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Instructor Perception of Online Discussion Boards

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Abstract

Online discussion boards (ODBs) are asynchronous, text-based, online applications commonly used in online courses to support interaction among students. To improve ODB design, it is necessary to understand the beliefs, attitudes, and requirements of online instructors who use them. To this end, an exploratory study was conducted to capture experiences with and reactions to ODB use from online instructors. Participants include 91 online instructors who teach a wide variety of courses throughout three community colleges in Southern California. An online questionnaire consisting of approximately 30 items (depending upon previous experience with ODBs) was used to capture data. The data show that online instructors have found their use of ODBs to be generally positive in terms of administration and slightly negative in terms of facilitation requirements. They further show that instructors would like ODBs to be changed to include components that ease facilitation and assist students in responding more critically to topics and to exclude the strain of reading through numerous responses. Based on its findings, the study provides suggestions to improve adoptions of current-generation ODBs, as well as suggestions for the design of next-generation ODBs.

Keywords

Online discussion boards, asynchronous communication, distance education

Introduction

The goal of this research is to obtain guidance in the development of an enhanced online discussion board (ODB) for use within educational settings. Traditional ODB—computer applications that provide for the asynchronous posting of text messages and replies—are ubiquitous in education, especially in online education. Using ODBs, students and teachers are able to discuss topics without having to be in the same place. Without facilitation, however, online discussions can become underutilized and ineffective as an educational tool. Monitoring an online discussion requires time and effort. Instructors must watch discussions unfold to assure desired learning outcomes. Such monitoring sets a cost constraint on the use of online discussions—the value of online discussions must exceed the costs of monitoring them. Discouraged, instructors may choose not to continue using or not to adopt an ODB because the required monitoring of discussions will take too much time and effort (Paulsen, 1995). Such choices can curtail student opportunities for active learning through interactions among peers promoted by online discussion. Continued development of ODBs, including improved features of facilitation and administration, can improve ease of use, and will possibly encourage further adoption of online discussion technology by reducing the costs associated with discussion monitoring. We begin these efforts by surveying instructors who teach online courses (purely online, not hybrid) for a Southern California community college district. This exploratory study investigates online instructors’ experiences, perceptions, and desires in regards to online discussion board utility. Our research also seeks to determine general teaching methodologies and course practices advocated and used by online instructors. Specifically, we seek to explore the following elements:

1. Identify whether the majority of online instructors utilize ODBs, how many use them for course conversation exercises and determine whether teachers believe that students find ODBs to be a valuable part of the course.
2. Analyze whether difficulties in technical administration of ODBs are a discouraging factor for instructors as they try to manage their online course.
3. Determine the impact on instructors in trying to facilitate conversations through use of ODBs
4. Explore the general teaching styles that online instructors adhere to and ascertain whether existing approaches to online instruction are supportive of collaborative learning techniques.
Review of the Literature

Online Education

The use of ODBs within education often coexists with use of an online education system. In that regard, ODB effectiveness is directly affected by the successful use of online education systems. Cena (2000) stated that the ownership and literal connectivity students feel with online projects and communication can make learning more effective. Web-based learning allows for instant access for the modern student. In one day, a student can research a topic using real-time correspondence, multimedia programs, and world-wide collaboration. In that same day, they could then publish their findings on the Internet or course discussion module in time for a peer to extrapolate the findings even further. One of the highest appraisals of web-based instruction is that its participants are active rather than passive learners (Jonassen, 1995). Web-based instruction is also an empowerment tool for the learner. With online collaborative projects, students work in an environment, which is free of judgment, racism, religious preference, and socioeconomic standards. Equally, students bring life perspectives to projects and therefore expose fellow students to different perspectives (Cena, 2000). Schacter (1999), through use of 700 empirical research studies, suggested that computer-assisted instruction, integrated learning systems, technology, simulations and software, collaborative networked technologies, and design and programming technologies all resulted in gains in achievement on researcher-developed tests, standardized tests, and national tests.

