Student Perceptions of a Hybrid Discussion Format

Yuankun Yao
Associate Professor
Department of Educational Foundations and Literacy
University of Central Missouri
Warrensburg, MO 64093 USA
yyao@ucmo.edu

Abstract

Utilizing Wang and Chen's notion of online learning spaces, this study examined student perceptions of a hybrid discussion format that required students to interact within their designated small groups while giving them access to discussions in the other groups of the class. The discussion format also featured a high level of instructor presence during discussions. A survey was developed and used to obtain student views of the various features of the discussion format. Forty-two students enrolled in three online courses participated in the study. Both summary statistics and an independent samples *t*-test were used to analyze the quantitative data from the survey. A review of the qualitative data from the survey was also made to obtain an in-depth understanding of the students' perceptions. The students felt there were benefits and limitations in both small-group and whole-class discussions, and indicated their preference for a hybrid discussion format that combined the positive features of both small-group and whole-class discussions. The students who did not like online discussions were less likely to enjoy whole-class discussions. Students in general welcomed the presence of the instructor during the discussions.

Keywords: online instruction, group discussion, student perceptions, instructor facilitation

Introduction

The use of online discussions is believed to provide students with a learning community where students can share ideas and engage in meaningful dialogues in the online environment (Cox & Cox, 2008). Such discussions are believed to contribute to student success in online courses (Fasse, Humbert, & Rappold, 2009). According to Yukselturk (2010), students who are successful with online courses tend to be active participants in online discussions. Johnson (2008) found online discussions contribute to student learning in both synchronous and asynchronous online courses. Similar results were reported by Davies and Graff (2005), which found that active student participation in online courses was associated with higher grades in those courses.

A major benefit of using online discussions is that it enables students to establish a certain level of social presence in the online learning environment (Garrison & Anderson, 2003; Garrison, Anderson, & Archer, 1999). Social presence in this environment, in turn, is highly correlated with student perceived learning (Caspi & Blau, 2008). In spite of the potential benefit of online discussions, students do not always feel inclined to interact with their peers in online classes (Naughton, Smeed, & Roder, 2011; Yukselturk, 2010). Instead, they tend to choose the most convenient way to get their work done, without making the most use of the online learning environment. This points to the need for effective online discussion design.

Literature Review

Various strategies for ensuring the quality of online discussions have been suggested and examined in the literature. For instance, Bliss and Lawrence (2009) found that the presence of discussion guidelines and instructor feedback correlated positively with the quantity and quality of student online discussions. Other researchers point out the need for facilitation during online discussions. Facilitation may be provided by the instructor, assigned to a student, or provided spontaneously by students (Wang & Chen,

2010). Asterhan and Schwarz (2010) differentiate between various types of facilitation or support an instructor can offer during online discussions: pedagogical support for students' thinking and reasoning during discussions, pedagogical support directly related to content, support for social relations, support for interactions, and managerial support and technical support. Choi, Land, and Turgeon (2008) suggest that effective instructor modeling and question prompts help students interact with their fellow students. According to Seo (2007), online discussions with student peer moderations resulted in more frequent and in-depth student responses than discussions without moderations.

One way to design online discussions that seems to be gaining popularity is the use of small-group discussions. Instead of asking students to interact with the whole class, in which there are typically 10 or more students, an instructor divides the class into small groups of five or six and asks students to limit their responses only to members within their own groups. Benefits of this type of discussion include the familiarity of students within a small group, the likelihood for students to freely express their ideas, and the efficiency of managing group discussions (Du, Zhang, Olinzock, & Adams, 2008; Jahng, Nielsen, & Chan, 2010).

The research literature in general shows positive results in terms of student learning and interactivity when small-group discussions are used. Brindley, Walti, and Blaschke (2009), for instance, considered small-group discussions a great opportunity for collaborative learning and group projects. Wickersham and Dooley (2006) found that students in small groups of five members were able to engage in discussions of high-level critical thinking with a high amount of interaction. In a follow-up study, they found that although whole-class discussions also revealed evidence of critical thinking, the discussions contained distractions, disjointed responses, and were dominated by a few individuals (Dooley & Wickersham, 2007).

