Collaborative Learning Activities in Online Courses: Issues and Strategies

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ABSTRACT

Online collaborative learning activities have been used to achieve learning outcomes and address the problem of learner isolation. However, they can also be frustrating to some students due to difficulties associated with organising group work in an online context. This paper tackles the issues of collaborative learning in online environments by drawing upon insights gained from two collaborative activities undertaken in graduate courses in an open university. Strategies for implementing such activities are also presented.

INTRODUCTION

More online courses are now incorporating collaborative learning activities not only to enhance learner satisfaction but also achieve learning outcomes. Collaborative learning has opened up opportunities for critical thinking, co-creation of meaning, reflection, and problem solving (Palloff and Pratt, 2005). It has also been credited for facilitating the building of learning communities (Wong & Abbruzzese, 2011). However, some online learners may look at collaborative learning as frustrating due to the "lack of shared goals among the team members, the imbalance in the level of commitment and quality of the individual contributions, the excess time spent on the online tasks, the imbalance between the individual and collective grades, and difficulties in communication, among other factors" (Capdeferro & Margarida Romero, 2012: 26).

To gain an understanding of the suitability of collaborative learning activities in online courses, it is important to capture the perspectives of the learners themselves. In this paper, I examine the teaching and learning issues that are at play in a couple of graduate courses offered at an open university in the Philippines. While the study's findings are limited to the context in which they were situated, the lessons that can be derived from it also confirm the value of online collaborative learning (OCL) in enriching the students' learning experience.

OBJECTIVES

This paper will examine the teaching and learning issues associated with online collaborative learning by looking at group work activities in an online course in organisational management and another one on the ethical, legal, and social issues in the information age.

Specifically, the paper shall attempt to:

1. Present the perceptions of students on the collaborative learning activities;
2. Discuss the teaching and learning issues arising from the students' feedback and the teacher's experiences, and
3. Recommend strategies that can facilitate effective collaborative learning in an online context.

LITERATURE REVIEW

Collaborative learning has become popular in online courses. Teachers have incorporated collaborative learning activities to enable learning in "socially negotiated spaces through intellectual tools that are acquired during the course of interactions" (Ke & Carr-Chellman, 2006). Collaborative learning is not new, as it has been previously adopted in conventional teaching. Ke and Carr-Chellman (2006: 250) has defined collaborative learning as "a coordinated, synchronous activity that is the result of a continued attempt to construct and maintain a shared conception of a problem" (Roschelle & Teasley, 1995). Curtis and Lawson (2001) see collaborative learning as a situation in which two or more learners interact and work together to come up with a joint solution to a problem.

Collaborative learning is interchangeably used with cooperative learning. For Bernard and others (2000), however, collaborative learning goes beyond cooperative learning, which normally involves dividing a task among group members and collecting these individual contributions to form one final product. Collaborative learning involves mutual discussion, active processing of information, analytical and critical thinking, and synthesis of the whole process (Bernard et al, 2000; Kaven et al, 2009).
In terms of theoretical inspiration, collaborative learning draws from Piaget's constructivism and Vygotsky's sociocultural approaches (Thomson & Ku, 2006). According to constructivism (Piaget 1969), learning is a product of people's interactions rather than individual exploration (Thomson & Ku, 2006). Similarly, Vygotsky (1978) highlights the importance of learning with peers. Siemen's connectivism (2005) is another framework used to explain collaborative learning (Kop & Hill, 2008). Connectivism assumes that learning involves gathering information from different sources (including peers), finding the connections between these, and applying them in new contexts (Brindley et al, 2009).

The social interaction that is at the core of collaborative learning brings about several benefits to learners. The shared exploratory activities in collaborative are said to enhance learners' skills in higher order thinking (Abrami & Bures, 1996; Palloff and Pratt

2005), valuing, organising, and characterising (Wong & Abbruzzese, 2011), time management (Kitchen & McDougall, 1999), decision making (Wong & Abbruzzese, 2011), and team work (McLoughlin & Luca, 2002; Neo 2003). On the other hand, it has also been reported that some learners may resist collaborative learning due to the extra time and effort it demands of them (Ko & Rosen, 2001).

