Student-Identified Strengths and Challenges of Using Blackboard™ for Group Projects in a Social Work Course

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Abstract: *Blackboard™ provides social work educators integrated online communication tools that they can employ to facilitate student learning through features such as e-mail, discussion forums, file exchange, virtual classroom, and links to online resources. This study describes students' experiences using BlackboardTM to support a group project assignment. The majority of students found it easy to use and useful for the project, and indicated that they would like to use it in other courses. In addition, students gained technical skills as a result of the group project. Students' group project grades and final course grades were comparable to those in other sections of the same course taught by this investigator.*

The findings of this study suggest that online technology can be used to facilitate group assignments for MSW students. The benefits include increased efficiency of group functioning and increased accountability of group members. The challenges include technical problems and student resistance to using the technology.

Keywords: Social work education, technology, computers, Internet, diversity, racism

The proliferation of online educational software packages such as Blackboard™ provides social work educators integrated communication tools to facilitate student learning through features such as e-mail, discussion forums, file exchange, virtual classroom, and links to online resources. Blackboard™ may be employed in social work courses to support group project assignments that require frequent communication and interaction among students. Scheduling difficulties and insufficient time pose a serious challenge to collaborative work on group projects outside of class. Many MSW students juggle coursework and field instruction with paid employment and family responsibilities. At regional schools, greater driving distances and long distance phone charges create additional challenges. Blackboard™ can help students overcome these obstacles by facilitating ongoing interaction outside of class and between group meetings.

This study described students' experiences using Blackboard™ for group projects in a social work course about racism and diversity. A qualitative study was undertaken to elicit student-identified strengths and challenges associated with using online technology for this purpose.

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LITERATURE REVIEW

The promise of online technology for social work education lies in its capability to support adult learning processes. Andragogy is the art and science of helping adults to learn. According to Crook and Brady (1998), strategies that promote collaborative learning, self-directed learning, and the immediate application of newly acquired knowledge and skills are key to andragogical approaches. Online technology offers new formats for delivering course materials and facilitating ongoing interaction among students and between students and instructors that are congruent with andragogical approaches.

Social work educators have begun to employ online technology in courses about those addressing human diversity (Miller-Cribbs & Chadiha, 1998); research (Stocks & Freddolino, 1998; 2000); introduction to social work (Gasker & Cascio, 2000); psychopathology (Crook & Brady, 1998); and social work with task groups, organizations, and communities (Crook & Brady, 1998). Online technology has been employed to provide course materials, including lectures (Stocks & Freddolino, 1998; 2000; Wernet, Olliges, & Delicath, 2000), lecture outlines (Crook & Brady, 1998; Schoech, 2000), web pages with links to other web sites and documents that illustrate course concepts (Miller-Cribbs & Chadiha, 1998; Schoech, 2000), and for posting student work to share (Schoech, 2000). Online technology including listservs, e-mail, discussion forums, and online assignments have been used to enable students to collaboratively process course content and to extend class discussions (Crook & Brady, 1998; Faux & Black-Hughes, 2000; Gingerich, Abel, D'Aprix, Nordquist & Riebschleger, 1999; Miller-Cribbs & Chadiha, 1998; Stocks & Freddolino, 1998; 2000; Wernet et al., 2000).

Evidence suggests that online interaction increases class participation and enthusiasm for course content and enhances educational relationships (Gasker & Cascio, 2000; Gingerich, et al., 1999; Stocks & Freddolino, 1998; 2000; VanSoest, Cannon, & Grant, 2000). It is particularly beneficial for shy students (VanSoest, et al., 2000) and female students (Gasker & Cascio, 2000). The flexibility in terms of time and space for discussion allows for thoughtful participation, as students have more time to process interactions and prepare their responses (Schoech, 2000).

