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Online learning faculties use asynchronous debates

Kris Hunt †

† Los Angeles Harbor College, Wilmington, USA

Abstract

This study investigated a number of factors associated with the faculty use of asynchronous discussions in online courses including: instructor behaviors and attitudes, the structure of discussion assignments, types of discussion rubrics and their use, facilitation style, and comparisons between online discussions and face-to-face discussions. Data was collected from faculty at two different institutions who taught undergraduate or graduate classes. The results indicate that faculty are significantly involved in discussion activities and report that they spend considerable time doing so. The results also suggest that faculty teaching graduate courses believe that online discussions result in more and better interaction compared to face-to-face courses, whereas undergraduate faculty found online courses decreased interaction and quality of interaction compared to face-to-face courses. It is proposed that the Community of Inquiry model may be a useful framework to conduct further studies of how faculty make use of discussions in online courses and the factors that influence effectiveness of student learning.
Keywords: asynchronous learning, discussion boards, online teaching, learner interaction, community of inquiry, effectiveness online learning, rubrics, facilitation

Introduction

Asynchronous discussions are central to the design of most online courses. Prior research studies have reported correlations between interaction in online courses and faculty satisfaction (e.g,. Hartman and Truman-Davis, 2001), student satisfaction (e.g., Dziuban, Moskal, Brophy, & Shea, 2007; Swan, Shea, Fredericksen, Pickett, Pelz, & Maher, 2000), and student success (e.g., Hartman Dziuban, and Moskal, 2000; Wu & Hiltz, 2004). However, little has been written about the relationships between learning outcomes and specific faculty behaviors vis-a-vis online discussion organization and facilitation.

This research study investigated key faculty organizational factors that impact upon effective online discussions in undergraduate and graduate online courses. Data was collected across two different institutional environments and the similarities and differences between full time and adjunct teaching, and between academic disciplines were examined. Faculty were also asked to rate the amount and quality of interaction in their online classes compared to on-campus classes as well as the degree of connectedness to students.

Methodology

Data for this study was collected by a survey sent electronically to faculty. The survey consisted of a 39 item online questionnaire with an optional identification field for a follow up contact. Faculty responded to the survey based upon one course that they had taught in the last three terms.

The survey investigated a wide range of issues relevant to online discussions. The key sections of the survey addressed: instructor behaviors and attitudes, the structure of discussion assignments, types of discussion rubrics and their use, facilitation style, and comparisons between online discussions and face-to-face discussions.

Several key issues of the survey investigated the range of ways in which instructors attempt to stimulate and shape student discussions. Factors such as the nature of prompts, scoring criteria and frequency of scoring are of central concern to the researchers. Therefore, the survey inquired about the time commitment instructors found necessary to score online discussions, extent to which complete discussions are read, as well as the assumptions about learning and teaching that lead to such instructor decisions. Survey responses were analyzed by demographic features such as academic program, graduate, undergraduate or combinations, class size, and instructor years of experience.

The survey was distributed to two quite different institutions, a large public southern university with a well-established online undergraduate and graduate program (designated here as SU) and a small New England university with a new but rapidly growing online graduate education program (designated here as NE). As a metropolitan research university SU matriculates more than 50K students, with 17 degree and 12 certificate programs. The SU faculty teaching online have all participated in a formal online instructor development program. NE online courses are entirely graduate teacher or administrator education. Few of the instructors at NE had participated in a formal online instructor development program.

The survey was emailed to 358 faculty from SU and 47 from NE. Survey responses were received from 126 faculty, 67 percent responded from SU (34 graduate, 52 undergraduate) and 21 percent from NE (27 graduate). SU respondents were primarily full time faculty, a notable contrast to the high percentage of part-time NE faculty. Teacher or Administrator Education courses were most prominent, accounting for 44 percent of all courses. Health professions represented 15 percent of the course, with Humanities at 9.5 percent. (Unidentified academic disciplines accounted for 24 percent.)