Studies have identified several factors to effective design and implementation of online collaborative learning activities. Citing Hathorn and Ingram (2002), Thompson and Ku (2006: 362) reported that researchers have identified "four critical attributes of the discussion patterns within an online collaborative group: participation (Zafeiriou, Nunes, & Ford, 2001), interdependence (Johnson, Johnson, & Smith, 1998), synthesis of information (Kaye, 1992), and independence (Laffey, Tupper, Musser, & Wedman, 1998)."

Other studies pointed out the following OCL success factors: learners' preparation (Bernard et al, 2000); group size (Barndon & Hollingshead, 1999; Ke & Carr-Chellman, 2006); teacher facilitation (Brown & Palinscar, 1989; Abrami & Bures, 1996), participative environment (Wong & Abbruzzese, 2011), match with participants' learning styles (Hayes & Allinson, 1997; Sonnenwald & Li 2003; Yukawa 2006); and assessment (Swan, Shen, & Hiltz, 2006; Brindley et al, 2009).

On the other hand, Thompson & Ku (2006) argued that OCL could be hampered by ineffective communication, conflict among group members, and negative attitude toward group work. Roberts and McInnerney (2007) identified the following as the commonly cited problems associated with OCL in the literature: student antipathy towards group work; the selection of the groups; lack of essential group-work skills; free-riding; possible inequalities of student abilities; withdrawal of group members, and the assessment of individuals within the groups.

METHODOLOGY

Both courses in this study were handled by the author, as part his reflective practice as an online teacher. To help improve the rationality of these courses (Carr & Kemmis, 1983), feedback from the learners was gathered. Online surveys were conducted to capture their perspectives on the learning activities and how these were conducted. The online survey consisted of two sections: the quantitative part and the qualitative part. The online surveys took place between July to August 2012.

In the quantitative assessment, students were asked to assess the learning activity based on relevance to lesson (Chou & Chen, 2008; Brindley & Walti, 2009), adequacy of activity guidelines (Brown and Palinscar, 1989; Abrami & Bures, 1996; Pallof & Pratt, 2005), appropriateness of assessment criteria used (Roberts, 2005; Swan, Shen, & Hiltz, 2006), and degree of agreeability/difficulty of the activity for the learners (Thompson & Ku, 2006; Capdeferro & Margarida Romero, 2012). In the qualitative part, they were asked what they liked most about the activity, what they liked least, and their suggestions to improve it.

There were 10 and 4 respondents who participated in the online survey for R&DM 220 and EDDE 230, respectively. Frequencies and percentages of the responses were tabulated. Their answers to the open ended questions were categorised and analysed (Carney, Joiner & Tragou, 1997).

Coupled with the author's personal observations of the processes, the feedback was analysed to identify teaching and learning issues as well as formulate recommendations for effective handling of online collaborative learning.

The Collaborative Learning Activities

1. Alligator Story (Exercise in Values)

This activity was undertaken in the course R&DM 220 (Organizational Structure, Relations, and Processes) which was offered in the first semester (June-September) of academic year 2012-2013. It is a 3-credit unit course in the Postgraduate Diploma in R&D Management program. As part of the module on the Culture of Research Organisations, it was undertaken to help students understand the relationship between personal values, subcultures, and organisational culture.

Entitled the 'Alligator Story', the group work is a two-step activity. The students were first asked to read a short fictive story, rank the characters in the story according to how disgusting they are to them, and take note of their reasons for their choices (See Appendix A). The first part was done individually but the final output, which immediately follows after the first stage, required the students to come up with a collective ranking of the characters. They then drew lessons on organisational culture at the end of the exercise. The class was divided into three groups of 4-5 members.

Their performance was assessed based on their group output that was marked by the teacher or the Faculty-In-Charge (FIC) and the peer assessment in which each group member evaluated the contribution of his or her teammates. The teacher's assessment criteria included the following: quality of arguments presented, depth of discussion, and clarity of presentation. Peer assessment was based on the group member's effort to connect with group mates, quality of contribution in discussions, attitude in discussion, and contribution to over-all group performance.

