

Assessing the Virtual Classroom of a Graduate Social Policy Course

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SUMMARY. Student perceptions were investigated toward their experience of learning online in a web-based graduate social policy course. Overall, student perceptions were positive toward the online features of this course with the most useful features being the PowerPoint lecture notes and the Discussion Board. Students were more satisfied with their interactions with the instructor than with the other students. A majority of the students reported they would take another online course and would also recommend this specific course to other students. Female students were more likely to ask for technical assistance. Students enjoyed learning as much through the virtual classroom as a traditional on-campus section of the course. [Article copies available for a fee from The Haworth Document Delivery Service: 1-800-HAWORTH. E-mail address: <docdelivery@haworthpress.com> Website: <<http://www.HaworthPress.com>> © 2005 by The Haworth Press, Inc. All rights reserved.]

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RATIONALE

The technology revolution in higher education is challenging social work educators to create new pedagogical strategies, particularly in response to the growing demand for electronic pedagogy. Sonwalkar (2001) contends that the instructional design for constructing a web-based course is still an art form, primarily because of the variations in the nature of course content both within and across disciplines. Models that are appropriate for course material are numerous, and there exists a wide range of possibilities for structuring a course.

In response to the developments in integrating telecommunications and computer technologies, educational theory is shifting to a constructivist conception of learning. Based on this framework, learners are responsible for constructing meaning, as well as engaging in authentic reciprocal communication for the purposes of confirming understanding and generating worthwhile knowledge (Anderson & Garrison, 1998). Thus, the challenge for distance educators is to set up a cognitively rich learning environment to facilitate the learner's constructive processes (Zhang, 1998).

Raymond and Pike (1997, p. 282) suggest that the use of technologies for teaching purposes will require a paradigm shift. We will need to rethink the nature of higher education, roles of teachers and students, physical environment in which learning occurs, and issues related to intellectual property. Students will be expected to take on a more proactive role, assuming increasing responsibility for their own learning. The instructor will serve as a facilitator or enabler rather than a purveyor of information.

Traditionally, relationships in higher education were viewed as interactions between teacher, student, and content. Moore (1989) suggested three interactions emerged from these relationships: (a) learner-teacher, (b) learner-content, and (c) learner-learner. In contrast, Garrison (1989) suggested the educational transaction could be viewed as overlapping triadic relationships with six possible types of interactions. In this latter model, at the intersection of three macro-components, three interactions exist: (a) learner-teacher, (b) learner-content, and (c) teacher-content.

Then, within these three macro-components, another set of interactions exist: (a) learner-learner, (b) teacher-teacher, and (c) content-content.

With the rapid increase in the growth of distance education, particularly in computer-mediated instructional methods, a reconceptualization of traditional teaching-learning transactions is emerging that recognizes the interactive capabilities of communication technologies. Anderson and Garrison (1998, p. 110) contend that learning in a networked world presents many new roles and responsibilities for both the teacher and the learner. It will radically change the construction and delivery of the course content in higher education.

In turn, this will stimulate research to examine the quality of the relationships between instructors and students when using new types of instructional methodologies, such as electronic pedagogical models (Harrington, 1999). In addition, there will be a demand for assessing learning outcomes from technology-driven distance education that allows courses to become increasingly learner-centered (Hodes, 1997-98). Palloff and Pratt (1999) believe that evaluating outcomes, both in terms of the learning process and learner satisfaction with the course, is a more complex process in the virtual classroom.

Raymond, Ginsberg and Gohagan (1998) suggest that the use of web-based technology in providing a venue for teaching outside of the traditional on-campus classroom is pushing the boundaries of distance education definitions. Thus, a challenge in distance education is to develop appropriate learning experiences so that the methods and technology match the learner's needs. Hantula (1998) suggests that the technology should not necessarily limit or facilitate teaching a particular subject. Rather, the technology must be assembled and managed to meet the expected learning outcomes of the course. For example, Steppert and Krysik (1996) contend that computer-based testing is a viable and worthwhile endeavor for social work educators to explore in assessing learning outcomes and in developing curriculum content.