Although the literature points to several advantages of small-group over whole-class discussions, the use of small groups is not a panacea for online discussions. According to Anderson and Simpson (2004), although small-group discussions provide more effective support than whole-class discussions, the issue of non-participation of individual group members turned out to be a major concern. The authors posit that the success of discussions within a small group depend heavily on the characteristics, attitudes, and skills of the students within the same group. One student characteristic that could impact student participation in small-group discussions is gender. According to Jahng et al. (2010), female only groups often posted more discussions than other groups. In a similar vein, Abbad and Albarghouthi (2011) found that female students tended to report more positive views regarding motivation, enhancement, and usefulness in the online environment than their male counterparts.

The literature also suggests that whole-class discussion has its own merits. In Anderson and Simpson's (2004) study, students viewed whole-class discussions in the same way as small-group discussions in terms of their value for learning. The study also found that the students welcomed opportunities for whole-class discussions. Hew and Cheung (2010) found that the number of students participating in a discussion group correlated significantly with the frequency of high-level knowledge construction and duration of discussion, suggesting that as the number of students increases in group discussions, there are more opportunities for high-level knowledge construction.

Given that both small-group and whole-class discussions have their strengths and limitations, online instructors should not be forced to exclusively choose one or the other. Instead, instructors could design a hybrid discussion format that combines the merits of the two types of discussions. According to Wang and Chen (2010-2011), online instructors are learning-space architects; an effective online learning community needs group space, class space, individual space, teacher space, and community space. Based on this metaphor, in the present study the researcher made the assumption that online discussions, as a major means for building online learning community, could be designed in a hybrid manner that provides not only group space, but also class and instructor space. For instance, students could be asked to participate in discussions within a small group and at the same time have access to the discussions in the other groups of the class, with the instructor closely monitoring and facilitating the discussions.

A hybrid discussion design that incorporates group, class, and instructor spaces is relatively easy to implement with current course management tools such as the Blackboard. Such a design also has much appeal in terms of its potential benefits for students. However, empirical evidence on how students perceive this discussion format is scant. It is important that the effectiveness of this discussion design is tested.

Purpose of the Study

This study examined student perceptions of a hybrid discussion design where students were required to participate in discussions in their assigned small groups, and were given access to discussions in the other groups of the class. In this discussion design, the instructor closely monitored and frequently facilitated student discussions. The specific research questions for this study are:

1) How did students perceive an online discussion format that incorporates group, class, and instructor spaces?
2) How did student background variables (i.e., gender, experience with online courses, attitude toward online courses, and attitude toward online discussions) relate to their perceptions of the online discussion format?

Method

A survey developed specifically for the purpose of the present study was used to collect data. In addition to four items asking students about their background information, the survey contained 10 Likert-scale items and three open-ended questions. Among the 10 Likert-scale items, four items (Questions 1, 3, 5, and 10) pertained to the small-group aspect of the discussion design, three items (Questions 2, 4, and 6) were for the whole-class aspect, two items (Questions 7 and 8) were focused on students' access to the instructor, and one item (Question 9) was about access to the other groups' space. The three open-ended questions asked students to reflect on the benefits and limitations of the small-group discussion format.

The study took place at a university in the Midwestern United States that houses the second-largest teacher education program in the state. A total of 60 graduate students were invited to participate in the study. The students were enrolled in three online course sections in the Fall 2011 semester. One section was for the course *Curriculum Development and Assessment*. The other two sections were for the course *Advanced Assessment and Evaluation*. All three sections were taught by the researcher.

In all three course sections, the students were asked to complete the assigned readings before responding to a discussion topic each week. In each section the students were divided into four discussion groups based on their last initial, with each group comprising approximately five people. The students were required to post at least two responses each week, one of which had to be made within their assigned group. They were given access to postings in the other groups (which had the same discussion topic), and were encouraged, although not required, to participate in discussions in those groups. The students were informed that the instructor would occasionally post brief comments or make some clarifications, but they were not required to respond to the instructor's postings. The students were urged to participate in the discussions early so as to give their group members sufficient time to read and respond to their postings. As the semester went on, the instructor noticed that several students in each section tended to post responses in other discussion groups as well as their own. In a few cases, the students explained in the discussions that they chose to post in a group other than their own because the other members in their group had not posted their comments for them to respond to.