2. Case Study of Ethical, Legal, and Cultural Issues in Information Societies

This learning activity was carried out in EDDE 230 (Ethical, Legal and Social Issues in the Information Age) -- an elective 3-credit unit course under the Master of Distance Education program. It ran in the third trimester (December-January) of academic year 2011-2012. The activity aimed to help students engage with the ethical, legal, and social issues in and dilemmas in information or networked societies.

The students were allowed to divide themselves into groups of 2-3. They were also given the opportunity to choose from a list of case studies on social networking, collaborative publishing, cyber ethics, and cyber bullying, which were all culled from the web (see Appendix B).

Each group posted in the discussion board its responses to the discussion questions at the end of each case. They were also asked to facilitate the online discussion that ensued after this posting.

Their performance was assessed based on their group output as marked by the teacher or the Faculty-In-Charge (FIC) and the peer assessment in which a group was assigned to evaluate the performance of another group. The teacher marked the case analysis of each group based on the following criteria: completeness of the case analysis; understanding of the issues; analysis and application of relevant concepts; and writing mechanics. In addition to these four criteria, the peer assessment also involved assessing how well each group facilitated its own online discussion.

3. Strategies Implemented

Learning object. To facilitate the discussion among group members, a fictive story and case studies were provided to the students for their discussion. The fictive story in R&DM 220 was previously used by the teacher in a face-to-face class. The case studies in EDDE 230 were derived from a website.

They were no longer required to gather additional information to complete the activities.

Scaffolding. In both learning activities, students were provided with a step-by-step set of guidelines on how to do the activities, including the deadlines. The teacher suggested ways on how to organise their virtual meetings (i.e., communication tools that can be used, alternative ways of organising virtual meetings/assigning tasks to members, etc.). Guide questions were provided to direct the group discussions. In R&DM 220, the students were explicitly informed about the benefits of collaborative learning, given that this is their first time to perform such activity to the best knowledge of the FIC.

Timing. The activity in R&DM 220 was held a little over a month after the start of classes while the one in EDDE 230 happened a month before the end of the course. By this time, it is assumed that the students have already adjusted to the class and therefore have acquired enough confidence to do collaborative activities. It is also impractical to schedule it at the end of the course when students are already busy preparing for their final examinations.

Time allotment. Groups were given two weeks to complete their group output. In the case of EEDE 230, another week was allotted for online discussion.

Feedback. The FIC was also available for questions on the activity in both situations.

Assessment. Teacher's and peer assessments were done to signify the importance of the learning activity. In terms of grading, the teacher's assessment carried more weight.

Learner Profile

The students of R&DM 220 were mostly in their late 20s to late 30s. They were mainly working in research and development, product development, and quality systems. Most of them were in their second semester of their first year in the Diploma in R&D Management. There were 12 students enrolled in the course, 7 of whom were females.

The EDDE 230 students were in the late 20s to early 40s age range. They were mostly working in education, training, and management. Many are in the last stages of their Master of Distance Education studies. There are 9 enrolled students in this class, 5 of whom are females. Compared to their counterparts in the other course, EDDE 230 students have had more OCL-related experience in their courses.

RESULTS AND DISCUSSION

This section will present the quantitative and qualitative evaluation by the students who participated in both learning activities as well as the online survey.

Learners' quantitative assessment of the learning activity

1. Alligator River Story (Exercise on Values)

A majority of the R&DM 220 students who responded to the online survey found the learning activity relevant to the topic. Nine out of the respondents either strongly agreed or moderately believed in the activity's appropriateness (Table 1).

Most learners agreed that the guidelines for undertaking the activity were adequate. In the same manner, almost all of the respondents thought that the activity had appropriate assessment criteria.

In terms of how challenging or difficult the activity was, the respondents in R&DM220 were more or less divided in their opinion. Some found it challenging, some thought otherwise, while others are indifferent. The difficulty on the students' part can be attributed to the fact that the learners were required to come up with a group consensus on highly contentious issues. In spite of the difficulty, most respondents still found it enjoyable.