Siegel, Jennings, Conklin and Flynn's (1998) national survey of accredited social work programs revealed that the most frequently delivered distance education courses in MSW programs were policy courses and electives. In contrast, BSW programs primarily offered research, human behavior and the social environment, and methods courses through distance learning. Both sets of programs reported the use of distance learning in conducting seminars for field educators.

Crook and Brady (1998) found little empirical evidence about the effectiveness of either computer-assisted instruction or web-based instruction in social work education. Stocks and Fredolino (1998)

compared a web-based graduate research methods course with an on-campus section of the course. They found that student performance was comparable in both sections. Likewise, Royse (2000) taught a web-based research methods course in a MSW program and compared it to traditional on-campus sections of the course. He concluded that students learned about as much research content in the web-based class as students in a traditional on-campus classroom.

Harrington (1999) compared a graduate level statistics course that was taught using software-based content with an on-campus section of the course. Findings from the latter study suggested that students who previously were academically successful could do as well in statistics with a programmed instructional approach as students in a traditional classroom course.

Seaberg (1999) taught two sequential clinical research courses as virtual classroom courses for MSW students in a clinical concentration. Based on this virtual classroom experience, he believes that course materials can be prepared and presented on an Internet website for online learning. It is crucial, however, that these materials are easy for students to use and sufficiently clear and complete.

Stocks and Freddolino (2000) evaluated two iterations of an Internet-based graduate social work research course. Their study concluded that the more opportunities for interactivity are built into the course, the easier it is to create an active learning environment for the students.

In the evolution of developing paradigms for electronic pedagogy, an informed debate is needed to continue about effective virtual (anytime-anywhere) technologies and the practice of using these technologies (Graves, 2000). An important step in furthering the development of using technology and in formulating online teaching models is to increase the experiential base of a variety of faculty testing the virtual classroom on a variety of content areas with a variety of students (Seaberg, 1999).

Falloff and Pratt (1999) contend that it is important to receive feedback from students in a virtual classroom on their overall experience of working online through the institution. Different forms of evaluation might occur such as: (a) evaluation of student performance, (b) evaluation of the course and the quality of instruction, and (c) evaluation of the technology being used, including its functionality and user friendliness. All of these forms of evaluation should lead to an ongoing process of planning and review so that online courses can be continuously im-

proved. Therefore, faculty must be expected to provide feedback on their experience of teaching in the online environment, in order to contribute to the knowledge base of using electronic pedagogy.

The purpose of this present study is to investigate student perceptions toward their experience of learning online in a web-based graduate social policy course in the School of Social Work at San Diego State University. This investigation considered multiple sources of data in evaluating how students experienced online learning in two web-based sections of this course. The study also compared the learning outcomes based on average course grades and course evaluation ratings between the two web-based sections and one section of the course that was taught in a traditional on-campus classroom.

Social policy is a foundation course that first-year graduate students are required to complete during the first semester of their graduate program in the School. The first author taught two web-based sections of this course during the Fall 2001 semester through the Blackboard Software Platform: (a) one section of 23 students registered for the course on the main campus, which is located in an urban, metropolitan community; and (b) one section of 23 students registered for the course on the branch campus, located in a rural and predominantly Hispanic community. The traditional on-campus section of the course consisted of 22 students who registered for the course on the main campus.

OVERVIEW OF WEB-BASED COURSE

The web-based graduate social policy course was constructed and pilot-tested by the first author in Fall 2000. Graduated implementation of a web-based course is an effective way for educators to gain experience in online teaching and to evaluate the suitability of the course for online learning (Knowles, 2001). In a previous article, Roberts-DeGennaro (2002) describes the framework of a constructivist conception of learning that was used in designing this web-based course. A topic-driven syllabus was developed for the course, in which there was a weekly schedule that included a range of topics with required readings geared to those topics. In both web-based sections, the course objectives, content, and assignments were the same.

Based on the weekly schedule, a PowerPoint presentation of lecture materials with graphics was created by the instructor for each week. At the beginning of each presentation, the weekly required readings were posted along with reminders of assignments that were due in the near

future. Then, a set of PowerPoint lecture notes was presented that addressed the weekly topics, as well as active links to World Wide Web sites providing additional information related to the course materials. On the last slide, a few study questions appeared which raised issues that were addressed in the lecture notes or required readings. These weekly PowerPoint presentations remained available on the web-based course so that students could refer back to these over the semester.