Online Discussion Boards

In current online learning environments, ODBs are commonly used as a means for providing group and collaborative learning opportunities (Han & Janette, 2006). Use of ODBs require students to engage more actively with course content, collaborate with peers, and develop new knowledge and inferences from content (Markel, 2001). ODBs are often used to post general questions or critical thinking exercises. Because the ODB does not occur in a live synchronous setting, instructors and students are given the chance to do planning and research before posting their answers. In an ideal setting, this in turn would allow instructors and students the ability to methodically critique and respond to the postings of students and peers.

Impact on Students

Researchers have found evidence that use of an ODB can be an effective communication tool for students who might usually be reluctant to talk in live settings; it can be helpful in discussing controversial or sensitive subject matter (Bump, 1993; Ruberg & Taylor, 1995). Conversely, while the ODB can at times describe an effective tool for discussion and collaboration in an online environment, recent studies have also shown that this is not always the case. Bonk and Dennen (2003) found that, without deliberate planning, asynchronous discussions increase learners’ feelings of isolation due to scattered discussion in place of meaningful dialogue. Furthermore, findings posited by Shea, Fredericksen, Pickett, Pelz, and Swan (2002) after surveying 3,800 students, found that student satisfaction and perception of how much was learned in a course, often correlated with whether a significant part of their grade was weighted by online discussion participation. This raises a question as to the responsibility of instructors and peers to provide meaningful feedback in ODB environments. Equally, it raises a question as to what degree of feedback is necessary in order to mediate these feelings of isolation. In regards to student requirements, Meyer (2003) notes that they felt as though time expanded in asynchronous conversations and that almost all students commented on how long it took to read, write comments, and check back during these discussions. Saba and Shearer (1994) determined that in order for students to feel sufficiently connected to a course, it is necessary for instructors to create courses that provide an organized pace, a logical outline of instruction, sufficient instructional directions, and plenty of feedback. In this way, learners feel connected to the course and the perceived feeling of distance is decreased. Saba and Shearer also found, however, that too high a level of input from the instructor can lead to a one-sided feeling of participation and have a negative effect on course dialogue. Effective instructors need to know how to provide a balanced approach toward the implementation of ODB tools.

Impact on Instructors

With careful consideration toward use of ODB being necessary for successful online course curriculum and facilitation, one must ask how this impacts an instructor’s ability to manage a course effectively while dealing with all course-related factors (grading, problem-solving, emails, etc.). This is especially true, given the often time-constraining commitments of working at an institution of higher education. Paulsen (1995) identified that one of the main problems in the use of ODB is that of the teacher workload and that in fact, teachers’ main reservation in using ODBs is the undetermined demand on their time. Furthermore, while the latter describes a problem in management of ODB development, it doesn’t describe the pedagogical impact on the management of a student’s progression through a course of study. Romiszowski and Chang (1992) determined that “loss of control” of what was being discussed was a problem often cited by instructors who utilize ODBs. Students in sensing a loss in structure would resort to using recent circulated messages and then respond to the discussion out of general context. This would often lead the discussion into a different, possibly undesired area. Romiszowski and Chang also found that the effort of then bringing students back to the original topic was harder in an ODB environment than it would be in a
class-based face-to-face discussion. Following from the work of Schutz (1966), McDonald and Gibson (1998) identified that online discussions are subject to the same needs as face-to-face group development and that it is just as important in online discussions that users are able to fulfill interpersonal needs of inclusion, control and affection. This can be difficult task for a teacher when conversation is stripped of body language and intonation. Professors are challenged especially in regards to facets such as inclusion due to the isolating effects of online education as a whole. It is this aspect of trying to facilitate and promote conversation within online education settings, specifically through ODBs, that our research seeks to unravel. In the face of these requirements and impact on work load, there seems to be a positive reaction from instructors in regards to the use of ODBs in online instruction and its effects on student learning. When asked to rate the importance and effectiveness of ODBs on a scale of one to five, instructors on average gave ratings above four (Liu, 2005). Black (2005) found that in surveying 92 graduate students in a span of six years that 95% reported positively to the use of ODB as a method for discussion.