Schoech (2000) found comparable learning outcomes for students in sections taught entirely online compared to those in sections that did not employ online learning strategies. Several authors have reported enhanced student learning as a result of implementing online technology into their courses (Crook & Brady, 1998; Johnson & Huff, 2000; Miller-Cribbs & Chadiha, 1998). Improvements in student technical proficiency have also been reported (Miller-Cribbs & Chadiha, 1998; Stocks & Freddolino, 1998).

Despite the numerous benefits, the integration of online technology into social work courses presents significant challenges and raises certain instructional questions. For example, which students benefit from the use of such technology? Wernet, et al. (2000) found that graduate students benefited more from using online technology in a research class than did undergraduates . They also determined that non-traditional students were more likely than traditional ones to utilize online technology when it was available and to perceive it as beneficial.

The need for face-to-face interaction appears to be important for some students, but not for others. While Stocks and Freddolino (1998) found that students in MSW research courses taught entirely online experienced the lack of face-to-face interaction with their classmates as a loss of an important classroom element, Schoech (2000), who taught an online doctoral level course on technology-supported practice, did not.

Student-student interaction in online technology-enhanced courses has been relatively unstructured and voluntary. This may contribute to the somewhat less than optimal participation rates reported for students in online interaction and a high volume of exchanges that are not specifically related to course content. For example, some authors report a large proportion of online interactions related to questions about grades, assignments, acknowledgements of receiving messages, and other administrative concerns (Johnson & Huff, 2000; Stocks & Freddolino, 1998). Stocks and Freddolino (1998; 2000) found that providing more prompts for student interaction and self-directed learning increased the number of interactions that were relevant to course content and improved overall student perceptions of the class. A related issue is the need for guidelines regarding the appropriate uses of different types of online technology and the combinations of features necessary to support specific learning tasks. For example, Faux and Black-Hughes (2000) found that providing course materials online without opportunities for student-student interaction resulted in negative student perceptions of the online instructional strategy they employed.

Technical problems are a consistent theme in the literature. Students who lack computer skills or who are unable to consistently access the Internet are often blocked from fully participating and generally report negative perceptions of the course, overall. Students tend to experience frustration and anxiety as they develop new technical competencies. Other technical problems that interfere with the learning experience include limited understanding of the capabilities of the online features by instructors, which may result in flawed assignment designs and systemic problems with the software that prohibit executing even the best conceived assignments (e.g., slow connections, system overloads, and crashes).

The tiny body of literature on the use of online technology in social work education provides merely a glimpse of its possibilities and the concomitant pitfalls. To date, it has been used in very limited ways to deliver course content, to increase student interaction in processing course materials, and to enhance educational relationships. Only one study has reported using online technology for group projects. Schoech (2000) attempted to use a chat feature for a group debate in a class taught entirely online, but found it unwieldy.

This study involves the application of online technology for a group project in a class primarily taught face-to-face in a classroom setting. A qualitative research approach was adopted to allow a deeper examination of students' perceptions than is afforded by quantitative analysis, which characterize most previous studies on this topic.

METHODS

Group Project Design

Students in an MSW-level racism and diversity course worked in groups to critically analyze a current issue related to the course. Content included a brief historical summary that addressed how oppression and discrimination or socially-constructed difference shaped the issue; an incidence report; theories of causation; identification of current controversies; policy and practice intervention options; and implications for practice development. Students self-selected into groups of three-to-five based on topics they generated in a class brainstorming session. The groups' research findings were displayed in the form of "digital posters," in the form of Microsoft PowerPoint™ slideshows posted on Blackboard™ and presented at an in-class digital poster forum. Each student was required to complete a weekly journal that documented her or his experience completing the group project.

The digital poster accounted for 75% of the group project grade. All students in a given group received the same grade for the digital poster portion of the group project. Grading criteria included thoroughness in addressing the topic, appropriate utilization of concepts from class to analyze and discuss the issue, and organization and clarity. The journals accounted for the remaining 25% of the group project grade. The group project comprised 30% of the overall course grade.