The instructor produced six video clips so that every other week during the semester an electronic audio-visual communication was available to the students. The purpose of these video clips was to provide a personal message from the instructor. The first video clip was an orientation to the course. The other video clips were instructions for completing the course assignments that reinforced written information describing these assignments in the online courseware materials. In addition, written transcripts of these video clips were accessible on the web-based course. Web content accessibility guidelines were used in developing the course content (Sarnoff, 2001; W3C, 1999).

In the virtual classroom, the instructor posted announcements, such as reminders about due dates for assignments, schedule for chat sessions, etc., on a regular basis. One-hour chat sessions were scheduled every other week during the semester as office hours in cyberspace. *These chat sessions provided an opportunity for the students, if they wanted to interact with the instructor through synchronous electronic communication.*

Three online quizzes were administered about a month apart during the semester. The purpose of these quizzes was not only to assist the students in reviewing the course materials, but also to prepare for the qualifying examination that the students are expected to successfully pass in their graduate program.

As one of the assignments, the students were required to investigate a bill that would either affect existing social policy or propose new social policy legislation. This bill was expected to be under debate either at the state or federal level of government. It was expected to have a direct impact on the provision, planning and/or evaluation of health and human services in the United States. The instructor provided a framework for the students to use in analyzing the proposed legislation, as well as 20 active links to World Wide Web sites to assist the students in researching the proposed legislation. Students were required to cite references consisting of government documents, refereed publications, World Wide Web sites, and other sources in the social policy analysis. Then

the students submitted this social policy analysis as an attachment in an e-mail message to the instructor.

After completing this social policy analysis, the students were required to engage in electronic advocacy by preparing a statement to either support or oppose the proposed legislation and submitting it as an e-mail message to their elected representative(s). The instructor provided a set of active links to World Wide Web sites to assist the students in identifying their representatives. In addition, the instructor provided a framework that the students were expected to use in preparing this electronic advocacy assignment. A copy of the e-mail message, when it was sent to the representative, was required to be sent to the instructor as evidence of completing the assignment.

Students were required to add a discussion thread to 10 forums, such as Faith-Based and Community Initiatives, Re-Authorization of Welfare Reform Legislation, etc., on the Discussion Board. Posting discussion threads to a forum on the Discussion Board was important in facilitating interaction among the students. The students were required to either express their viewpoint or raise a question related to a particular forum in their discussion thread. The students were required to document at least 10 forums in which they started a discussion thread and then e-mail this list to the instructor. The instructor confirmed this list by checking the online record of discussion threads to each forum.

Finally, the students were required to create a Homepage on the web-based course. These Homepages provided an avenue for the students to share some personal information, as well as an opportunity for the students to use computer technology in uploading an appropriate photograph or a piece of graphic art. In addition, students were expected to post information on the Homepage related to the proposed piece of legislation that they were analyzing.

METHODOLOGY

Subjects

Recruitment Methods

An announcement regarding the option to enroll in the web-based course section was disseminated to new students who were accepted by the University into the graduate social work program. The instructor, who taught the web-based class sections, recruited student participation

from students who had registered for the web-based section on the main campus (urban), and from students who had registered for the web-based section on the branch campus (rural), at an orientation to the course during the first week of classes in the Fall 2001 semester. Students in the traditional on-campus course section did have an option to register for the web-based section, but chose to register for the traditional on-campus course section. The fact that the student subjects were not randomly assigned to the course sections is a limitation of the study.

RESEARCH DESIGN

Research Questions

This descriptive, evaluative study was designed to examine the following research questions:

- What are the perceptions of students toward the online features of a web-based course?
- What are the attitudes of students in a web-based course toward the learner-content, learner-learner, and learner-instructor interactions?
- Did the learning outcomes based on average course grade and course evaluation ratings differ among students in a web-based course and a traditional on-campus section of the course?

