Types and Tallies of Instructor-to-Student Interactions

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Abstract: Interaction is often considered an important element in online instruction with instructor-to-student interaction being crucial in the course effectiveness. However, instructor-to-student communications can also change an instructor's role and workload. Analyzing these interactions in a specific rather than general manner is an attempt to understand the work involved in online instruction. After developing a classification scheme, the number of instructor-to-student interactions were calculated and categorized by type and content. Findings, suggestions for teaching online, and areas for future research are presented in this paper.

Introduction

Online teaching and learning can be very personalized when the instructor and learner activities are highly interactive. Interactivity is a key feature of online instruction (Brown, 2004; Oblinger, Barone, & Hawkins, 2001; Ryan, Carlton, & Ali, 2004). Interaction is often advocated or assumed as necessary. Even though independent, self-study courses are the majority of online offerings (Clark & Mayer, 2003), some interaction does occur within them. Different types of interactions found in online instruction and learning environments (Davidson-Shivers & Rasmussen, 2006; Moore, 1989; Wagner, 2001) include: *Student-to-student interaction* is students working or communicating with each other in small or large group or individually; *student-to-instruction interaction* is students working with the instructional content or activities, *student-to-learning management system (LMS) interaction* allows students to navigate through the online instruction, complete and submit assignments, and track their progress, grades; and *instructor-to-student interaction* is instructor communicating to and work working with students.

The fourth type, instructor-to-student interaction, is of import to this paper. Generally they occur through discussions, emails, grade books, announcements, and so on, and provide directions on assignments, feedback on assignments, answers to student questions among other things. Additionally, instructor-to-student interactions may be on an individual basis, with small groups, or whole class (Davidson-Shivers & Rasmussen, 2006). Thurmond and Wambach (2004) suggest that interactions between students and faculty help students clarify and obtain a correct understanding of the course content. They suggest that such interaction is fundamental in online instruction and helps change the role of the instructor.

Challenges for the Online Instructor

Several challenges come with this change in instructor role. One challenge is the workload involved in online courses; most scholars suggest that online teaching increases faculty's workload when compared to oncampus courses. For instance, Romizowski and Chang (2001) state that workloads more than doubles when teaching online. To quantify this increase, some researchers focus on development tasks (Blair & Monske, 2003; Oblinger, et al. 2001; Romizowski & Chang, 2001; Ryan, et al. 2004). For instance, Mathews, Maher, and Sommers (2001) found that one faculty member spent 37 hours planning and developing the online portion, 101.5 hours preparing for online delivery and another14 hours spent in course delivery. Yet, others focus on the delivery or implementation tasks (Blair & Monske, 2003; Brown, 2004; Ko & Rossen, 2001). For instance, Lazarus (2003) reported spending from 3½ to 7 hours per week per online course with additional time occurring during the first and last 2 weeks and with most time spent on emails. Cavanaugh (2005) averaged between 300 and 600 emails per course. Finally, Tomei (2004) found that it took an average of 14 minutes to review each student postings; advising students of their progress required a minimum of 9 minutes to review work and then formulating an email response took an additional 4 minutes.

A second challenge for the online instructor is being able to field questions related to technical aspects of the website in addition to the typical student concerns about course content, assignments, or activities. Tomei (2004) also suggests that students' lack of technical skills adds to instructor-student online communications. Therefore, instructors may need additional training in technology and in implementing web-based instruction (Davidson-Shivers & Rasmussen, 2006).

A third challenge, handling communication between instructor and student, is the ultimate challenge for faculty (Davidson-Shivers & Rasmussen, 2006).Tomei (2004) stated that the majority of time spent is communicating with students, such as posting and answering messages in discussion areas, reading and responding to email in addition to course preparation and assessing student work. Added to managing the communications is helping students understand that the instructor is not always available even though students may email him or her at all hours of the day (Ko & Rossen, 2001; Palloff & Pratt, 1999).

