

**COLLABORATION, COMMUNICATION, AND
ONLINE GROUPS:
ANALYSIS OF TWO PROJECTS**

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Abstract

This work began with the presupposition that asynchronous web-based interactions (and collaboration) can add a special dimension to learning. Both projects were carried out with Engineering students. In both instances, institutionalized discussion boards were created for online group interaction. Data for both projects were collected from student surveys and postings on the discussion boards. Analysis of student surveys showed different responses to the use of discussion boards. Students in the first project viewed themselves as accountable for their own learning, whereas students in the second project had a negative perception of the online discussion platform. Analysis of student postings from both studies, on the other hand, provided an insight into how individuals identified themselves as an online group and how such groups are maintained. Based on the findings, this paper has made recommendations for the on-line educator.

Background

The use of collaborative learning in the classroom has been extensively researched, and the benefits of such student-student collaboration seem to include better achievement, self-esteem, inter-ethnic relations, and liking for school (Johnson et al., 2000; Slavin, 1995). When properly structured, collaborative learning benefits both low and high achievers (Ball, 1994; Farivar and Webb, 1993). It is generally believed that web-based and online interactions can add a special dimension to learning. According to Harasim (1990, 1993), the following five key attributes of online interaction affect the social educational environment: many-to-many communication, place independence, time independence, text-based nature, and computer-mediated interaction. The impact of these five features on the socio-educational environment can create some interesting dimensions if a collaborative learning framework is created in an online environment. Also, the online environment encourages equal participation (Harasim et al., 1995), which is an essential ingredient of the collaborative learning framework. Next, as observed by Harasim (1993), “[t]ext-only communication can free people from the bonds of physical appearance and enable communication at the level of ideas” (p. 26). Thus, the typical restrictions that negatively affect collaborative learning are eliminated in the online environment.

Online groups are ‘collaborative spaces’ (Digenti, 2003) that enable a team to communicate through messages posted and made accessible at any time and from any place. Online groups are also found to be promising as ‘a central strategic support for successful teams’ (ibid). For instance, online groups facilitate chat, web conferencing and application, document sharing, threaded discussions, email and file exchange. Online groups provide a permanent shared space used by the team, which can serve as a meeting room, a work area, a place to store documents that are needed by the team’s projects, and more generally, as a venue for communication within the group.

This paper presents two projects that focused on a particular form of student-student interaction in an online environment: the use of the discussion board, where users could

post messages, images, links, and events. Users can read others' discussion board posts and comment on them (Wrede, 2003). Our projects made use of discussion boards in two undergraduate courses at Nanyang Technological University, Singapore. These were the English Proficiency course and Communication Skills course. The e-learning environment used at the university is Blackboard (known as *edveNTUre* to faculty and students). Student reactions to the use of discussion boards as well as their postings in this online platform were analyzed. Suggestions for improvement on the use of discussion boards are made in the later sections of this paper.

Context of Projects

In the first project, the discussion boards were used by Engineering students in a first-year English Proficiency course. These were mostly students from Asian countries (Vietnam, China, Indonesia, and Malaysia). While the course focused on active language use within major themes of direct interest and value to students, the coursework required students to create and build on written portfolios, present projects, work in teams, and contribute to a class website. The teaching of grammar, vocabulary building, and writing skills were embedded in these projects. Students had to be responsible for their own learning, while the role of the tutor would be that of a facilitator and consultant. The course duration was eleven weeks and involved 44 hours of classroom instruction.

In the second project, the discussion boards were used by second-year Engineering students in a Communication Skills module. As part of course requirements, the students had to write a group report and make an oral presentation. The 24-hour course was taught face-to-face and supported by the online platform. Students were encouraged to make use of *edveNTUre* as an additional venue for communication with their classmates.

Research Questions

The first project was specifically concerned with the development of a learner community for structured collaborative learning. Within the context of an English proficiency classroom, the project used the discussion board as a form of on-line communication among learners. We were particularly interested in observing how the discussion board was used by the learners to share knowledge and to collaborate on various learning aspects. A form of institutionalized discussion boards was used for this purpose. (See the *Data collection* section for explanation.)

At the start of the second project, we encouraged students to use the institutionalized discussion boards for communication with their group mates. The value of online groups was explained to them and the schedule for the report writing task was given. Groups were given the option to use the discussion board, and group pages were created for groups that opted for this method. Altogether, twelve online groups were created from four classes.

Both studies aimed to answer the following questions:

- i. What is the perception of users about the usefulness of discussion boards for online collaboration work?
- ii. How do online groups construct and promote a sense of online classroom community? What strategies are used to promote collaboration?

