

Perceptions of Synchronous Chat Tools in an Online Course

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Institutions of higher education have witnessed a proliferation of online courses in the past several decades (Allen & Seaman, 2004; DeLoach & Greenlaw, 2007; Miller & Webster, 1997). With the increase in distance education coursework, the purposeful design and delivery of classes becomes essential to effective distance education (Levine, 2007). Historically, the field of distance education has carefully examined current practices to identify effective strategies for the design and delivery of distance education courses (Holmberg, 1989, 1995; Keegan, 1988; Moore, 1993).

Building on the idea of a systems approach to effective distance education, Moore (1993) highlighted the importance of interaction in online classes. He identified three types of interaction inherent in effective online courses. These include: (a) learner-to-content interaction; (b) learner-to-instructor interaction, and (c) learner-to-learner interaction. Moore (1993) explained that without learner-content interaction, little or no learning will occur. While this idea is critical to all instruction, the importance of purposively organizing the course so that student engagement with the content of the course is achieved and continued must not be taken lightly. Additionally, Moore suggested that instructors carefully identify instructional goals related to their own interaction with the student in order to initiate and maintain student interest and engagement in the online course. “The frequency and intensity of the teacher’s influence on learners when there is learner-teacher interaction is much greater than there is only learner-content interaction” (Moore, 1993, p. 23). He discussed the use of a wide range of venues (video, audio,) to successfully build and maintain a relationship between the student and the instructor. Finally, Moore emphasized the importance of supporting interaction among the

students themselves in order to increase student skills in group interaction and communication, requisite skills in a global society.

Recognizing the value of online discussion, Levine (2007) suggested several strategies for effective online interaction in distance education courses. According to Levine, online instructors should: (a) create a positive and supportive learning environment, (b) outline clear expectations for conduct and activity within the course, (c) provide appropriate support from the instructor, (d) view students and instructors as “co-investigators” (p. 70), (e) implement activities which focus on higher order thinking, (f) establish multiple opportunities for participation and acknowledgement of individual students, (g) contact students who have disappeared from the discussion, and (h) pose discussion questions which promote professional reflection and application to real world situations.

DeLoach and Greenlaw (2007) advised that instructors in online courses “facilitate, but not lead” (p. 420) the discussion as a means to promoting interaction. Specifically, these authors emphasize clear goals for the discussion groups, appropriate, individualized levels of intervention by the instructor, the assignment of grades for the discussion that are tied to both quantity and quality of student discussion. Additionally, Martyn (2005) examined the need to purposely create an environment which supports collaboration among all students as well as the between students and the instructor. In other words, the social aspects of learning should be deliberately planned and analyzed for students to be successful in an online environment. She calls for more research to identify specific instructional strategies which promote interaction and higher order thinking skills.

The purpose of this study was to examine interaction in online graduate courses at three levels: (a) learner-content interaction, (b) learner-learner interaction, and (c) learner-instructor interaction. Interaction was analyzed by the characteristics of age, number of online courses taken, educational level, gender, and instructor feedback method. The following research questions guided this study: (1) What are the perceptions of graduate students regarding learner-content interaction, learner-learner interaction, and learner-instructor interaction in online courses? (2) What differences exist in graduate students' perceptions of interaction in online courses according to age, gender, educational level, number of online courses taken, and instructor feedback method? (3) What is the relationship of graduate students' perceptions of learner-content interaction, learner-learner interaction, learner-instructor interaction and overall interaction in online courses? (4) To what extent do gender, age, educational level, number of online courses taken, and the instructor's feedback method predict graduate students' perceptions of interaction in online courses?

Methodology

The researchers, as faculty members in Educational Administration have been engaged in online instruction of graduate students for over five years. Each of the researchers utilize the same course management system and have similar design and procedures for the online courses they teach. However, each of the three faculty members have different methods of feedback or interactions with students. One of the re of the course management system. A second researcher provides feedback to students via the gradebook, dropbox, e-mails, and utilizes a reader for the discussion board. The reader is an adjunct instructor with the sole responsibility of reading the discussion board responses of the students and giving feedback. The third faculty member

provides feedback to students via the dropbox, e-mail, discussion board with a reader, and also through video chat session conducted via Elluminate Live.

One hundred fifty-one graduate students who took online courses in Educational Administration from the researchers during the spring of 2009 were invited to participate in an twenty-one item online survey developed by the researchers regarding interaction in online courses. The survey instrument was developed based on the types of interaction defined by Moore (1993) in online courses. The five part electronic survey was conducted via Survey Monkey. Part I of the survey asked respondents to consider the interactions with the content of the course. Respondents reported perceptions of interaction with other students in Part II of the survey. Part III of the survey participants responded to items related to interaction with the instructor. Overall interaction in the course was included as survey items Part IV. Part IV of the survey also had two open-ended statements regarding the types of interaction that supported student learning and recommendations. Respondents provided information about their age, gender, educational level, number of online courses they had taken, and course enrollment in Part V of the survey.

