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AUTHOR Davidson-Shivers, Gayle; Tanner, Erica; Muilenburg, Lin
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ABSTRACT

The purpose of this study was to examine how graduate students participated in Web-based course discussions by analyzing the interactions that occurred between synchronous (chat) and asynchronous (listserv) modes of discussions using a coding scheme developed by the researchers. The study examined whether participation was substantive (directly related to the topic) and/or non-substantive (messages no directly related to content) in both types of discussions. In addition, students were surveyed about their computer and Internet experience and skills, as well as their attitudes toward the course content, its organization, and delivery. Findings indicated that the students enjoyed both forms of discussion, for different reasons. The chats provided a direct and interactive environment in which students reacted and responded to the topic at hand, had general discussions, and made supportive comments to one another. The listserv discussions provided an opportunity for students to give reflective, thoughtful responses to posed questions, and to provide insightful reaction to others' opinions and ideas. (Contains 14 references.) (AEF)

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Online Discussion: How Do Students Participate?

Gayle Davidson-Shivers, Erica Tanner, & Lin Muilenburg,
Dept. BSET, UCOM 3700
University of South Alabama,
Mobile, AL 36688

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Introduction

The purpose of the study was to examine how graduate students (n = 14) participated in web-based course discussions. The focus of this examination was to analyze the interactions that occurred during synchronous (chat) and asynchronous (listserv) modes of discussions using a coding scheme developed by the researchers. The study is qualitative in nature in order to find out whether participation in the discussions were substantive (that is, directly related to the topic) and/or non-substantive (messages were not directly related to the content) in both types of discussions and make a comparison of the findings. In addition, the students were surveyed about their computer and Internet experience and skills as well as their attitudes toward the course content, its organization and delivery.

Discussions Within an Online Class

Although forms of Distance Education has been around a long time, the advent of the Internet and the World Wide Web (WWW) has brought changes to teaching and learning at the university level. A number of universities and colleges are adding or converting traditional courses and programs to web-based instruction (WBI) or online learning environments. These WBI courses require not only a different design and delivery of the instruction, but also a different form of engagement on the part of students with the course materials, other students, and instructor. These learning environments require not only active, but interactive participation (Davidson-Shivers & Rasmussen, 1998 & 1999). Interactive learning includes an interchange of ideas with all participants; that is, the students and instructor exchange ideas in a flexible and dynamic environment (Rasmussen & Northrup, 1999).

This interchange of ideas may occur through a synchronous mode, which occurs at the same time but from different locations, or through an asynchronous mode, in that students and the instructor communicate to each other at differing times. The computer-mediated communication literature documents the dynamics of online discussions by various forms of communication patterns, processes, and purposes (William & Merideth, 1996; Piburn & Middleton, 1998; Wojahn; 1994; Jeong, 1996; McCormick & McCormick, 1992; McConnell, 1997 Sherry, 1999; Hara, Bonk, & Angel (in press)). This literature and the literature on Web-based instruction also identify various online delivery formats (e-mail, listserv, chats, conferences, etc.) and how they

might be used for discussions (Khan, 1997; Shotsberger, 1997; Driscoll, 1998). For instance, Driscoll states that asynchronous methods allow students more time for reflection than do synchronous delivery formats; with one example shows only 20% of a web-based course be synchronous. Further, Jeong argues that "most findings hail the use of asynchronous communication" and "notes the absence of the evaluation of synchronous communication and their effects" (p. 51). His own findings suggest that synchronous online chats have an advantage of promoting highly interactive discussions with a disadvantage for the group to digress from the topic to another (p.62). Finally, while developers of online learning environments and CMC research (although mixed) suggest that asynchronous communication may have advantages over synchronous, there still is merit to compare and contrast how students participate in both types of discussions.

Methodology

Subjects. Participants in the study were graduate students (n = 14) in a required course for their degree programs of study from a southeastern regional university; with approximately two-thirds being female. Approximately 50% of the students agreed to the statement of "having a great deal of computer experience" (36% strongly agree and 21% agree), although there were some who disagreed with it (21% disagree and 14% strongly disagree). When asked about their comfort level with computers, approximately 72% agreed or strongly agreed with the statement. Students responded to the item about comfort with using the Internet and WWW by 36% agreeing, 29% strongly agreeing to it. Some disagreed (21%) and others didn't know (14%) Participation in the discussions was a course requirement. However confidentiality of information was maintained by having surveys collected and coded by someone other than the instructor or after the final grades were posted.