The survey was administered in the middle of the Fall 2011 semester, at a time when students in each section had participated in discussions for seven posted topics. The students were informed that the survey was anonymous, and participation in the study was voluntary.

Results

Out of a total of 60 students, 42 responded to the survey, with approximately the same number of students (13, 14, and 15) coming from each course section (each of which had an enrollment of 17, 20, and 23, respectively). Among the respondents, 28 were female and 14 were male; 38 had previously taken online courses; 35 said they liked online courses; and 26 indicated they liked online discussions. The gender ratio in the sample was close to that in the target population. During the year the study took place, there were 40 female and 12 male graduate students enrolled in student teaching.

Student Perceptions Based on Quantitative Data

The summary statistics of student perceptions of the discussion format are presented in Table 1. Taken as a whole, students liked the small-group setup for online discussions (M = 3.69, SD = 0.95, on a 5-point scale). They felt that the small-group setting made it easier for them to keep track of other people's responses (M = 3.98, SD = 1.02). They were fairly confident that the small-group discussions had contributed to their learning in the course (M = 3.69, SD = 1.00). At the same time, they believed that

participation in whole-class discussions allowed them to access more diverse responses (*M* = 3.83, *SD* = 0.77). They liked the fact that the discussion format allowed them to have access to discussions in the other groups (*M* = 3.98, *SD* = 0.76). In addition, the students indicated a strong preference for the instructor to be present and provide regular feedback during the discussions (*M* = 4.24, *SD* = 0.93). They disagreed that the instructor should refrain from intervening during the discussions (*M* = 1.88, *SD* = 0.92).

Table 1. *Students' perceptions of online discussions*

Item	*N*	*M*	*SD*
1. I like the setup of dividing the whole class into small groups for the online discussions.	42	3.69	0.95
2. I prefer to have online discussions where the whole class can interact with each other.	41	3.17	0.89
3. Participation in discussions within a small group makes it easier to keep track of other people's responses.	42	3.98	1.02
4. Participation in whole-class discussions provides me with access to more diverse responses.	41	3.83	0.77
5. Interactions with classmates within small groups are more in-depth than in whole-class discussions.	41	3.24	0.99
6. Participation in whole-class discussions provides me with more meaningful learning experience than participation in small-group discussions.	41	2.93	0.99
7. I prefer that the instructor refrain from intervening in the small-group discussions.	42	1.88	0.92
8. I hope the instructor would make regular comments on our discussion responses to make sure we are on track.	42	4.24	0.93
9. I like to have access to discussions in the other groups.	41	3.98	0.76
10. I feel the online small-group discussions have contributed to my learning in this class.	42	3.69	1.00

When asked whether they preferred whole-class discussions where students would be able to interact with all other people, the students were ambivalent in their responses (*M* = 3.17, *SD* = 0.89). They were unsure whether participation in whole-class discussions provided a more meaningful learning experience than small-group discussions (*M* = 2.93, *SD* = 0.99). At the same time, they were also uncertain whether participation in small-group discussions gave them more in-depth interactions than whole-class discussions (*M* = 3.24, *SD* = 0.99).

In order to obtain in-depth understanding of student perceptions of online discussions, results from the three open-ended questions were analyzed. The qualitative data not only verified the responses for the Likert-scale items, but also provided rationales and insights that were absent from the quantitative data.