At the inception of the assignment, the instructor created a "group page" in Blackboard™ for each group that contained a set of communication features that only group members could access. These included a discussion forum that enabled any group member to create a virtual space where all group members could post and respond to a particular issue; a "file exchange," where any group member could upload a computer file in any format for other group members to access (provided that they had the software to open it); and an e-mail feature that allowed for messages to be exchanged within the group. The groups were instructed to utilize their group pages to support their group project work. No specific directions about how they should employ the features were given. Brief instruction on how to use Blackboard™ was provided by the professor in the early class sessions. An online manual was available to students, as well. Students had some prior experience with using Blackboard™ for a previous assignment. No in-class instruction on the use of PowerPoint™ was given. However, links from Blackboard™ to online PowerPoint™ tutorials were provided.

Participants

Participants were social work students in one section of a Racism and Diversity course on a large urban campus that enrolls students from a multi-state area on the Eastern Seaboard. Students ranged in age from 25 to 53, with a mean age of 31 years. The majority were female (84%), and predominantly white (58.3%), although 33.3% were African-American. The remaining 8.4% were Asian and Hispanic. Full-time students represented 64%, while 36% were part-time students. The overwhelming majority of respondents (88%) had Internet access at home, while 12% accessed the Internet at work or from some other location.

Measures and Data Collection Procedures

Two mechanisms were used to collect relevant data: (1) a self-report questionnaire consisting of 13 closed- and open-ended items filled out by students at the end of the project; and (2) a 1,600 to 2,000 word journal where 400 to 500 words were written each week for the four week duration of the project. The questionnaire contained demographic items, items about the student's computing capabilities before and after the group project, items about access to computers, three Likert-scale items, and two open-ended questions about the disadvantages of using Blackboard™ for completing group projects and how the professor could have made the technology more useful for the group project. Journal content was required to focus on how the student used Blackboard™ to work with his or her group, including information about the strengths and challenges of using the software.

Limitations

A limitation of this study was a potential social desirability bias in student journals. Students were strongly encouraged to be honest in sharing their feelings about their experiences with Blackboard™, and most reported both pros and cons of using the technology. However, some students may have been uncomfortable because their journals were not anonymous and counted toward their final grade. Also, some students may have been very negative because they were resentful about being required to use Blackboard™. The questionnaires were anonymous and posed less of a threat to validity; however, a few students could be identified based on demographic information (e.g. the only black male in the class). Again, the range of responses from positive to negative, suggested that social desirability did not pose a significant threat.

RESULTS

Quantitative Analysis

Students completed surveys in class at the conclusion of the group project assignment. A total of 25 surveys were returned (response rate of 96%). Table 1 shows the distribution of students' computing capabilities before and after the group project. Practically all of the students were able to send e-mail and use word processing software prior to the group project, and the majority could send an attached document via e-mail. However, fewer than one-third could use PowerPoint™ prior to the group project. Following the group project, there was a 32% increase in students who could send an attachment via e-mail and a 60% increase in those able to use PowerPoint™. Table 2 presents the distribution of students' evaluation responses. The majority of students agreed that Blackboard™ was useful in completing their group project, easy to use, and they would like to use it for group projects in other classes.

Qualitative Analysis

A qualitative analysis of the journals was conducted to identify the major themes and elements concerning how students utilized Blackboard™ to support their group project work, identify the benefits of using the program for this purpose, and uncover problems and pitfalls they encountered. The results of the open-

Table 1: *Percentage Distribution of Students' Computing Capabilities Before and After Group Project*

Computing Capabilities	Before Frequency	%	After Frequency	%
Send e-mail	25	100	25	100
Attach document to e-mail	16	64	24	96
Word processing	24	96	24	96
PowerPointTM	7	28	22	88

N=25

Table 2: *Percentage Distribution of Students' Evaluation Responses*

Survey Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Blackboard™ was useful in completing my group project	16%	52%	12%	8%	12%
Blackboard™ was easy to use	48%	28%	12%	12%	0%
I would like to use Blackboard™ for group projects in other classes	32%	32%	12%	4%	20%

N=25

ended survey questions overlapped with the themes identified in the qualitative analysis of the student journals and are therefore not reported separately here.