Course content, organization, and requirements. The course was an introductory course on trends and issues related to their profession. The course was organized by weekly topics with assignments and questions being posted to a website. Two or three questions were given with directions on how to post (either chat or listserv) answers and replies. Students had a week to respond to any listserv question(s) and were also required to reply at least twice to other students' responses during the week. Typically one question was scheduled for an hour and a half chat during the week. Chats were either large group (whole class) or small groups (half of the class per chat session). Students were also assigned particular readings as preparation for discussing the weekly topic. They were also encouraged to draw on their own experiences, knowledge and skills. Both listserv and chat discussions could and were copied and distributed to all members of the group. The instructor participated directly in the online chats and participated the listserv by adding her comments to a summary at the end of the week rather than commenting during the week. After the fifth week of the term, students were assigned as discussion leaders to facilitate the weekly discussions with guidance from the instructor.

Procedures: The following procedures occurred for gathering the data.

- Using a Likert-type questionnaire, students were surveyed three times during the term in order to evaluate students' reactions and attitudes toward the course. The survey also gathered information about the computer experiences and skills. Data was kept

confidential by having someone other than the course instructor collect and code each set of questionnaires.

- For one question posted for the thirteenth and fourteenth week of the term, the students were randomly assigned to two groups. Half the students discussed the question (it was the third question posted for each week) using the online chat and the remaining students used the listserv. The process was repeated the following week with a new topic and question, but the two groups switched discussion modes.
- Transcripts of the discussions for those two weeks were then coded using a coding scheme developed by the researchers based on the work of Piburn and Middleton (1998) and Williams and Meredith (1996). The coding and analyses of the discussions did not occur until after the final course grades were posted.
- The researchers were trained to use the coding scheme and then coded each transcript independently. If any discrepancies were encountered their codings, the three researchers discussed and came to consensus.

Data Sources

Coded Transcripts. The main source of the data was transcripts of the listserv and chat discussions for a two-week period. The coding scheme used two main categories of substantive, messages that related directly to the content or topic at hand and non-substantive, messages that did not relate to the discussion topic or content. The 4 subcategories for substantive were structuring, soliciting, responding, and reacting; the 5 subcategories for non-substantive were procedural, technical, chatting, supportive statements, and uncodable. Every statement or sentence was coded using one of these 9 subcategories.

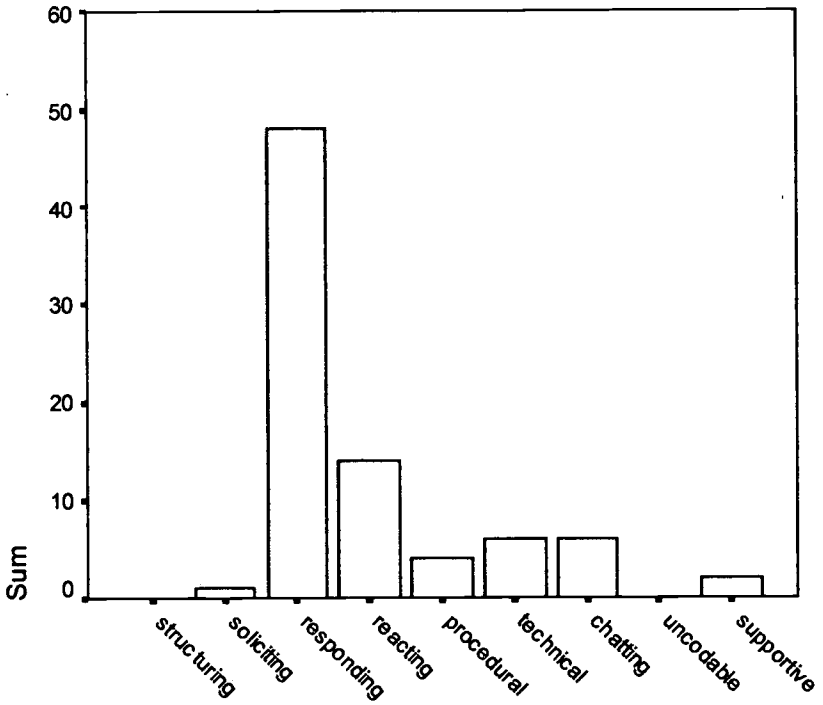
Survey. Data was gathered by reviewing the survey. The survey asked students to report their capabilities using technology, web-based technology in particular, and other demographic data. They were also asked to critique the course as it progressed through the term in terms of technical difficulties, interest in topics, preferences to types of activities, instructional strategies used, and amount of work that this course in this format involved.