Instruments

The Assessment of Computer-Mediated Instruction Form

The Assessment of Computer-Mediated Instruction Form was constructed and pilot-tested by the first author to describe the attitudes of the students who completed the web-based course toward the teaching-learning transactions, and their perceptions toward the online features of the course. This instrument measured the following domains: (a) attitudes toward the usefulness of the online course features, (b) attitudes toward the usefulness of the course assignments, and (c) attitudes concerning student satisfaction with learner-learner and learner-instructor interactions. The form contains several Likert-type items with open-ended follow-up questions. The open-ended items were analyzed qualitatively by the researchers and coded numerically.

Demographic Background Information Form

A Demographic Background Information Form was constructed and then pilot tested by the first author for collecting data on personal and demographic information. The following variables were used to describe the characteristics between students in the rural and the urban class sections: age, gender, racial/ethnic background, Bachelor's Degree major, use of computer at previous paid employment experiences, use of computer in previous courses, access to computer with modem at home, had an e-mail account during previous year, current semester unit load, enrolled in a field practicum during current semester, hours a week working in a paid position during current semester, number of years of paid social work practice experience, time spent traveling between place of residence and campus, number of years using a computer, hours a week using a computer, and completion of an online college course.

Learning Outcomes

The final course grades for each of the three course sections were used in assessing the learning achieved by the students at the end of the semester. In addition, a standard Course Evaluation Instrument that was developed through the University was administered at the end of the semester to assess the students' experience of the course and the material they studied. This Instrument collected data for calculating the following ratings: (a) average rating for the course overall, (b) average rating for the teacher's contribution to the course, and (c) average rating for the effectiveness of the course.

Procedure

Students in both sections of the web-based course were administered the Demographic Background Information Form at the on-campus orientation to the course during the first week of classes in the Fall 2001 semester. Likewise, the students in the traditional on-campus section were administered the Demographic Background Information Form during their first class session in the Fall 2001 semester. It took the students about 10 minutes to complete this Form.

Students in both sections of the web-based course were administered the Assessment of Computer-Mediated Instruction Form at a second on-campus class session which was held during the last week of the Fall

2001 semester. It took the students about 20 minutes to complete this Form.

An average course grade was calculated for each of the three course sections by the instructor through using the final course grades that were earned by students at the end of the Fall 2001 semester. Students could earn a grade of "A," "B," "C," "D," or "F."

The Course Evaluation Instrument was administered to students in both sections of the web-based course at the aforementioned second on-campus class session and to students in the traditional on-campus course during their last class session in the Fall 2001 semester. It took the students about 15 minutes to complete this Instrument.

ANALYSIS AND RESULTS

Sample

There was a more equal gender distribution in the rural branch web-based section than in either the main urban web-based section or the traditional on-campus section: (a) 13 (56.5%) female, 10 (43.5%) male in the rural branch web-based section; (b) 19 (83%) female, 4 (17%) male in the main urban web-based section; and (c) 18 (82%) female, 4 (18%) male in the traditional on-campus section.

The main urban web-based section and the traditional on-campus section were more ethnically diverse than the rural branch web-based section, which consisted of 22 (96%) Hispanic students and one student whose ethnic/racial grouping was reported as "Other." This finding was expected since the students in the rural branch web-based section reside in a predominantly Hispanic community. In contrast, the main urban web-based section represented the following groups: (a) 14 (61%) Caucasian non-Hispanic, (b) 3 (13%) Hispanic, (c) 2 (9%) Black/African-American, (d) 3 (13%) Asian/Asian Pacific, and (e) 1 (4%) "Other." The traditional on-campus section represented the following groups: (a) 11 (50%) Caucasian non-Hispanic, (b) 8 (36%) Hispanic, (c) 1 (4.55%) Black/African-American, (d) 1 (4.55%) Asian/Asian Pacific, and (e) 1 (4.55%) "Other."

Across all three sections, the average age was 31.8 years ($SD = 8.9$). The average age for each of the sections was fairly similar: (a) Mean = 32.0 years, $SD = 10.0$ for the main urban web-based section; (b) Mean = 32.3 years, $SD = 7.3$ for the rural branch web-based section; and (c) Mean = 31.0 years, $SD = 9.5$ for the traditional on-campus section.