Impact on Research Design

Literature and experience informs us that feedback is one of the key elements of success in promoting engaging online conversation. Feedback is best when it feels personal, important and timely and if neglected it can cause a negative loop contributing to a drop in student participation (Markel, 2001). In light of these acknowledgements to the value of ODB, problems in management, facilitation and course design begs the question as to what elements of ODBs are frustrating to instructors and how could they be designed better. Mason (1992) relates that although it can be easy to train instructors in the use of computer mediated communication that teaching them appropriate moderation skills can be difficult. Equally, Mason and Kaye (1989) noted that general success in low level conferencing was extremely dependent on the quality and quantity of instructor input and that instructor workload was a critical issue. Hence, it was determined that in order to successfully design new artifacts for effective use and facilitation of ODBs it is essential to determine the current needs and perceptions of online instructors as they work toward providing effective learning environments and properly assisting in facilitation and moderation of their student’s online communications.

Methodology

Design

Exploratory research was conducted in order to capture experiences with and reactions to ODB use from online instructors. Quantitative and qualitative data was gathered from participants using an online survey. This approach was used to determine whether problems exist in use of Online Discussion Boards, as well as to assist in the development of an initial set of requirements for enhanced ODBs or even intelligent ones. The survey consisted of questions which sought to determine an instructor’s general experience in facilitating and administrating ODBs. Data gathered included (a) instructor perception of ODB facilitation (b) instructor perception of ODB administration, (c) instructor perception of ODB value to course objectives and students, (d) and instructor identification with teaching styles. The constructs of facilitation and administration were measured through sets of questions that explore perceived difficulty, specific difficulties encountered, open-ended questions to explore possible improvements and time spent facilitating or administrating ODBs. Constructs related to course value were measured through questions that explored perceived effect on learning, participation requirements and incentives for ODB use and perception of student value toward ODBs. The survey also sought to determine which teachers are in general more apt to use collaborative methods for teaching and whether this has an impact on their experience and use of ODBs. The construct for teaching methodology or style used an abbreviated version of Grasha’s Teaching Style Inventory measurement (1996).

The target population for this study consisted of online instructors with experience in using online discussion boards. Convenience sampling was used in selection of participants due to access to contact information and confirmation of an existing online education program. Approximately, 160 online instructors from a Southern California community college district (consisting of three different colleges) were emailed requests for participation. The online survey consisted of approximately 30 questions, depending upon experience with ODBs. The questionnaire was made up of multiple-choice, Likert-like, and open-ended questions. An example of the survey instrument has been posted for review and can be accessed at http://www.surveymonkey.com/s.asp?u=64283419681.

Findings and Discussion

General ODB Utilization

A total of 91 participate completed the questionnaire consisting of 38 men and 53 women. Participants had been teaching an average of 14 years, working with ODBs on average of 6 semesters and 83% reported that they were experts in using computers and related applications. A broad range of subjects (26) are taught online, the majority involving computer
applications, math, sociology, science and accounting (Figure 1.1). We found that 79% of the instructors required use of ODBs in their course and that for those that did not require participation use was most often encouraged by participation points.

Most instructors spend 2-4 hours administrating and 2-4 hours facilitating online discussions. Participants generally found administrating ODBs easier than facilitating ODBs; however they reported that general use was not difficult overall. In regards to their students, instructors believed that 93% of them found ODB use to be valuable and that 92% of them were either enthusiastic or willing to participate in online discussions.

Table 1.0 describes general findings across the four central areas of ODB utilization addressed within the study.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Category and Characteristic</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utilization</td>
<td>Require use of ODB in their course</td>
<td>83%</td>
</tr>
<tr>
<td>Difficulty in Administration</td>
<td>Describe Administration as either Difficult or or Neither Difficult or Easy</td>
<td>39%</td>
</tr>
<tr>
<td>Difficulty in Facilitation</td>
<td>Describe Facilitation as either Difficult or or Neither Difficult or Easy</td>
<td>54%</td>
</tr>
<tr>
<td>Teaching Style</td>
<td>Strongly Agree or Agree that their course benefits from collaborative learning.</td>
<td>74%</td>
</tr>
<tr>
<td>Teaching Style</td>
<td>Highest Ranked = Emphasis of teacher-student interaction</td>
<td>52%</td>
</tr>
<tr>
<td>Teaching Style</td>
<td>Highest Ranked - Instructor Led Discussion and Independent Assignments</td>
<td>44%</td>
</tr>
</tbody>
</table>
ODB Administration Difficulties