Results of the Study

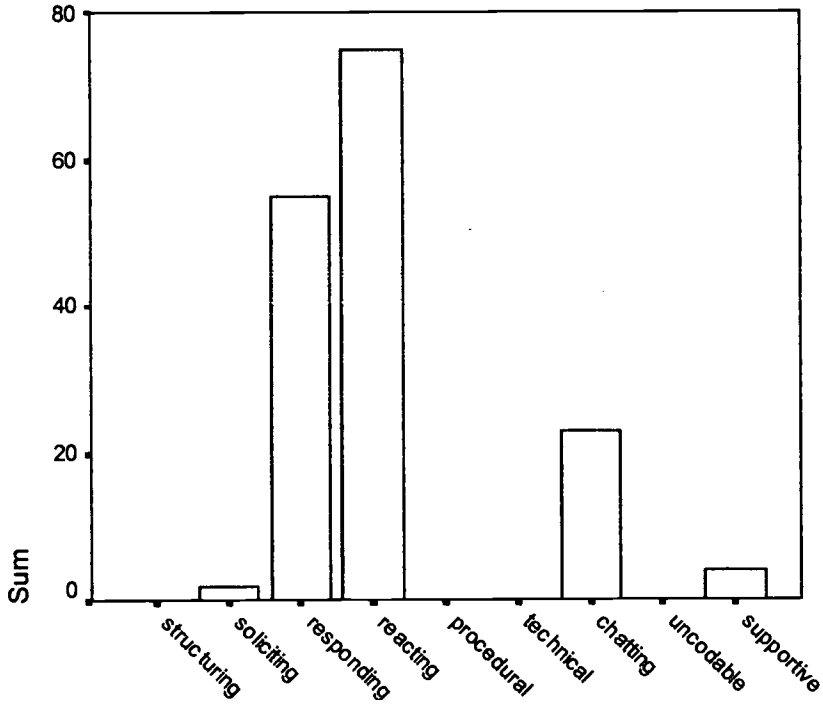
The preliminary analysis showed that participants' comments were made in all substantive and non-substantive categories in both chat and listserv discussions. The exceptions were that no structuring (the question was posted in the weekly assignment) and no uncodable (albeit, unreadable by the researchers) items were found in the listserv. Several of each were found in the chat discussions. (See the 4 bar graphs below.) In addition, whether in a chat or listserv discussion for either week, students overall provided more substantive statements either by responding to a question or reacting to another's statements or comments than any of the other seven categories. By merely observing the length of the single responses or replies by a participant in a listserv discussion, one would think that it would contain more substantive remarks than those in a chat discussion, especially since chat statements tended to be shorter in length and are often broken into by others' statements. However, the chat participants showed

greater numbers of responding and reacting statements in both weeks over the listserv participants. There were also greater amounts of non-substantive statements in the categories of chatting and supportive comments among the chat participants than those in the listserv. Overall there were a greater number of interchanges and interaction among chat participants than with those using the listserv. Thus, it appears that for at least these two weeks, the chat discussions were dynamic with a lot of interactive and interchanges among the participants.

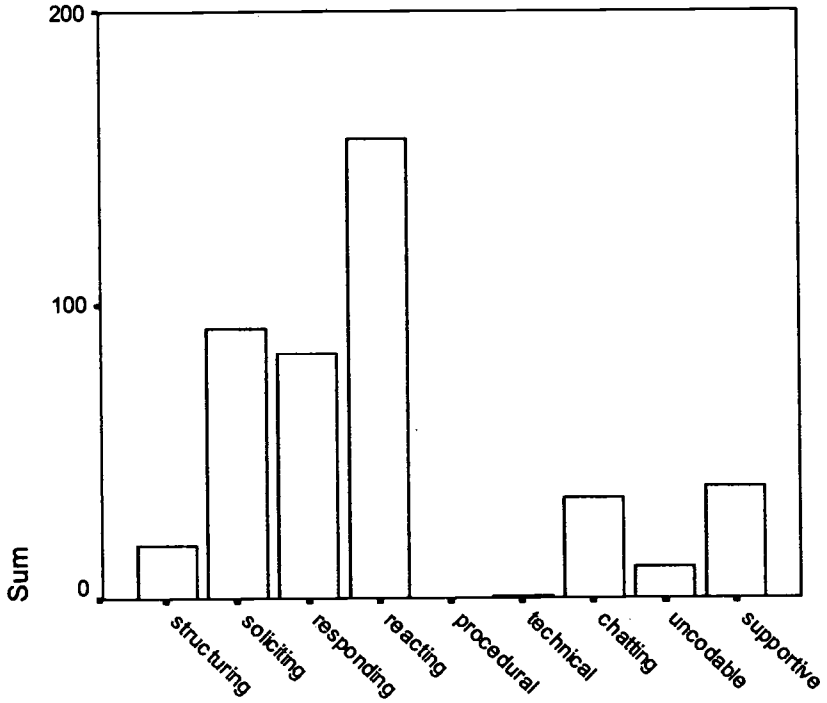
Frequency of each category for Week 13 Listserv