Each student submitted four journal entries for a total of 104 documents that were analyzed. Journals were electronically submitted to the professor in a popular word processed format (e.g., MS Word, WordPerfect) via the "digital drop box" feature of Blackboard™. Analysis of the journals was facilitated by using Atlas™, a software program designed for qualitative analysis. First, an open coding process was used to examine, compare, and categorize the data based on their latent content. In the subsequent phase of the analysis, axial coding was used to make connections between categories and pull out themes that naturally emerged. Data were systematically reduced to three main themes: (1) how Blackboard™ was employed to support group projects; (2) the strengths of using Blackboard™; and (3) the challenges of using Blackboard™. Subthemes were identified within each of these main themes.

Using Blackboard™ to Support Group Projects

Balancing Online and Face-to-Face Interaction. All of the groups met face-to-face outside of class over the duration of the project; they used Blackboard™ for communicating with each other between meetings. Earlier meetings focused on formulating the topic and work plan. Towards the end of the project, groups met face-to-face to finalize their presentations. They also uniformly met in person to learn PowerPoint™. The following comment illustrates this process.

> *Achieving the appropriate balance between using the Blackboard™ technology and meeting in person, our group worked extremely well together. At first, we were apprehensive about relying solely on Blackboard™ to complete the presentation; however, as time progressed, we discovered that Blackboard™ was helpful in facilitating meetings, posting any completed work, and, of course, communicating in the absence of any member. Our group found it necessary to meet in the final stages of completing our project so we could compile and edit our information and create appealing slides.*

The few groups that did not establish a work plan, deadlines, and procedures for posting and updating documents experienced problems communicating, regardless of the extent to which they employed Blackboard™. As with any form of communication, Blackboard™ was only useful if everyone in a group used it as prescribed by the group, including checking the group page frequently.

Many students found it difficult to have complex discussions or brainstorm online. One student who actively and effectively used Blackboard™ throughout the project felt that the creative process was somewhat stifled due to a lack of regular face-to-face contact with group members. A few expressed a feeling of isolation from their group members because the efficiency of Blackboard™ decreased the need to meet frequently. There seemed to be a general consensus that face-to-face contact is a valued aspect of group project work. Meeting in person was viewed as a way to get to know one's classmates and feel connected to the group. The following comments capture these sentiments:

> *The Blackboard™ system, while good in theory, has made me feel very disconnected from my group. I think this is one of the negative aspects of the system. It doesn't mandate meeting in person and tends to discourage forming friendships that come out of working together with classmates. But it has allowed me to better manage my time, as it negates having to drive to (campus) or stay very late after class.*

Use of Specific Blackboard™ Features. E-mail was the feature most often used in the earlier stages of the project, probably due to the fact that most students were familiar with it. Students used e-mail to update each other on the status of their work, schedule meetings, send Internet resources to each other, send drafts of their work, and provide feedback to each other about those drafts. The file exchange was most often used by group members to share their ideas, resources, and drafts of their work. Many students used e-mail in conjunction with the file exchange to inform other group members when they had posted a document.

Eventually, some groups moved away from using e-mail in favor of using the discussion forum because it provided a central place for group members to view all messages on a given topic and it automatically organized messages posted there by topic. Students used the discussion forum feature to update their groups on the progress on their tasks and for group problem-solving. It was also used widely to provide feedback to each other on documents that were posted on the file exchange.