Data Collection

Institutionalized discussion boards are discussion forums that have been structured within an existing infrastructure. In our first project, participants had to reveal their identity, so there was no scope for hiding behind anonymity or a nickname; nor was there a sense of engaging in interactions with complete strangers. The stimulus to get the students started was posted on *edveNTUre* (see Figure 1 below).

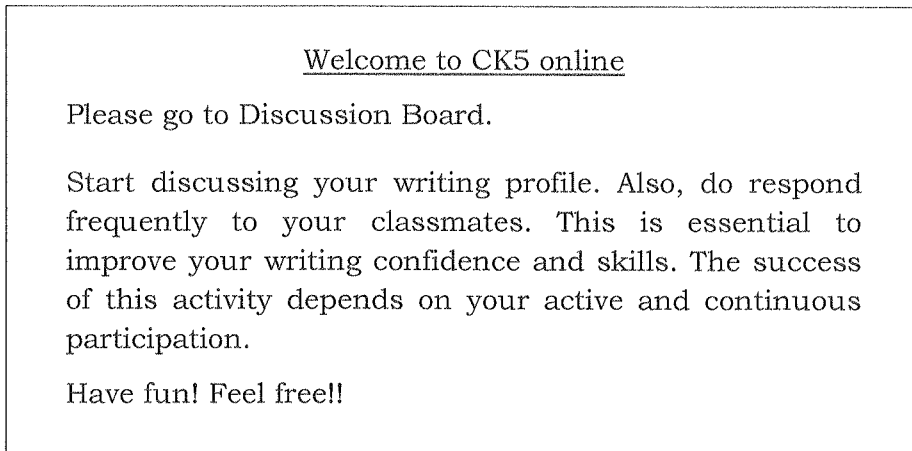


Figure 1: Stimulus posted on edveNTure

In addition, the tutor constantly reminded the students to use the discussion boards. The data were collected from two sources: a questionnaire on the use of the discussion boards and students' postings.

In the second project, the groups were smaller, and only group members could access their group page. Data for the second study were collected also from two sources: survey responses on the use of the discussion boards and online group discussions on the report writing and oral presentation tasks.

Findings

Data from student surveys

- *Project 1 (English Proficiency Students)*

In the case of the English Proficiency course, the findings were quite encouraging. Ninety percent of the students felt that the discussion boards were useful. Interestingly, all of them agreed with the proposition that they were accountable for their own learning. It was also interesting to observe that 84% of the students saw themselves as responsible for the discussion. Seventy-four percent said that they understood themselves and their learning problems better through the discussion boards. In reference to particular language problems, 79% said that discussion boards helped them focus on their language problems.

We were mainly interested in finding out whether the discussion board was a flexible medium for peer work. Ninety-four percent of the students said that the discussion boards allowed them to learn at their own time, style, and pace.

Our next concern was with the development of a community of learners through the use of discussion boards. While 95% of students said that the discussion boards allowed them to work together with their peers and 90% of the students said that discussion boards helped them learn from their peers, only 58% of the students said that they responded to and helped others in their English learning. However, 74% expressed their own learning problems in discussion boards.

Eighty-four percent of the students agreed that discussion boards provided a learning experience different from classroom teaching. Although 94% thought that existing facilities were adequate and 89% thought that the interface was conducive for discussions, a few students thought that the interface was confusing and communicating in a Discussion Board was rather difficult. Finally, although in our project design we had kept tutor intervention to the minimum, 95% of the students felt that the tutor support provided was adequate.

- *Project 2 (Communication Skills Students)*

The findings were not so encouraging in the case of the Communication Skills course. The data showed that none of the respondents used the discussion boards 'very often,' 6% used them 'often,' 41% 'rarely' used them, and 53% 'never' used them. The reasons given for infrequency of use were as follows: slow decision making, less democratic decision making, difficulty of use, demands on time, low quality of interaction, ineffectiveness of communication, and low comfort level.

Student response indicated their preference for other means of communication, such as face-to-face meetings, real-time chat rooms, and text messaging systems. These, according to them, allowed prompt responses and quicker decision-making. This suggests that asynchronous discussion forums do not work well for structured tasks and deadlines.

Data from students' postings

Analyses of students' postings in the discussion boards in both studies revealed the *Norming – Relationship Building – Collaborating* cycle observed in the progression of interaction. It was found that communication in the discussion boards worked to build relationships. Participants offered support, advice, help, appreciation, encouragement, consolation, or solutions related to academic as well as other problems and issues. The following quotations from the postings exemplify each stage:

- *Norming* : In this first stage, participants identified themselves and tried to set up a framework for discussion. In the following responses there was also some discussion about the procedures and logistics of operation:

Hi, everyone. My name is Zhao Dawei, u can call me Dawei or David. I'm MOE scholar and come from China.