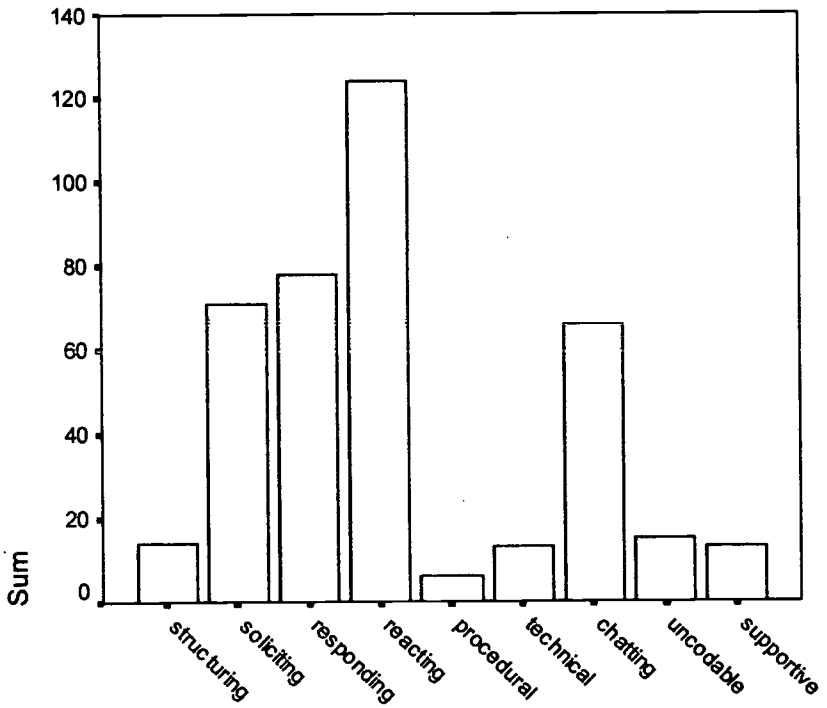
Frequencies for Week 14 Listserv



Frequency of each category for Week 13 Chat



Frequencies for Week 14 Chat



The supportive data suggests that students liked both modes of discussion when they were surveyed. In terms of the listserv discussions, the majority of the students gave positive responses (36% agree and 14% strongly agree) to the statement, "I like threaded discussions." The majority of the students also were positive about the statement "I like small group chats." (50% agree and 7% strongly agree). In their comments, they stated that the chat discussions were sometimes difficult to follow, but still enjoyed them. One student commented that they liked small group chats over large group ones.

Discussion of Results

The importance in this study is not so much as to determine 'what group won", but rather that which form of discussion might be preferred and be appropriate for the types of actions and interactions that students need to perform in a learning community. It is important to realize that graduate students for different reasons enjoyed both forms of discussion. The use of chats provided a direct and interactive environment in which students reacted and responded to the topic at hand, chitchatted, and made supportive comments to each other. It involved a high degree of interchange and was a dynamic environment, sometimes difficult for some students' to follow the train(s) of thought. In contrast, listserv discussions provide an opportunity for students to provide reflective, thoughtful responses to posed questions, judging by the length and wording of any given single response. They are also able to provide insightful reactions to others' opinions and ideas presented perhaps because a listserv's timeframe (of a week) allows for that. Both modes—synchronous and asynchronous have merit and should be used within online courses; they clearly can be used for different purposes and provide different, but useful means for students to engage in learning.

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