Student Perceptions Based on Qualitative Data

- *Benefits of small-group discussions.* The first question asked students about the benefits of the discussion format as used in the study. Several people mentioned convenience as a benefit. As one student said, *"Sometimes when the entire class is involved in a discussion it is difficult not to get lost in all of the responses."* Another student said, *"Small groups do make it easier to keep track of people, (have) less responses to scroll through, and (it is) easier to recognize names in your group."* One student said that small-group discussion was *"just much more manageable."* The second benefit of small-group discussion was that students felt more comfortable interacting with people in their small group. One student said small-group discussions were *"more relaxed and in depth."* Another student had a similar view: *"It is more personal ... I feel more at ease commenting on the same few (people) each time. And that ease makes me more open to ask questions about what they have researched or posted."* One of the students often felt *"alone"* in online courses. *"This small-group discussion (format) has made me feel less alone and more connected with some of my classmates,"* the student observed. Another benefit of a small-group discussion was that students got to know their partners' background. *"In dealing with a small group, one can become more familiar with each person's background,"* one student said. *"I find it*

useful knowing something about a person's background when reading a response." Another student also felt the quality of discussions improved as a result of better knowing their group members: *"I like the ability to have discussions with the same people every week whom I can get to know and so have better discussions."*

- *Limitations of small-group discussions.* The second open-ended question asked students about major limitations of the small-group discussion format. One limitation students reported was the lack of diverse ideas from the group members. As one student put it, *"You don't get as many viewpoints or insights."* Another student lamented, *"You only get the ideas and opinions of the same few people throughout the semester."* This became a particular concern according to one student: *"I may be missing out on a good point or comment that someone else in the class may make."* In addition, the student said the following: *"If I ask a question and my small-group members do not know the answer, the other classmates may not even see the question."* A second limitation of small-group discussions that was identified was the issue of delayed interaction. One student said that some students *"wait until* [the] *last minute to answer."* Another student had a similar view: *"I generally post comments early in the week, and when we are graded on comments, it is frustrating to have to wait for other people in the group to post."* Still another student said:

  > *"I try to stay ahead of the course timeline parameters and it was difficult to do because my group was always very late in their discussion posts. I felt like I was scrambling on Friday nights sometimes to find someone to respond to and then it was not as meaningful as it could have been if I hadn't felt rushed."*

- *Student recommendations*. When asked if they had additional thoughts regarding online small-group discussions, several students stressed the need for group members to participate early. One student said: *"Make sure that everyone completes the comments early so everyone isn't waiting till the last minute to discuss within the small group."* Another student had a similar view: *"I think a good idea is to require a post (to be completed by) Monday or Tuesday, and then (require) responses to be completed by Friday."* Another student made a suggestion that the instructor share particularly strong responses found in *other* groups:

  > *"I'd like to have someone (like the instructor) share responses from different groups that are particularly strong. That way, the whole class is not expected to read everyone* [sic] *response, but will be able to see responses from other groups when they are extremely well thought out and profound."*

Relationship Between Background Variables and Student Perceptions

An independent samples *t*-test was used to determine whether student perceptions of online discussions differed based on their background variables. Before each *t*-test, Levene's test was run to check if equal variance could be assumed. For sample sizes smaller than 15, the Shapiro–Wilk test was conducted to test normality of distribution.

A comparison was made in terms of student perceptions of online discussions between male (n = 14) and female students (n = 28). As indicated in Table 2, significant difference was found in student expectations for the instructor to make regular comments on discussions, with female students perceiving a greater need for regular instructor comments (M = 4.46, SD = 0.69), although male students also liked instructor comments (M = 3.79, SD = 1.19) ($t(40) = 2.43$, $p = .02$). The result needs to be interpreted with caution because the normality test was significant, although the test of equal variance was not significant.

Only four participants reported not having taken online courses before. Seven respondents suggested that they did not like online courses. Due to the small group sizes in the subgroups, no comparison was made between students based on whether they took the online course for the first time or whether they liked online courses.

Fifteen of the participants indicated they did not like online discussions. An independent *t*-test was run to compare student perceptions between those students (henceforth referred to as "dislikers") and students who liked online discussions (henceforth called "likers"). Levene's test of equal variance was significant only in one case, in which case the degree of freedom and p value were adjusted.