I cant manage to get on the website man... where r the rest of the team mates man... get they in to chat... u as a leader of the group should force them to come in hehe

Oh I can't edit my message. Do you know how to edit it?

I think there is no way to edit ur past message. nvm, just write a new one lah.

- *Relationship Building* : Once the group members had made their introductions, they could then begin to build a relationship with each other. This is achieved in two ways: by establishing a common ground and by creating an informal atmosphere through the use of familiar language.

As the following responses suggest, 'common ground' may not be related to academic issues:

I'm fond of playing tennis, although not so good. If anyone is interested in tennis, let me know. Maybe we can make a time and have a game.

hey..quanwei r u a real madrid fan??? do you bet on soccer?

It was also found that colloquial and local varieties of English were freely used by the participants. This use of familiar language seems to be crucial for development of the stages of relationship building and collaboration. Although online writing relies heavily on the use of language, participants used abbreviated and colloquial forms that were understood by the rest, such as: *r* (*are*), *u* (*you*), *ur* (*your*), *nvm* (*never mind*) and *cant* (*can't*). Colloquial language, like *lah* and *man*, helps to create an informal tone and to build rapport, such as:

... write a new one lah

where r the rest of the team mates man...

*pianz... hmmm... the legalization of betting in Singapore?
...haha*

- *Collaborating* : The last stage in online group interaction is seen in the way participants sought and offered support, advice, help, appreciation, encouragement, consolation or solutions to problems. The following four postings serve as examples.

Actually I like writing, everything that I have written coming from my idea directly. I usually read some books before I started to write because sometimes reading can build up our imagine. But I always have a problem when I am writing, I can't find how to make good sentences for my writing. I can't arrange my words to be a good sentence gramatically. I have learned all about the famous people words'. How they arrange their words, etc but I still can't do that. I have tried to improve my english skill, but I think it's useless. Can someone help me to solve this problem?

I learned how to write English essay as well as formal documents from some IELTS materials I found that, for good writing, first, we should make a careful plan. In other words, we should prepare in advance, question yourself: what, where, when, who and how. It's also necessary to brainstorm your ideas, just by taking notes or short phrases. Furthermore, you should decide what kind of text you want to write: a formal letter, an academic essay or a report. It's convenient to apply the

appropriate form for each kind of text you writing. It means each kind has its own form and differs from others.

Chen Lin...I'm surprised that you can speak such good English @ the last tutorial (small presentation)... A lot better than I can! Envy Envy!

I think your presentation is good. You can make your presentation well prepared in a very short time. And your slide is quite interesting.

It was remarkable that in the absence of teacher initiation, teacher control, and an appointed student leader, participants (from the first project) followed the norms of social interaction and created an online community. They had spent sufficient time in norming and relationship building, and could collaborate well, focusing on the issue raised in the stimulus given in the beginning. A clear example of the dynamics of collaboration is seen in the interaction of a group in the second project. Here, a member tried to communicate the group's earlier decision about their topic choice and workload; he initiated work distribution and gave directives:

In our group, two guys and two girls... so guys!! Could u take intro and concluded parts..pls? one idea from Chan Myae, plstic tank (not for water) fighting car.. that's good.. if we find informations pls email each other..

But he was soon challenged by another member:

Pls. arrange to meet us in order to choose final topic and discuss for that. besides tank car topic, is there any idea of topic to attract audience's attention?

At this point, a stronger voice was needed to resolve the issue:

Ei Phyu, I think u missed the TUT last Monday. Since Ms. Lee ask every group to decide which topic to go for, we've choose for plastic tank but if you think u have better topic in mind, let me know early and I'll try to tell Ms. Lee abt it but make it quick coz we only have one week to prepare for it. Anyway, whether we

change or not, I suggest that we better prepare for plastic tank because when the day comes and if we haven't prepare a single topic at all, we all will be in trouble.

In this case, the student clearly adopted a directive approach. Even as he welcomed new ideas, he instructed through use of the imperative form. In this way, the group was brought back to the consensus arrived at earlier.

The discussion above shows that even in the absence of tutor direction, the participants systematically followed the three stages of group work – norming, relationship building, and collaborating. This seemed to allay the tutors' concern that frequent tutor intervention might be necessary to bring the students 'back to tack.' The discussion above also shows that even if no group leaders are appointed by the tutor, leadership can emerge and can give shape to the online interactions, thus allowing students to take responsibility for the collaboration. There does not seem to be an indispensable role for the tutor or teacher in this context.

