responses started increasing and the number of meaningful contributions start
limiting to a small group of students. Over the next 5 minutes contributions from these students also reduced and the moderator was left alone to pick students and ask questions, the answers to which would be short and delayed. Such a progression of events reduces the motivation of even those students who were initially contributing heavily to the discussion, or who were following up on important points coming from other students. Some students who hide behind their computer screens lose focus early, which quickly affects the motivation of other students to continue the discussion, leading to a situation where the discussion is only dragging. The same students carried on lively discussions on similar cases in the class for more than an hour and ended with useful insights that they carried forward to other situations.

C. Chatiquette

Another issue that came up in online class discussions was that of chat etiquettes. Given that live chat is more frequently used for casual conversations than classroom discussions, a large majority of the students initially found themselves in a casual mode of interaction. In the first online discussion after the face to face meetings, students viewed the online meeting as a break from the routine, instead of another opportunity to interact. At this point their need for socialization as well as knowledge was fully satiated from the many in-class discussions and so they did not feel the need to engage in serious discussions online. In the first quarter the discussions revolved around how relaxing it was to sit at home and chat. Almost instantly, several small groups were discussing casual matters with each other without recognizing the online presence of others. Overall the online discussion initially seemed secondary in importance to in-class discussions. The mannerisms of over 70% of the students, in the very initial discussions, were casual and their presence erratic. Besides being casual in their communication, they went online and offline very frequently. Some also opened private chat sessions and tried to be present in both chat rooms.

Another etiquette issue related to the rude expression of disapprovals and disagreements. As personal interviews with some participants confirmed later, several students took the inability to see or be seen as an assurance of anonymity. Consequently they were less restrained in their expression of disapproval or disagreement. Mostly these disagreements came more as a reflection of disapproval of the person rather than their point of view. When two participants repeated this behavior, the professor had to strictly warn them against such reactions. However, this behavior
continued from these two participants until all other students developed cues for rejecting any disapproving comment coming from these participants. These cues ranged from direct confrontation of disapproving participants to expression of avoidance through a long silence in response to any rude comment.

One more recurring issue with “chatiquettes” was the abundance of side talks. Just as it happens during in-class discussions, there was an abundance of side talks during moments of much involved discussion between a few participants. Others would get involved in side conversations using either a private chat room, or just cross talking within the same chat room. There used to be a long silence from those who jumped chat rooms. On the other hand, people involved in cross-conversations were a real interruption in continuing a meaningful discussion.

**Suggestions for Effective Synchronous Collaboration**

We experimented with several methods to deal with the issues discussed above and to increase the effectiveness of computer-mediated collaborative interactions. The most effective method is the continuous involvement of the professor. Instead of leaving the students alone to discuss an issue, the professor used effective moderation techniques to keep the discussions rich. Some techniques involved: a) Starting the discussion with a complex issue in the case being discussed: The professor started a discussion with putting forth a comprehensive question related to the topic being discussed. Every participant had the responsibility to respond at least once to answer that issue. b) Picking students for specific responses: The professor also picked students by name to respond to very specific questions. This ensured the continued attention of all the students. This also worked as an effective method in pointing to the students who were playing off and on in the discussion. c) The professor would call out a student who has been silent for long and ask his/her opinion.

**Conclusion**

This experimental study suggests that even though a synchronous collaborative interaction has many of the same properties as face-to-face interactions, there are several issues that hamper the effectiveness of a synchronous communication. Professor's role is very important in keeping the students focused, motivated and well mannered in their synchronous interactions with other students.
References