Table 2. *Comparison of students' perceptions based on gender*

Item	Female (*n* = 28)	Male (*n* = 14)	*t*	*df*	*p*	Cohen's *d*
1. I like the setup of dividing the whole class into small groups for the online discussions.	3.61 (0.99)	3.86 (0.86)	-0.80	40	.43	0.27
2. I prefer to have online discussions where the whole class can interact with each other.	3.30 (0.87)	2.93 (0.92)	1.26	39	.22	0.41
3. Participation in discussions within a small group makes it easier to keep track of other people's responses.	3.93 (0.98)	4.07 (1.14)	-0.42	40	.68	0.13
4. Participation in whole-class discussions provides me with access to more diverse responses.	3.85 (0.82)	3.79 (0.70)	0.26	39	.80	0.08
5. Interactions with classmates within small groups are more in-depth than in whole-class discussions.	3.15 (0.95)	3.43 (1.09)	-0.85	39	.40	0.27
6. Participation in whole-class discussions provides me with more meaningful learning experience than participation in small-group discussions.	3.00 (0.92)	2.79 (1.12)	0.66	39	.52	0.20
7. I prefer that the instructor refrain from intervening in the small-group discussions.	1.71 (0.71)	2.21 (1.19)	-1.71	40	.10	0.51
8. I hope the instructor would make regular comments on our discussion responses to make sure we are on track.	4.46 (0.69)	3.79 (1.19)	2.34	40	.02	0.69
9. I like to have access to discussions in the other groups.	4.00 (0.78)	3.93 (0.73)	0.28	39	.78	0.09
10. I feel the online small-group discussions have contributed to my learning in this class.	3.71 (1.01)	3.64 (1.01)	0.22	40	.83	0.07

Note. Standard deviations are in parentheses.

As shown in Table 3:

- there was a significant difference between the dislikers (M = 2.73, SD = 0.80) and the likers (M = 3.44, SD = 0.87) in their preference for whole-class interactions ($t(38) = 2.56$, p = .01, Cohen's d = 0.85);
- there was a significant difference between the dislikers (M = 3.47, SD = 0.64) and the likers (M = 4.08, SD = 0.76) in thinking that whole-class discussions provided more diverse responses ($t(38) = 2.62$, p = .01, Cohen's d = 0.87);
- there was a significant difference between the dislikers (M = 2.40, SD = 0.74) and the likers (M = 3.28, SD = 0.98) in thinking that whole-class discussions provided more meaningful learning experience ($t(38) = 3.00$, p = .01, Cohen's d = 1.01);
- there was a significant difference between the dislikers (M = 3.73, SD = 1.16) and the likers (M = 4.50, SD = 0.65) in hoping that the instructor would provide regular comments during discussions ($t(39) = 2.72$, p = .01, Cohen's d = 0.82);
- there was a significant difference between the dislikers (M = 3.07, SD = 0.88) and the likers (M = 4.00, SD = 0.89) in thinking that online small-group discussions contributed to their learning in the class ($t(39) = 3.23$, p = .00, Cohen's d = 1.05).

Table 3. *Comparison of students' perceptions based on whether they liked or disliked online discussions*

Item	Like (*n* = 26)	Dislike (*n* = 15)	*t*	*df*	*p*	Cohen's *d*
1. I like the setup of dividing the whole class into small groups for the online discussions.	3.69 (1.05)	3.73 (0.80)	-0.13	39	.90	0.04
2. I prefer to have online discussions where the whole class can interact with each other.	3.44 (0.87)	2.73 (0.80)	2.56	38	.01	0.85
3. Participation in discussions within a small group makes it easier to keep track of other people's responses.	3.81 (1.02)	4.20 (1.01)	-1.19	39	.24	0.38
4. Participation in whole-class discussions provides me with access to more diverse responses.	4.08 (0.76)	3.47 (0.64)	2.62	38	.01	0.87
5. Interactions with classmates within small groups are more in-depth than in whole-class discussions.	3.24 (1.09)	3.13 (0.74)	0.33	38	.74	0.12
6. Participation in whole-class discussions provides me with more meaningful learning experience than participation in small-group discussions.	3.28 (0.98)	2.40 (0.74)	3.00	38	.01	1.01
7. I prefer that the instructor refrain from intervening in the small-group discussions.	1.85 (0.93)	2.00 (0.93)	-0.51	39	.61	0.16
8. I hope the instructor would make regular comments on our discussion responses to make sure we are on track.	4.50 (0.65)	3.73 (1.16)	2.72	39	.01	0.82
9. I like to have access to discussions in the other groups.	4.04 (0.74)	3.80 (0.78)	0.98	38	.33	0.32
10. I feel the online small-group discussions have contributed to my learning in this class.	4.00 (0.89)	3.07 (0.88)	3.23	39	.00	1.05