Outside of open-ended comments instructors had the most administrative difficulty in organizing topics and creating discussion groups (Table 2.1). Overall it would appear that instructors do not experience great difficulty in administering ODBs. As might be expected, it would appear through cross tabulation that difficulty in ODB administration is related to semesters of experience with ODB, however correlation analysis, while significant, shows a positive but weak correlation (0.22). Contrary to quantitative responses, open-ended responses provided by instructors more often related negative aspects of administration. An example of comments regarding difficulties in administration elicits:

- “It gets chaotic quickly if students aren't policed closely to reply to postings and keep things threaded. I have had to delete discussions and start over--too unorganized to be of any learning.”
- “I find it's not technically difficult, but that either ______ is inconvenient (having to reestablish groups for every question, etc.) or I just don't know enough yet. Not difficult, just time consuming.”
- “HTML tools are not easy for majority of students to use to add links, images.”

Suggestions for improvement of ODB administration were more verbose and instructors seemed to have very specific comments in regards to improvements that might be made. The following provide an example of a few posted comments:

- “I need to have an easier way to grade them. Perhaps, the following would be helpful. Students post there question into a quiz. When they submit the quiz, their question automatically gets posted to a discussion board for viewing by their peers. This would allow for greater individual accountability”
- “…you should look hard at the negative changes ______ has made in their discussion board, which have essentially isolated students from each other and from the instructor. Apparently they have not been very responsive to complaints about these problems either.”
- “Perhaps some kind of instant message or chat function that blends seamlessly with the discussion board - a bridge between the asynchronous and synchronous. So that if the instructor or another student happens to be online and available, questions can be answered or discussed. It might be an improvement on the either/or "let's go into a chat room" approach, which can be too deliberate - students don't necessarily hang out in chat rooms, and I don't think I'd want them to. Overall, I'd rather spend my time answering and discussing class content than administering (and often training students to use) online discussions, which can take longer than one expects.”

ODB Facilitation Difficulties

Comparatively, instructors found facilitation to be more difficult than administration of ODBs. The greatest reported difficulty in facilitating ODBs (63%) was the amount of time it took instructors to read through student posts (Table 2.2). The next closest difficulty reported (20%) was in determining when to provide input in order to keep a discussion progressing effectively. Some of the comments provided by instructors in regards to difficulties encountered include:

- “Making students read previous postings so that they do not repeat a comment or question.”
- “Making sure the discussion is limited to mathematics.”
- “There are times when it is difficult to respond in a timely manner when a large project needs to be graded.”

Equal to comments provided in the administration section, when instructors were asked to suggest improvements, their answers were explicit and fairly detailed in some cases. Appropriately, some comments were more pedagogically oriented toward what makes for good discussions. Below are some of the more thoughtful comments provided:

- “…it is critical that the faculty plan questions or topics that require some thinking and investigation by the student. This helps to eliminate too much of the same thing in the discussion or reiteration of the same thinking. Faculty need to take the responsibility to model what they want in terms of discussions. They also need to respond to a sampling of the postings to let students know they are being read.”
- “Staying on top of creating avenues for student to pursue their own cross-cultural interests with the students in the other country (additional chats, Blogs, IM) takes time and flexibility within the course itself but the pay off for the students is astonishing.”
- “the best I've seen is ________ (I also work with ________, which uses ________) Reason: the discussion threads are easy to see, and easy to track through a variety of organizational tools. ________’s doesn't have any of these tools, and they compartmentalize the discussion, which leads to a feeling of isolation among students.”
Table 2.1 Difficulties in Administration