Strengths of Blackboard™ for Group Projects

Improved Group Efficiency. Effective use of Blackboard™ increased the efficiency of the group process for most groups. Many students reported being able to accomplish more between meetings as a result of continuous communication. Students were able to share resources and preview group members' work prior to meeting, thereby eliminating the need to spend valuable in-person group time engaged in these tasks, reducing the number of group meetings, and shortening face-to-face meetings, as illustrated by the following remarks.

> *The Blackboard™ system has been helpful in time management issues that all graduate students face but especially helpful in addressing concerns of a full-time working student. It has allowed me to work on the project anytime I have a free moment at the office or after I have finished my paid employment for the day. I have found this extremely helpful and wish my other courses were subscribed to this service. It would help me greatly with the term paper I am working on with two other students for Human Behavior 2.*

> *… because of Blackboard™ we were able to stay focused during the meetings and they remained short and precise. In other group meetings I have had, we have always met for at least two hours and it would take the first half of the session to get all the information compiled and figure out who would do what. I definitely feel that by having Blackboard™ available and being able to communicate before the meetings through e-mail and file exchange, we saved a lot of time in face-to-face meetings.*

Many students found using Blackboard™ to be easier for contacting their group members than attempting to reach them by phone.

> *…I never had to deal with telephone answering machines (a definite plus) and the complications of reaching a convenient time for all of us to converse.*

> *… we do not have to make any long distance phone calls… We can respond even faster to each other's questions and comments over the Internet compared to a phone call"*

Finally, students found that the links to databases and other Internet resources provided on Blackboard™ by the professor and the university's library saved them time by helping them locate resources specific to their topic.

Increased Accountability. An unanticipated benefit of Blackboard™ was that it seemed to increase the level of accountability of students to their groups. Members who were unable to attend meetings could still participate if they were near a computer. Because there were ways to get information to the group even if they were not present, they were not "off-the-hook" in the eyes of their group members. Even students who did not miss meetings mentioned that they felt that Blackboard™ provided them with ways to demonstrate that they were making a contribution to the group.

> *I have found that using Blackboard™ is … particularly helpful when other group members simply can't meet due to various reasons. Blackboard™*

> *enables all members of the group the ability to stay updated and current on the project at hand. Blackboard™ holds all members responsible for completing their part of the project, because all members can communicate and access each other's information from home, work or school.*

> *I have sent back a message to everyone in the group so that they will know that I haven't abandoned the project and that I am still looking for information.*

Challenges of Using Blackboard™

Technical Issues. Some students experienced technical problems that were most likely due to their limited computer skills. They often reported their inability to log on or that the system was down when it was not. Others experienced problems establishing network accounts at the university level, which delayed their online involvement and frustrated them and their group members. These students often needed hands-on technical assistance from the professor and the university technical support staff to resolve their issues. Also, several students exchanged files that were infected with computer viruses. In addition to possibly infecting other group members who received and opened the files on their computers, the corrupted files often were illegible when opened.

A major barrier for some students was limited access to a computer with an Internet connection at home or work. Using Blackboard™ increased the amount of time students needed to spend online. Those who could not frequently check their e-mail or their group's pages in Blackboard™ were at a disadvantage. In addition, students who relied on a dial-up connection to the university server experienced delays or were unable to log onto the system during peak traffic hours. These problems were extremely frustrating for students and sometimes led them to view Blackboard™ negatively and use it infrequently.

Resistance to Computer Usage for Interpersonal Communication. Some students were very resistant to using computers in a social work course for which they believe that face-to-face interaction is paramount, in this case, Racism and Diversity. For these students, even the improved efficiency they found in using the program was not persuasive.