Note. Standard deviations are in parentheses.

Discussion

The results from this study confirmed previous findings that students held positive views of small-group discussions (Brindley et al., 2009; Du et al., 2008; Jahng et al., 2010; Wickersham & Dooley, 2006). The finding also lends support to the proposal by Wang and Chen (2010-2011) to build group space into the discussion forum. Also consistent with the existent research is the finding that the students were appreciative of the opportunities associated with whole-class discussions (Anderson & Simpson, 2004; Dooley & Wickersham, 2007; Hew & Cheung, 2010). The result aligns with the proposal that Wang and Chen made when they advocated the need to incorporate whole-class space into the online learning environment.

Unlike their clear appreciation for the small-group and whole-class elements incorporated into the discussions, the students' preferences between small-group and whole-class discussions were less certain. This ambivalence may have resulted from a sense on the part of the students that neither mode of discussion, if used alone, would be perfect (Anderson & Simpson, 2004; Dooley & Wickersham, 2007). This could explain why they seemed fairly satisfied with the current discussion design, where the benefits of small-group and whole-class discussions could be utilized and their shortcomings avoided.

This study also sought student feedback regarding the presence of the instructor during the discussions. The results of the study show that students liked the instructor to be present, and in fact did not mind interference by the instructor, during discussions. This finding is consistent with the literature that emphasized the need for facilitation and feedback during online discussions (Bliss & Lawrence, 2009;

Seo, 2007; Wang & Chen 2010). The literature, however, also suggests that instructor presence needs to be kept at a minimum during discussions to avoid interfering with the interactions among students (Wang & Chen, 2010-2011). In the present study, the instructor made brief, often single sentence comments to most students' postings. It seems students considered such a comment as a reaffirmation of them being on the right track and did not consider it a distraction or interference. It is not clear, though, whether such comments have made any impact on student postings and whether they have affected student learning in the courses. The female students in the study particularly welcomed the presence of the instructor during online discussions.

The study also found about one third of the students (n = 15) who did not like online discussions. Unlike their counterparts, these students were not sure whether the small-group discussions contributed to their learning in the class. They were also less receptive of features associated with whole-class discussions, and were less interested in instructor presence in the discussions than the rest of the students. Such a reaction seems logical for someone who did not see much value in online discussion in general, since the interaction with students from other discussion groups or with the instructor would mean more time wasted in their eyes.

The responses of the students who lacked interest in online discussions suggest that the mere incorporation of group, class, and even instructor space does not guarantee the effectiveness of an online discussion format. Great care seems needed when installing the various elements of an online discussion design. The instructor may want to ensure that each group has at least one student who has good experience with or a favorable view of online discussions.

Conclusion

This study surveyed students in three online course sections regarding their perceptions of a discussion format that featured mandated small-group discussion, optional whole-class discussion, and regular instructor presence. Both quantitative and qualitative data were utilized to answer the research questions.

Student Perceptions of the Hybrid Discussion Format

The participants in the study indicated a favorable view of the hybrid discussion design. Most students felt small-group discussions provided in-depth discussions, and contributed to their learning in the online classes. At the same time, they were aware of the benefits of whole-class discussions and appreciated the opportunity to access discussions in the other groups. They also liked the fact that the instructor constantly monitored the discussion activities and did not mind if the instructor interfered in the discussions. The students were more ambivalent when asked about their preference between small-group and whole-class discussions, suggesting that neither mode of discussion held an obvious advantage over the other and that the combination of the two modes was a logical choice in designing online discussions.