<table>
<thead>
<tr>
<th>What difficulties do you encounter when administrating ODBs?</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other</td>
<td>30</td>
</tr>
<tr>
<td>Organizing Topics</td>
<td>12</td>
</tr>
<tr>
<td>Creating Discussion Groups</td>
<td>7</td>
</tr>
<tr>
<td>Saving Discussions</td>
<td>6</td>
</tr>
<tr>
<td>Creating New Discussions</td>
<td>4</td>
</tr>
<tr>
<td>Providing access</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 2.2 Difficulties in Facilitation

<table>
<thead>
<tr>
<th>What difficulties do you encounter when facilitating ODBs?</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading Through Responses</td>
<td>40</td>
</tr>
<tr>
<td>Other</td>
<td>19</td>
</tr>
<tr>
<td>Determining if intervention is needed</td>
<td>13</td>
</tr>
<tr>
<td>Keeping students focused</td>
<td>9</td>
</tr>
<tr>
<td>Effectively Responding</td>
<td>6</td>
</tr>
</tbody>
</table>

OBD as it relates to Teaching Styles

For the purposes of this study we utilize the term teaching style to broadly refer to instructional techniques, roles, and activities. Instructors identified that Peer to Peer Discussion was the reason ODBs were most utilized in their course and 91% found peer to peer discussion to be one of the greatest effects on student learning when using ODBs. Interestingly, while teachers agreed that their course benefited from collaborative learning techniques (74%) and that they consider student to teacher interaction as the key to effective teaching (52%), comparatively, when asked to rank one course activity that would best assist students in learning, the highest rated methods consisted of course lecture/presentation and working on independent assignments. This leads us to question whether participants are led toward what might be considered more “politically correct” responses to teaching styles while in practice they identify with or use other methods. It is also possible that use of more collaborative methods within online education systems is prohibitive. Several multiple regression analyses were conducted using the teaching styles that instructors identified with as predictors for ODB use, facilitation difficulty and administration difficulty, yet none provided variability with enough significance to support hypotheses that would relate use of ODBs or difficulty in utilization with teaching style. Further research however, that explores this topic more thoroughly would seem appropriate.

Threats and Limitations

Participation in the study took place at somewhat different times for instructors at different colleges. For one college, participation occurred during the middle of the fall semester. For the other two colleges, because permission was not granted until the beginning of the spring semester, participation occurred later. It is possible that systematic differences among participants, in terms of willingness to participate in the study, could exist because of the time when participation for them was possible. The effect of such differences, should they exist, is unknown.

In addition to this, several other aspects of the study should be noted. First, it was found, through qualitative responses, that a few participants did not make clear distinctions between administration and facilitation, something that would have affected their perception of related questions. Second, answers to all questions were voluntary and, consequently, full response rates were not received for many questions. Third, as part of the same community college district, all instructors utilized the same ODB system within their course. This factor was important in allowing us to control for differences of user experience based on the ODB system they use for class. However, this could limit the generalizability of conclusions.

Study Significance

We discovered that the administrative functions of ODBs did not generally hinder instructors. Although problems were identified and there is always room for improvement, it does not appear that administrative factors get in the way of conducting online discussions. More prevalent was the need for improvement in tools or functions that can support the conversational element of ODBs. Teachers determined that ODBs were essential for discussion and valuable to students, but are suppressed by the time and effort it takes to read and evaluate postings. These findings will inform design-science research toward the development of enhanced and/or intelligent ODBs. Understanding core elements of use provide a base case for system requirements and design considerations and are consistent with frameworks that uphold that successful artifacts are effective and complete when they systematically and analytical describe needs and problems in existing systems (Hevner, 2004).
Conclusion

This research will be used to determine design and development needs in creation of a more effective application for use in online discussions. Specifically, considerations for an artifact that would assist in discussion facilitation needs for use within higher education settings. The first research objective toward this goal was to determine the requirements needed to design such an application and consequently increase the effectiveness of online discussions and the educational value they provide. Based on study results it is determined that while instructors do not seem to have problems in working with the technical aspects of ODB use, that they do encounter difficulty in reading and evaluating student responses. This leads to the question of how to develop ODB that can assist in discussion facilitation and evaluation. The future artifact will take into consideration the cognitive, social, physical and affective constructs of computer mediated means for asynchronous communication.

References