Table 1: Learners' responses in quantitative survey of Alligator River Story Exercise (n=10)

Evaluation statement	Frequency of responses per rating (1=Strongly agree; 5=Strongly disagree)				
	1	2	3	4	5
1. This collaborative learning activity is relevant to the topic in the course.	6 (60%)	3 (30%)	0	0	1 (10%)
2. The guidelines for undertaking the activity were adequately provided.	6 (60%)	3 (30%)	0	0	1 (10%)
3. The assessment criteria provided were appropriate.	5 (50%)	4 (40%)			1 (10%)
4. I find the exercise enjoyable.	4 (40%)	5 (50%)	0	0	1 (10%)
5. I find the exercise challenging or difficult.	2 (20%)	3 (30%)	2 (20%)	1 (10%)	2 (20%)

2. Case Analysis

The majority of the respondents in EDDE 230 thought that the activity is relevant to the course topic at hand. Most found the activity guidelines adequate and the assessment criteria appropriate (Table 2).

They also described the activity generally enjoyable and not particularly difficult to do. This can possibly be attributed to the fact that the students here have had more experience in doing OCL activities.

Table 2: Learners' responses in quantitative survey of Case Analysis (n=4)

Evaluation statement	Frequency of responses per rating (1=Strongly agree; 5 = Strongly disagree)				
	1	2	3	4	5
1. This collaborative learning activity (case study) is relevant to the topic in the course.	2 (50%)	1 (25%)			1 (25%)
2. The guidelines for undertaking the activity were adequately provided.	2 (50%)	1 (25%)			1 (25%)
3. The assessment criteria provided were appropriate.	1 (25%)	2 (50%)			1 (25%)
4. I find the exercise enjoyable.	2 (50%)	1 (25%)		1 (25%)	
5. I find the exercise challenging or difficult.			2 (50%)		2 (50%)

Learners' qualitative assessment of the learning activity

1. Affordances of the learning activity

The learners liked the activities due to the following reasons:

1.1 Ability of the activity to expound on the lesson

The activity was liked because it enabled the learner not only to discuss the topic at hand but also think about it at a "deeper level", as one respondent said:

> The story itself is a good starting point to initiate discussion on values.
> It makes you not only to think hard but also to feel deep at the same time.

The exercise also allowed the students to "appreciate [their] differences and discover how organisational culture is made." The story also proved to be particularly a useful tool for reflection:

> I also had the chance to re-examine my personal values and relate myself with the characters in the story.

In EDDE 230, the activity was described as “informative” and a useful way to “discuss the issues” surrounding the topic.

1.2 Learning from co-learners

One respondent enjoyed the chance to learn from his/her classmates and in the process expand one’s perspective:

I liked how I have learned a lot from my group mates. Some of the perspectives that they have had never crossed my mind. Upon hearing their opinions did I only realise that those may be acceptable or possible as well (R&DM 220 student).

1.3 Working with co-learners

The activity was an opportunity not only to learn more about the lesson but also to develop “team work” and collectively accomplish a task in an online environment:

[I like] the chance to work with classmates online using Skype. And the challenge to work together as a group - find a common time to discuss; follow a timeline on what we need to do by a particular date; come to an agreement on what our group ranking and lessons learned are (R&DM 220 student).

This affordance was much less about learning from the content but more from the process -- learning how to organise despite the time and space barriers between them, as one EDDE 230 student said:

It gives us a chance to work in groups despite the distance.

1.4 Personal contact with co-learners

The activity also brought out another dimension that was not so evident in other learning activities done in the class – facilitating personal contact with co-learners, as explained by one respondent:

I was able to get in touch with my online classmates by hearing their voices and seeing their faces during our group discussion via Skype (R&DM 220 student).

Since the students were allowed to choose how they would interact with each other, their group conversations also acquired a certain level of privacy and familiarity. The relative “absence” of the teacher in this phase of the class enabled the students to deal with each other in a much more informal manner and allowed them to know each other on a more personal level. In the process, another space for interaction was also created -- one that extends beyond the “formal” space of the “classroom” that was created and managed by the teacher:

I like how it gave me an opportunity to meet other members of the class outside of the virtual classroom (EDDE 230 student; Emphasis added).