The respondents reported a balanced range of years of teaching in higher education. The overwhelming numbers of SU faculty were experienced, reporting 12 percent undergraduate and 37 percent graduate teaching from one to five years. In contrast, 54 percent of NE faculty (54 percent) had only taught for one to five years.

SU graduate courses were considerably larger (50% between 26-40) compared to NE (14% between 26-40).

Results

We will first address the pattern of the results for the whole set of respondents. Comparisons between undergraduate and graduate courses as well as a more fine-tuned analysis of responses will follow.

Discussions played a major role in the online courses. Ninety-five percent of respondents used online discussions, with 87 percent requiring discussion participation. They believed that having online discussions was a very important (72 percent) or a somewhat important (18 percent) integrative feature in their course. Faculty strongly believe (64 percent) or somewhat believe (24 percent) that online discussions positively impact student learning.

Eighty-eight percent supplied written expectations to students on how they were to conduct themselves apart from any written scoring criteria (e.g. "Netiquette" or "Protocols"). The question on faculty engagement indicated that 82 percent provided specific written prompts, 95 percent supplied students with written scoring criteria, 86 percent used explicit scoring criteria of online discussions (even if they did not share the criteria with students), and 84 percent scored individual contributions to each online discussion. Seventy-five percent scored discussions at the end of each discussion

The question about faculty involvement indicated that 73 percent read all discussion postings, 84 percent posted at least one message, and 37 percent posted multiple messages each discussion.

The faculty facilitated 43 percent of the course discussions whereas students facilitated 35 percent of discussions. The proportion of the course's online discussions facilitated by students was only 3 percent leading more than half of the discussions, 6 percent leading less than half of the discussions, and 1

percent leading all discussions. Teaching Assistants were only used to facilitate 5 percent of discussions.

Faculty considered themselves very skilled (28 percent) or somewhat skilled (48 percent) in facilitating discussions. They learned their skills in numerous ways: trial and error (54 percent), read about discussion (29 percent), participated in online discussion as a student (21 percent), or completed faculty development training (41 percent).

As noted above, the faculty in the study had considerable higher education teaching experience and online teaching experience. Table 1 reports responses to: Please rate the AMOUNT of interaction in your online course compared to a comparable face-to-face section. The columns in the table and subsequent tables indicate the following: All (entire set of data), UG (undergraduates from SU), G (graduate faculty from both SU and NE), SU (all SU faculty), NE (all NE faculty). Table 2 presents responses to: Please rate the QUALITY of interaction in your online course compared to comparable face-to-face sections. Table 3 indicates responses to: Please rate your overall feeling of "CONNECTEDNESS" to or "DETACHMENT" from students in online discussions.

Table 1
Amount of Interaction Online Compared to Face-to-Face Instruction

	All	UG	G	SU	NE
Increased	38.1	30.8	45.5	58	37
Somewhat increased	17.5	19.2	17.7	6	33
About the same	19	17.3	17.7	19	19
Somewhat decreased	8.7	9.6	8.1	6	11
Decreased	11.9	21.2	4.8	10	0

Table 2
Quality of Interaction Online compared to Face-to-Face Course

	All	UG	G	SU	NE
Increased	28.6	23.1	30.6	29	37
Somewhat increased	21.4	15.4	30.6	26	41
About the same	24.6	26.9	21	29	15
Somewhat decreased	11.9	19.2	8.1	10	8
Decreased	9.5	13.5	3.2	6	0

Table 3
Feeling of Connectedness or Detachment from Students in Online Discussions

	All	UG	G	SU	NE
Very connected	28.6	23.1	35.5	26	52
Somewhat connected	37.3	38.5	33.9	35	37
Neither connected nor detached	10.3	9.6	9.7	13	7
Somewhat detached	11.9	9.7	9.7	16	3
Very detached	7.9	9.6	4.8	10	0

Statistical correlations that were conducted found that the higher the rated connectedness, the higher the quality of interaction ($r = .77$, $p < .001$), with a greater facilitation skill ($r = .33$, $p < .001$) and the degree of instructor posting ($r = .20$, $p < .05$).