Discussion

The question about the effectiveness of the online groups cannot be answered in a straightforward and unconditional manner. The success of online collaboration depends on a number of factors, some of which are listed below.

A transparent learning environment

It is quite clear from the survey data obtained in the first project that learning through online groups will be more successful if the teacher creates a transparent learning environment. Transparency can be achieved by defining and clarifying the following aspects to the students:

- i. Classroom context: The teacher can make it clear which part of the syllabus is linked with the discussion boards. The teacher could specify what kind of follow-up might be done in the classroom.

- ii. Roles of participants: It seemed necessary that the participants be assigned multiple roles such as Respondent, Advisor, Questioner, and Discussant to make the participation in the forums meaningful. Specific guidelines on the use of these roles should be provided to the students. This will help improve the quality of support in the forums. In our projects, tutor intervention was kept to the minimum to encourage students to take greater responsibility. Whatever role the tutor takes, the students should be made aware of it from the beginning.
- iii. Expectations and goals: It will be useful to provide more clear guidelines regarding the task expectations and goals, such as frequency and length of the postings.

Personal identification of learners

Managing the facelessness is a major challenge in online interactions. Personal identification of learners seems to be essential for successful online collaboration. Student reactions indicated that it was very difficult for them to communicate unless they remembered what the other party looked like. We realized that it is indeed possible to provide each discussion board user a definite identity in the learning management system's interface, as there is a facility for each student to create a homepage on the *edveNTUure* platform. Their personal details and their photograph can be included in the homepage. Linkage of a personal homepage with the students' discussion board postings will make discussion boards a more user-friendly environment and will remove the sense of isolation frequently associated with this mode of learning (Hughes and Hewson, 1998). More knowledge about the communicator will reduce the 'misunderstandings of the intent of the communication and participants' (Gunawardena, 1998, p.105). It can also reduce drawbacks such as 'communication anxiety (the feeling of speaking into a vacuum)' (ibid., p.104).

Participation rate

Non-use or less frequent use of forums is a typical problem encountered by online educators. Teachers who use online discussion forums know that not all forum members contribute equally to the discussions. A common observation is that a third of them are active, a third read postings and only occasionally contribute, and the final third are inactive (Cuthell, 2004). It is possible for individuals to simply use an online community to off-load cognitive responsibilities: to pose a question and then retrieve the answer when others have worked their way through it. If an individual is active, then shared cognitive labour takes place (Salomon, 1993; Resnick, 1991). The question is: Do the members who are readers or those who are not really engaged see themselves as not being part of the shared process? The issue, then, is how members of the group perceive themselves (Cuthell, 2004).

Although it is difficult to find a simple solution to this question, we tried the following ways in our project:

- i. frequent encouragement by the tutor
- ii. a visually appealing stimulus with clear instructions
- iii. creation of a structured yet flexible environment

We also recommend the following strategies:

- i. a formal recognition (like a reward) of the efforts made by students for their participation in discussion boards
- ii. a clear statement of the expectations related to the frequency and quality of participation

A communicative environment

Online group work (with its focus on relationship building and collaboration) encourages communication rather than focusing on linguistic correctness. Thus, it can work in favor of students with inadequate language proficiency. Such students may face psychological barriers and may be overly conscious of the correct and appropriate use of language. An asynchronous

online environment provides for the necessary flexibility, isolation, and opportunities for revision which these students can exploit for free communication.

Conclusion

It can be concluded that online groups create a sense of community and a conducive atmosphere for collaborative tasks. Forum-support and identification of learners along with a transparent environment seem to be vital factors in the process of the creation of these communities.

Online group work offers great deal of flexibility to the users. Users can selectively project only a part of their personality through this medium. Compared to other online media, online groups are more structured and secure. If used in an institutional setting (such as ours), they offer little anonymity and place a very heavy emphasis on the use of the written language.

Successful users of online groups seem to use language flexibly, employing all nuances that express various socio-cultural meanings. Users of online groups who influence others' behaviors use effective communication skills to achieve their goals. On the other hand, students who prefer more spontaneous communication seem to avoid use of online groups (as seen in our student survey results).

Online learning environments provide many advantages when we supplement them with the face-to-face teaching. However, they are not without challenges. One of the most prominent challenges is the low participation rate. Collaboration and discussion are advantageous in these environments because they make the student more central to the learning process. The main challenge then lies in developing methods to stimulate collaboration and discussion in online environments.

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