Purpose of Study

Analyzing instructor-to-student interactions in specific rather than general manner is an attempt to understand what faculty work is involved in delivering online instruction and communicating with students. A classification scheme was developed for categorizing these interactions. The purpose of this study was to tabulate the number of interactions that occurred and categorize them into various types of communiqués (e.g., emails, announcements, etc.) sent to students.

Methodology

Participants

Participants were graduate students ($n = 11$) in a required course in a college of education at a U. S. southeast regional university. As instructor, I also was considered a course participant.

My Role as Instructor. As instructor, I did not participate in the threaded discussions, which enabled students to use them as their own discourse forum. Instead, I wrote summaries of unit content, activities, and included additional comments regarding the threaded discussions; the summaries were sent after the unit had ended. My communications with students were about their participation, assignments, questions, or concerns through all-class or individual emails. Additionally, other time was spent either uploading or downloading course materials, downloading student work, uploading feedback and scores, and sending announcements to students. Finally, there were instances in which I met with a student by phone or face-to-face.

Course and Unit Descriptions

The course covers basic concepts and principles on learning psychology. This particular section was taught online over an eight-week summer term. Major course requirements were participation, two annotations, three reflection papers, and a term paper. To meet course requirements, students participated in and completed 14 units (about two per week).

Within each unit, students were given lecture notes and reading assignments. They participated in one or two threaded discussions and were asked to complete other assignments such as finding relevant websites or journal articles and so on.

Data Collection and Analysis Procedures

Data on type and amount of online instructor-to-student communication comes from information, messages, and other communiqués. Data were stored on the LMS or University's email system until after the term had ended and final grades submitted. They were then captured as documents and filed until categorization and counts could be completed. A graduate assistant did the email communication counts and I counted the number of messages within the LMS Grade Book to maintain confidentiality. Participant identifiers were removed.

Using categories as shown in Table 1, the instructor-to-student interaction data were classified by general types of information (content-related, course assignment related, technical issues, general information, other) and by how it was delivered (e.g., email, announcement, gradebook, document sharing, threaded discussion, etc.). Next, these communications were categorized as to whom the information was sent (i.e., individual, small group, or whole class). The number of communiqués for each type was then tallied.

Table 1. Categories and Descriptors for Instructor-to-Student Interactions

General Categories	Descriptors
Content-related	Related to course or unit topic contained within lecture, readings, or other instructional materials (i.e., unit summaries)
Course Assignment	Course or unit assignments (participating in discussion, finding websites, final papers, etc.)
Technical Issues	Problems related to technology or the website environment
General Information	Overviews of course, schedule adjustments, university advising schedule, etc.
Other	Not course related. Socializing
Communication Tools	
Online Announcement	Billboard on course home or unit page
Emails	Initiated by the instructor or instructor responding to student-initiated email
Threaded Discussion	Asynchronous discussion or debate
Chats	Synchronous discussion
Document Sharing, Web links, or Attachments	Place to upload/download documents or web links
Drop Box/ In & Out Baskets	Depository for students to send completed work to instructor or for instructor to send comments and scores back to student.
Grade Book	Grades or scores entered in to individual student gradebook file. Comments and feedback on student work may be added.
Off-line communication or On campus meetings	Phone calls, oncampus office hours or meetings, informal discussions.
Recipients	
Individual student	Message sent to each student on an individual basis
Small group	Message sent to a small group (not entire class)
Whole class	Entire student enrollment

Results

Table 2 shows the tools used for communication. For the eight weeks, the overall total of messages sent by the instructor was 277. The majority of message occurred through the gradebook ($n = 121$), followed by emails ($n = 77$) and Out Basket of the Drop Box ($n = 39$). Less seldom used were the online announcements that would appear as the home or unit page opened. Only two messages were submitted to two different threaded discussions in the term.