The students noted some limitations of the discussion format. One major issue was the small range of ideas in the small group. Students were also concerned about the delayed interactions because some group members waited until the last minute to post their responses. They recommended that group members be required to post their comments early in the week, and that the instructor select particularly strong postings from other groups for everyone to access.

Relationship Between Background Variables and Student Perceptions

The study found that female students were more likely to welcome instructor comments than their male counterparts. In addition, students with negative views of online discussions tended to be less receptive of the features associated with whole-class discussions than their counterparts, and were less convinced that the small-group discussions contributed to their learning. They were also less likely to appreciate instructor presence during online discussions.

Recommendations

This study had a couple of limitations that warrant the reader's attention. One shortcoming is that the sample sizes in the study were relatively small. This could affect the results of the statistical tests that compared subgroups of participants. Future research with larger sample sizes is needed to verify the results from the present study. This may require that the researcher utilize data from multiple semesters to obtain a larger sample size. If colleagues adopt the same discussion design, data from those courses can also be used.

A second limitation is that this research examined an online discussion design on the basis of the students' self reported perceptions. Although student self-reports can provide useful insights into the merits and limitations of a discussion format, the ultimate evidence of the design's effectiveness needs to come from the actual interactions that took place on the discussion forum, and results of student learning in the courses. It is important to know, for instance, how often students accessed or participated in discussions in the other groups. It is also helpful to learn whether students who held positive views of features associated with whole-class discussions were more active in participating in such discussions than the rest of the students. It would also be informative to examine the relationship between student participation in the discussions with their learning outcomes, to determine whether active participation in this hybrid version of online discussion was associated with significant student learning. Any investigation that attempts to collect such data would be a meaningful follow-up of the present study.

Future research is also needed to compare the strengths of this hybrid discussion format with other discussion designs. Although the participants' perceptions of the current discussion format were positive, it is not clear if an alternative format would trigger the same kind of response from students. To answer such questions it may be necessary to design a quasi-experiment comparing course sections with different discussion formats, with one course section using a small-group discussion format, a second section using a whole-class discussion format, and a third section using a hybrid format. Additional experimental conditions could involve the adjustment of the level of instructor presence in the discussions. The comparisons could be made not only in terms of student perceptions, but also the patterns of actual interactions, and the impact of the discussions on student learning outcomes. Such comparisons would help identify the most effective designs for online discussions.

References

Abbad, M. M., & Albarghouthi, M. (2011). Evaluate students' perceptions of the virtual learning environment at Paisley University. *International Journal of Emerging Technologies in Learning, 6*(3), 28-34. Retrieved from http://www.online-journals.org/i-jet/article/view/1489

Anderson, B., & Simpson, M. (2004). Group and class contexts for learning and support online: Learning and affective support online in small group and class contexts. *The International Review of Research in Open and Distance Learning, 5*(3). Retrieved from http://www.irrodl.org/index.php/irrodl/article/view/208/291

Asterhan, C., & Schwarz, B. (2010). Online moderation of synchronous e-argumentation. *International Journal of Computer-Supported Collaborative Learning, 5*(3), 259-282. doi:10.1007/s11412-010-9088-2

Bliss, C. A., & Lawrence, B. (2009). From posts to patterns: A metric to characterize discussion board activity in online courses. *Journal of Asynchronous Learning Networks, 13*(2), 15-32. Retrieved from http://www.sloanconsortium.org/sites/default/files/v13n2_bliss_0.pdf

Brindley, J. E., Walti, C., & Blaschke, L. M. (2009). Creating effective collaborative learning groups in an online environment. *The International Review of Research in Open and Distance Learning, 10*(3). Retrieved from http://www.irrodl.org/index.php/irrodl/article/view/675/1271

Caspi, A., & Blau, I. (2008). Social presence in online discussion groups: Testing three conceptions and their relations to perceived learning. *Social Psychology of Education, 11*(3), 323-346. doi:10.1007/s11218-008-9054-2

Choi, I., Land, S. M., & Turgeon, A. (2008). Instructor modeling and online question prompts for supporting peer-questioning during online discussion. *Journal of Educational Technology Systems, 36*(3), 255-275. doi:10.2190/ET.36.3.c

Cox, B., & Cox, B. (2008). Developing interpersonal and group dynamics through asynchronous threaded discussions: The use of discussion board in collaborative learning. *Education, 128*(4), 553-565.