Facilitation skill was also associated with degree of instructor posting ($r = .30$, $p < .05$), quality of interaction ($r = .29$, $p < .05$) and the time commitment for scoring discussions ($r = .28$, $p < .05$).

The extent to which instructors believe that discussions are an important integrated part of their course, the greater the feel connected to the students ($r = .75$, $p < .001$). Rated importance is also associated with facilitation skill ($r = .54$, $p < .001$), and the quality of course interaction ($r = .37$, $p < .001$).

Faculty judged student learning to be related to connectedness (r = .56, p < .001), quality of interaction (r = .51, p < .001), facilitation skill (r = .40, p < .001). In contrast, but as one may expect, connectedness was negatively associated with class size (r = -.24, p < .05).

Comparisons between graduate and undergraduate courses revealed several differences. Given the respondents, the data compares SU undergraduate with combined SU and NE graduate courses and SU undergraduate with SU graduate. The best prompts used to launch online discussions reported were "complex statement/question framing the context for discussion of the topic" were similar for overall graduate (40), SU graduate (45) an SU undergraduate (46). However, selecting a "simple statement indicating what topic students should discuss" was much favored much more by overall graduate (32), SU graduate (38) compared to SU undergraduate (17).

Discussion

Despite significant institutional differences, graded discussions with specified evaluative criteria are widely used at both the undergraduate and graduate level. Faculty are significantly involved within these discussions, expressing by their behavior that discussions are an integral means for integrated learning, connections between students, and connecting themselves to their students. They report being considerably skilled in using online discussions while acknowledging a significant demand upon their time.

Faculty teaching graduate courses believe that online discussions result in more and better interaction compared to face-to-face courses. In contrast, undergraduate faculty found online courses as having decreased interaction and quality of interaction compared to face-to-face courses.

Faculty teaching online courses regularly report the significant demands upon their time. Quite often, faculty consider online teaching much more demanding than face-to-face teaching. They wish to be effective and maintain their sustained commitment to online instruction. A central question is whether faculty should be posting within each or even most discussions or whether there is an alternative role that may improve student learning as well as reduce faculty time demands. Would both students and faculty be better served if courses were designed so that students learned how to facilitate discussions while faculty assumed the role of "guide on the side" throughout the discussions? There are several reasons why professor participation directly in the discussion may inhibit the discussion. Students undoubtedly will attend to the professor's comments more readily than comments of their peers. Insertion of the professor's comments, although unintended, may also communicate to those who have most recently posted their ideas that there are some problems with their postings.

This study demonstrated very similar discussion patterns between a university with a well-developed faculty development program and one without a program. It found that trial and error learning was a major source for all faculty. Future research should consider the quality and nature of faculty development related to online discussions. Of particular importance is recognizing that faculty teaching undergraduate courses may face a considerably different set of discussion challenges compared to faculty teaching graduate courses given the differences in social and career development between undergraduates and graduates.

Whereas the amount of interaction may be objectively assessed, the quality of interaction and the sense of connectedness is an affective perception that is integrally related to both one's role and the nature of the students in the course. Faculty who have enjoyed working with undergraduate students face-to-face will presumably sense a loss of connection with online instruction. Traditional age undergraduate students are socially, psychologically and developmentally very different from the adult learners. Traditional undergraduates find value in the personal classroom interactions (even if it is before and after class), whereas adult learners are more likely to value the time and convenience of online learning over the missed opportunity to make new friends. This suggests that a future research study should compare faculty and student responses across undergraduate and graduate courses.

Clearly faculty development that focuses on ways to engage students is important at all levels of instruction. This study suggests that faculty teaching online undergraduate courses should receive a wide range of pedagogical instruction that fosters cohesion and student engagement. The range of cooperative learning strategies with documented positive affective and cognitive effects should be

integrated into the online environment (Slavin, 1991). These include the Jigsaw II technique (Aronson, Blaney, Stephen, Sikes, & Snapp, 1978), and Reciprocal teaching (Palincsar, Ransom & Derber, 1988/1999). Additional suggestions are provided by Lynch (2010). Gerbic (2009) discusses the impact of adding online discussions to on-campus undergraduate classes.