Table 2. Use of communications tools

Communication Tools*	Totals
Online Announcement	17
Emails	77
Threaded Discussion	2
Chats	0
Drop Box/ In & Out Basket	39
Document Sharing, Web links, or Attachments	11
Grade Book	121
Off-line communication or On campus meetings	10
Totals	**277**

*Some Categories were not included because they were empty. For example, chats did not occur.

Table 3 shows a further clustering of the information, based on the main reason for the instructor message (e.g., feedback on graded assignment, responding to questions or concerns; procedural directions; encouragements, etc.). The vast majority of messages were sent to individual students, followed by whole class with few messages sent to small groups. My communications to whole class were more frequent at the beginning of the course and lessened as the course progressed. However, my individual emails remained fairly consistent throughout the term, although they lessened to some degree midway through the term until final papers were submitted and the course was ending.

Most of the messages were related to assignments and then content, followed by general information, and other. Course content and assignments were fairly evenly divided by feedback on assignments, participation levels in discussion, and scores on graded assignments through drop box, gradebook and some emails. For the whole class, the content-related messages were providing information on when and how they would receive feedback, providing unit summaries and other course materials, and encouraging their continued participation in threaded discussions. Additionally, I responded to individuals' specific questions about their final paper, concerns about their progress, or requests for some other type of assistance. A very few individual students received emails related to lack of participation, missing assignments, or perhaps, a need to drop the course due to his or her inactivity.

General information messages related to addressing FAQs, announcing advising week, adverse weather conditions and university closings, and so on, were among the general information messages. Furthermore, a few emails to the students were to help them get to know me on a more personal level and what I was doing during the week in addition to facilitating the course.

The messages in the *Other* category were to make the course more comfortable for students and to help them realize that there was an actual person behind the title, instructor. I either sent information about or responded to questions about my other faculty work, chitchatted about their lives outside of graduate school (and mine), and, sometimes, simply acknowledged their statements that they enjoyed or benefited from taking the course, that they had never worked so hard in all of their lives, or that they had some family situation which must be dealt with.

Technical-related messages were the least. These messages were about how to access course readings from the online library, define scholarly references and use of APA, and so on. A few responses were also sent to individuals with computer problems or other technical issues.

Table 3. Subdivision of contents of information by general categories by recipients

	Content or Topic	Course Assignment	Technical Problems	General information	Other	Total
Online Announcement:*						
Whole Class	1	5	1	10		17
Emails Initiated by Instructor:						
Individual Student		3	1	5	1	10
Small Group		2		1	1	4
Whole Class	11	11		10	10	42
Emails Responding to Student-Initiated Emails						
Individual Student	3	6		4	7	20
Whole Class				1		1
Threaded Discussions						
Small Group	2					2
Drop Box/In & Out Basket						
Individual Student	2	10	7	10	10	39
Document Sharing/ Web Links/ Attachments						
Whole Class	7	4				11
Gradebook						
Individual Student	33	88				121
Other/Off-line communication (phone, mail, office visits)						
Individual Student	2	6	1	1		10
Total	61	135	10	42	29	277

* Some Categories are not included because they were empty. For example, no chats were included in this particular course. Blue indicates whole group interaction. Red highlights interactions with individuals.

Discussion of Results

Having documented the types and tallies of my online interactions with students raised my awareness of my role as course instructor and how teaching online impacts my faculty workload. It also raised my awareness as how elements in online teaching can be streamlined.

Role as online instructor

Interacting with students is central to most online courses and to the instructor's role. Communicating with the entire group or with individuals may help students understand course requirements, clarify directions, and assist them in keeping on task and on time. Additionally, instructor interactions may help personalize this virtual environment and help students feel less isolated. In this study, the majority of interactions were some sort of feedback (i.e., gradebook, drop box comments, etc.) to individuals. Whole group interaction was mainly in announcements (i.e., welcome statement, upcoming deadlines, etc.) or information on content, assignment, or technical (i.e., advising and encouraging participation group, providing unit summaries, etc.).