2. Difficulties in doing the activity

2.1 Finding a common time

Since the learners in both classes have full-time jobs, "finding a common time for chatting" proved to be challenging (EDDE 230). An R&DM 220 student explained:

> Finding a common time for all to conduct the virtual meeting [is challenging]. We are working and [have] different time of availability.

2.2 Time lag between the co-learners' responses

The time and space difference between the learners already makes the conversational turns in online environment more challenging. In some cases, this is aggravated by co-learners "who do not respond promptly" (R&DM 220 student), do not "respond to one's output" (EEDE 230 student), or do not "seem to take deadlines seriously" (R&DM 220 student). Another R&DM 22O student described this situation as follows:

> When one of our group members did not exert effort to check email updates regularly and the late submission of her contributions.

2.3 Misunderstanding of instructions

In some cases, the problem lies on the inability of some group members to "understand instructions" (EDDE 230 student). In other instances, the blame is placed on other teams or groups:

> Other teams did not fully understand the general instructions for group discussion. For instance, it was said by the FIC that the final ranking should be posted in the Moodle site. The members of one particular team posted their individual rankings in the discussion forum. (R&DM 220 student).

At times, the learner can also misunderstand the purpose of the activity. In the R&DM 220 activity, one student thought that "the real academic purpose of the exercise was covert."

2.4 Technological problem

One student in R&DM 220 "had so much fun with the activity that there was no part or area about it that [he/she] did not like [but] of course, technical problems such as connections to the Internet were somehow inevitable."

3. Suggested areas for improvement

For the R&DM 220 activity, the following were the suggestions given by the respondents:

- Use of multimedia (video clips) to tell the story
- Use real life stories/case studies
- Addition of open-ended questions for peer assessment
- Students to do the same exercise with friends rather than classmates

The following are the suggestions provided by the respondents in EDDE 230:

- Make this a required activity in class but not graded.
- Provision of feedback from FIC throughout the activity to help learners improve their final output.
- Let the teacher do the grouping of students

4. Group performance

All the groups in both learning activities performed remarkably well. With 100 points as the perfect score, the three groups in R&DM 220 received the following scores from the teacher: 93, 99, and 100 points.

Around 76 percent of the scores given by the students to their peers were passing scores (80 and above). A third of the scores were "excellent" (96 and above). Around 21 percent of the scores were failing (less than 80 points). The wide discrepancy in terms of the scores given by some students reflects the problems in dealing with certain group mates as previously cited.

The same FIC gave the following scores to the three groups in EDDE 230: 92, 93, and 96. On the other hand, the peer assessment given by the other groups to each other ranged from 92 to 93 points. The score for peer assessment did not vary much, which is expected since the groups were evaluated for their collective performance, which could have concealed any individual differences that may have existed.

CONCLUSIONS

The previous discussion has shown that most of the students find value in collaborative learning. The activities exposed students to different perspectives, enabled them to gain a wider and deeper understanding of phenomena, and consequently facilitated the co-creation of knowledge.

The interactive and collaborative nature of these activities contributed to closing in the transactional distance. It creates an informal learning space outside the formal/virtual classroom that lets learners to share more information about themselves to each other. In the process, opportunities for trust creation and online community building are also opened up (Janssen et al, 2009).

Having said this, OCL is not for everyone, as the survey attested. There are issues associated with working with unfamiliar team members in an environment where the social cues are highly reduced (Capdeferro & Margarida Romero, 2012). In the future, more studies can be done to ascertain the types of peer-to-peer learning activities that are suited to various learning styles, values, or even cultures (Economides, 2008).

In addition, the following implications for the implementation of collaborative learning activities in online courses were also derived:

While these learning activities provide students with a greater role in their learning process, the study also seem to indicate that students appreciate very clear and specific guidelines for undertaking the activity (Brickell & Herrington, 2006). It is also important to be transparent and upfront about what is expected of them. Collaboration in itself is already a complex activity. Proper scaffolding helps reduce the uncertainty that goes with the process. In some cases, students would rather grant the teacher with greater authority in order to expedite the process or minimise ambiguity (i.e., letting the teacher group the students rather than do this by themselves).