Findings

Ninety-nine of the 151 graduate students who were invited to participate completed the online survey for a response rate of sixty-six percent (66%). The majority of the respondents were female (56%) and had taken more than three online courses (82%). Seventy percent (70%) of the graduate students already held a master's degree or beyond. Perceptions regarding interaction were divided into four areas; learner-content interaction, learner-learner interaction, learner-instructor interaction and overall interaction. The respondents perceive that interaction

was positive. Graduate students agreed most strongly that the “content supported their learning” ($M= 4.60$). The participants did not perceive “the amount of instructor interaction” ($M=4.21$), as positively as all other items. The means and standard deviations for the perceptions of the respondents regarding interaction in online courses are presented in Table 1.

Table 1

Perceptions of Interaction in Online Courses

Indicator	<i>M</i>	<i>SD</i>
Content Presented Appropriate	4.48	.522
Content Presented is Timely	4.48	.629
Content Presented Supported Learning	4.60	.552
Content Material Access without Technical Problems	4.58	.536
Amount of Student Interaction was Appropriate	4.29	.760
Student Interaction was Timely	4.55	.627
Student Interaction Supported Learning	4.40	.684
Student Interaction Methods Accessed without Technical Problems	4.58	.671
Amount of Instructor Interaction was Appropriate	4.21	.760
Instructor Interaction was Timely	4.29	.836
Instructor Interaction Supported Learning	4.42	.744
Instructor Interaction Methods Accessed without Technical Problems	4.53	.675
Overall Interaction	4.46	.679

Note: $n=99$ based

Composite mean scores for learner to content interaction, learner to learner interaction, and learner to instructor interaction were calculated. A one-way analyses of variance (ANOVA) was conducted to compare graduate students’ perceptions learner to content interaction, learner to learner

interaction, learner to instructor interaction and overall interaction based on the instructors' method of feedback. There were no significant differences among the four groups regarding learner to content interaction, learner to learner interaction, and overall interaction. A significant difference was found in respondents' perceptions of learner to instructor interaction ($F=3.638, p=.05$). A Tukey's Post Hoc Test was calculated revealed that a significant difference exists between the feedback method of the Instructor/ Elluminate and the Instructor/ Reader. Table 2 presents the differences in graduate students' perceptions base on instructor feedback method.

Table 2

Differences in Perceptions of Interaction Based on Instructor Feedback Method

Feedback Method	Instructor (n=26) <i>M</i>	Instructor/ Reader (n=23) <i>M</i>	Instructor/ Elluminate (n=23) <i>M</i>	Reader/ Elluminate** (n=24) <i>M</i>	<i>F</i>	<i>p</i>
Learner to Content	4.58	4.46	4.62	4.45	1.056	.372
Learner to Learner	4.51	4.42	4.62	4.27	1.750	.162
Learner to Instructor	4.45	4.25	4.62	4.06	3.638	.016*
Overall	4.50	4.39	4.68	4.23	1.766	.159

* $p > .05$

***Feedback method involves the instructor, reader, and Elluminate Live*

Note. df=95

Discussion

Graduate students in online courses perceive the interaction in the courses they take positively. Interaction with the instructor was the one area that the participants in this study that receive a lower level of agreement compared to responses to other survey items. The researchers in this study sought to have a positive influence on the amount and type of interaction that the students had with the instructor in online courses

This study examined four different methods of instructor interaction with students in online. One method was the instructor utilized the discussion board, gradebook, dropbox and e-mail features of the course management system to provide feedback and interact with students. A second method involved the instructor utilizing the same methods however; a reader was utilized in the discussion board. The reader was an adjunct faculty member who read all of the graduate students' postings in the discussion board and replied to students, as well as posted scores in the gradebook for the discussion board. Another method involved the instructor utilizing all of the methods, except the reader, and video chat sessions through Elluminate Live. A final method employed all of the techniques including the reader and Elluminate Live.

Graduate students in this study perceived the instructor interaction most positively when the instructor employed the methods of feedback and interaction of the discussion board, gradebook, dropbox and e-mail features of the course management system and utilized Elluminate Live. Students perceived the feedback method of using a reader as the least positive. This could be due to the fact that the students were not informed of the reader before the course began. The participants had expectations that the interactions would only be with the instructor and other students.

Online learning is a growing delivery method that is here to stay. The need to provide effective instruction to the learner is critical. The interaction of the learner with the content, other students and the instructor provides the pedagogical foundation for learning to take place. This study provides insight into promising practices for interaction in online learning.

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