Even though the literature is replete with information on facilitating online instruction, here are a few suggestions for an instructor.
- Be prepared to be the primary person to establish the "classroom climate" and set the instructional tone. When teaching online, be facilitative and cordial while explicitly stating expectations, procedures and schedule for assignments and so on.
- Have a welcome statement and directions on how to get started when the course opens.
- Keep initial assignments simple and allow students to become familiar with the course AND its website. For example, have them submit an online bio to a designated location or have them complete a tutorial on being an online student.
- Another early assignment is to have students send an email addressing a simple question (i.e., choice of paper topic, availability for chats) directly to you. As instructor; I respond back to each individual acknowledging his or her response and with another greeting of welcome.
- Be readily available and monitoring the course site, especially at the beginning. Check-in to see how students are responding to assignments, and to "prod" (or encourage) some, if necessary, to get started. This helps students recognize that you are "there" even when they can't see you.
- Provide an online bio of yourself and include a photo. It helps students get to know you.
- Likewise, provide appropriate anecdotal information about yourself and your views on topics or discussion questions throughout the course. I usually

provide such information when I moderate chats or submit my summaries of unit content and activities.

Streamlining Elements in Online teaching

Because online teaching is intensive, documenting types and tallies of instructor-student may indirectly help identify elements that can be streamlined. For instance, in this study, the majority of instructor contacts was with individuals and often, specifically, related to feedback on assignments or addressing student questions. My suggestions are as follows.

- Prepare to spend extensive time in course development, delivery and feedback. Romizowski and Chang (cited in Davidson-Shivers & Rasmussen, 2006) estimate that that online instruction doubles teaching time. Because online instruction is typically in a written format, revamping and/or teaching a course for the first time can be a demanding process.
- Become skilled at keyboarding and knowledgeable about computers and the Web. Again, with writing as the main communication form, the "hunt and peck" method is an inadequate form of keyboarding. Having some technology savvy also helps instructors facilitate their course.
- Set up the gradebook early and maintain it throughout the course. It keeps the course and instructor organized and students advised of their learning performance.
- Handle student emails and assignments only once (NOTE: I'm still working on this one). Rather than opening each email or assignment several times, set aside specified times to correspond with students and/or review and score assignments as a singular effort. Also, post to scores to gradebook at that same time.
- For writing comments or feedback to students, create a template for each assignment. When using such templates, I modify and personalize according to each individual's participation and/or accuracy and completeness of assignments.
- Although some things must be done each time a course is offered, others can be replicated. Hence, save course materials offline and update with each new offering. For example, I revamp my unit summaries based on content revisions and the current student responses to activities and assignments each time the course is taught.

Summary

Interaction is often advocated as a necessary and desirable feature of online instruction. Of the differing types of interactions, instructor-student interaction is critical to successful online course delivery. This study is limited to one instructor in one course over a single term and is an attempt to make sense of what is meant by online instructor communications. Further research on facilitation and, specifically, instructor-student interaction is needed.

Future research needs to replicate procedures of this study, but with different student populations and content areas to provide a more complete picture of what is involved in instructor-student interactions. This study attempted to also address the volume of online communication by tallying the amount and types of interactions. However, it did not address the actual time spent on these interactions nor the offline tasks (i.e., preparing unit summaries, reviewing student work, and grading such materials) associated with such interactions. Certainly, investigations need to be conducted to help identify faculty work with more specificity. Additionally, courses with different content, requirements, and interaction levels need to be examined to fully understand faculty work involved in delivering online instruction. Finally, future research needs to address which instructor-to-student interactions are most effective and how they affect student performance and attitudes. In other words, which type (or types) of instructor-to-student facilitate student performance in and their perceptions of online instruction?

Online instruction is fast becoming a main form of delivering instruction at universities and colleges. Understanding the types of interactions that online instructors make and to whom helps identify the impact of online teaching on faculty workload and also, elements of online teaching that can be streamlined.

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