The collaboration process is affected less by the fact that it is technology-oriented but more on the uncooperative behaviour of some members of certain groups. While most of the respondents appreciated the activities, the wide variation in the peer assessment scores they gave indicates that the process is not without problems. The issue of "loafing" in face-to-face setups also applies in online environments (Brindley et al, 2009). One way to deal with this is through peer assessment, which can be used not so much to regulate the students' behaviour but more to emphasise the importance of the activity and to make the whole process fairer to all the concerned parties.

Learning activities that force people to take extreme positions are effective ways to generate multiple perspectives. However, it also requires more negotiation skills on the part of the students. This can be addressed by providing them with enough time and resources to work on their assignment.

Working on highly evocative narratives also allowed learners to question their own perceptions and commonly held assumptions. Some of them also preferred to work on situations or cases based on "real" or work-related events which they find more relatable. This notion of grounding the exercise in a more authentic context can be extended to making the students collaborate with their actual peers in their respective workplaces or communities, as suggested by one respondent. This approach re-defines the traditional concept of collaborative learning and poses a new set of issues (i.e., assessment) that needs further exploration.

Learning activities that have been traditionally used in face-to-face settings can also be used for online courses but with modifications. More structured scaffolding, for one, can be provided. Given the time and space difference between them, online students should also be allotted more time to finish an activity. This is especially true when the students have no prior experience in working with virtual teams.

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Appendix A

Story used in R&DM 220 Learning Activity

The Alligator River Story
(Anonymous)

As most stories begin...Once upon a time, there was a river that was practically overflowing with alligators. As many of you have guessed, it was called Alligator River. A girl named Abigail lived on the west bank of the river. Her boyfriend, Greg lived on the opposite bank. Abigail and Greg were very much in love with each other. One slight complication: no boat, and an alligator-filled river stood between them.

Abigail decided to seek help so that she could see her boyfriend, Greg. She approached Rene, who owned a boat. Not this was very fortunate for Abigail, because Rene's boat was exactly what she needed to get across the river. She explained her situation to Rene and asked if she could borrow this boat. Rene thought for a moment and then replied: “Sure, you can borrow my boat, but only under one condition: The condition is that you sleep with me tonight”.

Now this startled Abigail, because she didn't want to sleep with Rene – she just wanted to borrow his boat so that she could see Greg.

After Abigail had told Rene “nothing doing,” she wandered down the road until she came upon Henry. Abigail explained her plight (her desire to see Greg, Rene's response) to Henry. After hearing all this, Henry told Abigail: “Don't bother me! That's not my concern. I've got other things to do. Leave me alone!” A despondent Abigail, her options exhausted, finally decided to go back to Rene. She slept with him that night. The next morning, Rene, true to his word, loaned his boat to Abigail.

Abigail sailed across the river and saw her beloved Greg. After spending a few delightful hours together, Abigail felt compelled to tell Greg what happened. After she had related her whole story, Greg blew up completely: “You what?” I can't believe you did that. I can't believe that you slept with him! That's it – it's all over – just forget the relationship – get out of my life!”

Distraught, Abigail wandered off. She came upon Larry, who was wandering around , too. Borrowing his shoulder to cry on, Abigail poured out her story to Larry. Larry then went looking for Greg (with Abigail close behind). Larry found Greg and proceeded to beat him up, with Abigail gleefully and laughingly applauding the bloody pommeling.

That's the end of the story.

Source:

Acuña, J.A., Rodriguez, R.A. & Pilar, N.N. (1999). *Readings in Human Behavior in Organizations*. Manila: Diwata Publishing.

Appendix B

Cases used in EDDE 230 Learning Activity

Case Three: Whose Fault is it anyway?
http://www.bamaed.ua.edu/edtechcases/case3.html

Case Five: Cyber Bullying
http://www.bamaed.ua.edu/edtechcases/case5.html

Case Six: One More Look At Social Networking (accuracy, hate speech, bullying)
http://www.bamaed.ua.edu/edtechcases/case6.html

Case Eight: Wikis: Collaborative Publishing or Reason to Plagiarize?
http://www.bamaed.ua.edu/edtechcases/case8.html