> *I am fine with the idea of group projects, I even like and look forward to them, but the idea that I have to communicate with this stupid monitor more than my fellow humans, bothers me. I am dependent on my modem and the Internet more than my brain, this doesn't seem right or fair. My grade should not be so dependent on my computer literacy. It seems that the whole idea is antithetical to the theories behind group discourse. The idea of a group is to work together and bounce ideas off of one another. If I can't see the faces of my group members, how will I know how they really feel about my ideas? To be perfectly honest, I feel like the entire conception and organization, as well as the digital nature of this project were highly unorganized.*

Lack of comfort or skill with using the computer in this capacity led some students to resist, causing them to delay using the program until very late in the project. However, once they began to use it more frequently, they became more com-

fortable with it and appreciated the increased efficiency. Ultimately, many of these students conceded that they never would have used the program if it had not been required, but they were glad they did because it helped them to overcome their technophobia and learn valuable new skills, as noted in the following comment:

> *I am grateful for the exposure to Blackboard™ and PowerPoint™ that this assignment has given me. I see this opportunity as an important element of my graduate education. It is something I will take with me and be able to use in my professional career. As a matter of fact, I will be presenting this project to the adoption agency where I have worked … for the past 10 years.*

DISCUSSION

This study described students' experiences using Blackboard™ to support a group project assignment in a course about racism and diversity. The majority of students felt that the software was useful in completing the project and easy to use. They indicated that they would like to use it for group projects in other courses. In addition, students improved their technological proficiency as a result of the group project. Students' group project grades and final course grades were comparable to other sections of the same course taught by this investigator.

This study suggests that online technology can be used to support group assignments. The benefits include increased efficiency of group functioning and increased accountability of group members. The challenges include technical problems and resistance to using the technology. The one previous study that addressed employing online technology for group projects found it to be cumbersome for this purpose (Schoech, 2000). This may have been due to the fact that the course in that study was taught entirely online, suggesting that using online technology for group projects may be more appropriate as an adjunct to face-to-face courses. Alternatively, it may be that the some features or combinations of features of online technology are more appropriate for facilitating group projects. For example, asynchronous communication features, such as discussion forums and e-mail, may be more effective than real-time features, such as chat.

Consistent with other studies, this study found that online technology could support self-directed and collaborative learning for social work students. Students used the technology to work in groups to investigate a current issue related to racism and diversity, and to share their findings with their classmates. Given a structured task that required computer-mediated interaction, students employed technology primarily to facilitate their work, rather than for administrative purposes, as was the case in other studies in which the learning task involving online technology was less structured.

It is also noteworthy that the vast majority of the students used online tutorials and worked collaboratively outside of class to learn at least some of the technological skills necessary to complete the project (e.g., PowerPoint™, e-mailing attachments). This suggests that despite initial resistance, social work students can learn to use and appreciate technology. Basic training and direction on how they might employ particular features is beneficial in acclimating students. It may also be useful to help students anticipate how computer-mediated interaction

may differ from face-to-face interaction, and to offer guidelines for effective online communication. In addition, discomfort and limited proficiency may prevent students from voluntarily using available technology, thus, educators may need to make it a requirement in order to ensure participation. Finally, instructors need to anticipate technical problems and ensure that students have adequate computer and Internet access, as well as technical support.

Consistent with the findings of other studies, Blackboard™ did not eliminate the need for face-to-face contact, but supplemented it. Until more effective strategies for sustaining educational relationships online and conventions for conveying nonverbal communication are developed, it seems unlikely that computer-mediated communication can replace face-to-face interaction in social work education. However, "cyberculture" is rapidly expanding and such conventions are beginning to emerge in limited forms. For example, Schoech (2000) reported varied success in promoting online relationships in a course taught entirely online; student-designed personal web pages were useful, though online "class parties" were not. Also, America Online Instant Messenger™ allows users to accent their chats with "emoticons," that is, modified smiley face icons with facial expressions that convey various emotions.

In conclusion, online technology is redefining the educational arena—offering new formats for course delivery and expanded opportunities for students to engage in interactive, self-directed, and experiential learning that is relevant and related to real-world problems. Although research in this area is limited, social work educators can begin to take advantage of the increasingly available online resources on campuses to help students meet their specific course objectives and to introduce them to technology that they are likely to encounter in their professional careers.

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