In addition, for the course to engage undergraduates, faculty and course designers may wish to develop sections of courses that are case study based, or utilize problem based learning. Both practices have been shown to foster high levels of motivation and engagement with face-to-face instruction. There are numerous issues that call for further investigation. Issues addressed here are the nature and use of discussion instructions and evaluation rubrics, instructional efficacy of faculty posting, and implications for online faculty development. All three issues should be considered from the perspective that what matters most is to optimize student learning and engagement while supporting faculty so that they have the personal and institutional resources to become more effective instructors.

The quality of online discussions is significantly affected by posted expectations as well as evaluative feedback. Further investigation should identify whether there are essential elements of guidelines, samples of effective questions, examples of cohesive, in-depth discussions that may be provided before discussions start to foster high quality online conversations (see Al-Shalchi, 2009; Scott, 2010; Vonderwall, Liang & Alderman, 2007). Similarly, are there evaluative criteria or elements of rubrics that help students and faculty alike to recognize different discussion qualities with reliable and valid judgment? For example, there has been some research concerning analytical versus wholistic approaches to grading discussion postings (Grant, 2007; Spatariu, Hartley, & Bendixen, 2004). Such criteria should provide formative feedback that results in improved future discussions and enhanced learning.

Conclusions

Whereas the most immediate implications of this research relate to program and faculty development, the study presents some implications for empirical and theoretical discussions associated with the Community of Inquiry (CoI) model of asynchronous learning.

Garrison and Arbaugh (2007) reviewed the CoI approach that was initially presented by Garrison, Anderson, & Archer (2000). The model suggests that three essential interrelated factors that influence the quality of asynchronous learning are social presence, cognitive presence, and teaching presence. Social presence refers to the students' sense of social and emotional safety online, being seen as "real people" within a cohesive environment (Gunawardena & Zittle, 1997; Richardson & Swan, 2003; Rourke, Anderson, Garrison, and Archer, 2001; Walther, 1992). Social presence is also closely associated satisfaction with an online learning environment (Arbaugh & Benbunan-Fich, 2006; Benbunan-Fich & Hiltz, 2003).

Garrison, Anderson, and Archer (2001) described cognitive presence as "the extent to which learners are able to construct and confirm meaning through sustained reflection and discourse." (Garrison & Arbaugh, 2007, p. 161). The CoI model identifies cognitive presence in diverse ways as the levels of thinking, understanding, and constructing meaning throughout the course. Cognitive presence has many dimensions with varied levels of cognitive processing (e.g. recall to critical and creative thinking), private compared to shared communication, and metacognitive reflection. Walker (2005) and Wickersham & Dooley (2006) discuss critical thinking in discussion forums.

Garrison et al (2001) "described teaching presence as the design, facilitation, and direction of cognitive and social processes for the purpose of realizing personally meaningful and educationally worthwhile learning outcomes." (Garrison & Arbaugh, 2007, p. 163.)

Anderson, Rourke, Garrison and Archer (2001) postulated three teaching components 1) instructional design and organization, 2) facilitating discourse (originally called building understanding, and 3) direct instruction. The study reported here relates directly to facilitating discourse, certainly a challenging role for faculty. Garrison and Arbaugh (2007, p. 164) emphasize this major teaching role: "Facilitating discourse requires the instructor to review and comment upon student responses, raise questions and make observation to move discussions in a desired direction, keep discussions moving efficiently, draw

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out inactive students and limit the activities of dominating posters when they become detrimental to the learning of the group."

It is suggested that the CoI model may be a useful framework to conduct further studies of how faculty make use of discussions in online courses and the factors that influence effectiveness of student learning. This study has identified a number of issues that could be investigated further in this context.

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