Davies, J., & Graff, M. (2005). Performance in e-learning: Online participation and student grades. *British Journal of Educational Technology, 36*(4), 657-664. doi:10.1111/j.1467-8535.2005.00542.x

Dooley, K. E., & Wickersham, L. E. (2007). Distraction, domination, and disconnection in whole-class online discussions. *Quarterly Review of Distance Education, 8*(1), 1-8.

Du, J., Zhang, K., Olinzock, A., & Adams, J. (2008). Graduate students' perspective on the meaningful nature of online discussions. *Journal of Interactive Learning Research, 19*(1), 21-36. Retrieved from Ed/ITLib Digital Library. (21871)

Fasse, R., Humbert, J., & Rappold, R. (2009). Rochester Institute of Technology: Analyzing student success. *Journal of Asynchronous Learning Networks, 13*(3), 37-48. Retrieved from http://www.sloanconsortium.org/sites/default/files/v13n3_4fasse_0.pdf

Garrison, D. R., & Anderson, T. (2003). *E-learning in the 21st century: A framework for research and practice*. London, UK: RoutledgeFalmer. doi:10.4324/9780203166093

Garrison, D. R., Anderson, T., & Archer, W. (1999). Critical inquiry in a text-based environment: Computer conferencing in higher education. *The Internet and Higher Education, 2*(2-3), 87-105. doi:10.1016/S1096-7516(00)00016-6

Hew, K. F., & Cheung, W. S. (2010). Higher-level knowledge construction in asynchronous online discussions: An analysis of group size, duration of online discussion, and student facilitation techniques. *Instructional Science, 39*(3), 303-319. doi:10.1007/s11251-010-9129-2

Jahng, N., Nielsen, W. S., & Chan, E. K. H. (2010). Collaborative learning in an online course: A comparison of communication patterns in small and whole group activities. *The Journal of Distance Education, 24*(2), 39-58. Retrieved from http://www.jofde.ca/index.php/jde/article/view/647/1105

Johnson, G. (2008). The relative learning benefits of synchronous and asynchronous text-based discussion. *British Journal of Educational Technology, 39*(1), 166-169. doi:10.1111/j.1467-8535.2007.00739.x

Naughton, C. F., Smeed, J., & Roder, J. E. (2011). Delimiting the prospect of openness: An examination of initial student approaches to e-learning. *The International Review of Research in Open and Distance Learning, 12*(2), 103-121. Retrieved from http://www.irrodl.org/index.php/irrodl/article/view/949/1777

Seo, K. K. (2007). Utilizing peer moderating in online discussions: Addressing the controversy between teacher moderation and nonmoderation. *The American Journal of Distance Education, 21*(1), 21-36. doi:10.1080/08923640701298688

Wang, Y.-M., & Chen, D. V. (2010). Promoting spontaneous facilitation in online discussions: Designing object and ground rules. *Educational Media International, 47*(3), 247-262. doi:10.1080/09523987.2010.518817

Wang, Y.-M, & Chen, D. V. (2010-2011). Instructors as architects – designing learning spaces for distance-based online courses. *Journal of Educational Technology Systems, 39*(3), 281-294. doi:10.1080/09523987.2010.518817

Wickersham, L. E., & Dooley, K. E. (2006). A content analysis of critical thinking skills as an indicator of quality of online discussion in virtual learning communities. *Quarterly Review of Distance Education, 7*(2), 185-193.

Yukselturk, E. (2010). An investigation of factors affecting student participation level in an online discussion forum. *Turkish Online Journal of Educational Technology, 9*(2), 24-32. Retrieved from http://www.tojet.net/articles/v9i2/923.pdf