Nearly half ($n = 33$) of the 68 students had majored in the field of psychology for their Bachelor's Degree. Only about 15% ($n = 10$) of these students had majored in the field of social work. The remaining ($n = 25$) students had majored in a variety of fields.

On the average, students in the rural branch web-based section were working 40 ($SD = 10.0$) hours per week in a paid position and taking 6 course units (two courses). In contrast, the students in the main urban web-based section on average were working 20 ($SD = 15.5$) hours per week and taking 12 course units (four courses); and the students in the traditional on-campus section on average were working 27 ($SD = 16.4$) hours per week and taking 9 course units (three courses). Depending on the nature of the paid position, it appears that the average weekly work/course load was fairly similar across the three sections.

Findings

Computer Experience

At the beginning of their graduate program of study, the students in the traditional on-campus section reported using a computer for more years than students in the two web-based sections: (a) Mean = 8.2 years, $SD = 3.5$ for the main urban web-based section; (b) Mean = 7.3 years, $SD = 3.6$ for the rural branch web-based section; and (c) Mean = 10.3, $SD = 4.6$ for the traditional on-campus section.

Likewise, at the beginning of their graduate program of study, the students in the traditional on-campus section reported using a computer for more hours per week than students in the two web-based sections: (a) Mean = 12.5 hours, $SD = 15.0$ for the main urban web-based section; (b) Mean = 17.4 hours, $SD = 14.1$ for the rural branch web-based section; and (c) Mean = 18.0 hours, $SD = 13.4$ for the traditional on-campus section.

Student Ratings of Online Features

Table 1 presents the ratings by students toward various online features of the web-based course. Overall, students found the PowerPoint lecture notes (Mean = 3.6, $SD = .7$) and the Discussion Board (Mean = 3.6, $SD = .6$) to be the most useful features of the course. Over 70% ($n = 33$) of the students viewed the video clips that were accessible on the web-based course, and of these latter students, 60.9% found them to be

TABLE 1. Student Ratings of the Utility of Online Course Features (N = 46)

Online Course Feature	Usefulness							
	Great Extent		Some Extent		No Extent		Not Used/ Uncertain	
	n	%	n	%	n	%	n	%
Chat Room	5	10.9	9	19.6	1	2.2	31	67.4
Discussion Board	32	69.6	12	26.1	1	2.2	1	2.2
Video Clips	9	19.6	19	41.3	5	10.9	13	28.3
PowerPoint	31	67.4	13	28.3	0	0	2	4.3

useful. The majority of students (67.4%) did not participate in the chat sessions.

To learn more about the above ratings, students were asked to elaborate on their ratings for each of the online course features in an open-ended question. The open-ended responses were then coded into common categories by the investigators.

The PowerPoint lecture notes were viewed by 95.7% (n = 44) of the students as either being useful to a "great extent" (n = 31) or to "some extent" (n = 13). Students reported the online PowerPoint presentations primarily served two functions. First, the presentations provided a tool for reviewing the course materials and studying for the quizzes (n = 24, 52.2%). Second, the presentations provided a clear source of information related to the course content (n = 21, 45.7%).

Interestingly, 95.7% (n = 44) of the students also viewed the Discussion Board as either being useful to a "great extent" (n = 32) or to "some extent" (n = 12). Most (n = 40) of the students reported that the Discussion Board was useful because it provided opportunities to learn and share information with the other students.

Over sixty percent (n = 28) of the students perceived the video clips to be useful. The qualitative comments regarding the online video clips were mixed. Notably, 15 students (32.6%) reported that the video clips served as an important reminder to students about course assignments and requirements. Ten (21.7%) of the students reported that these clips provided a sense of connectedness to the instructor. Despite these positive comments, 19.6% (n = 9) of the students reported that reading the written transcripts of the videos was an easier way of accessing the same material.

Comments concerning the chat sessions were also mixed. About a third (n = 15) of the students reported that these sessions were scheduled at inconvenient times, even though the instructor polled the students as to their preferred times for scheduling the sessions. Almost another third (n = 14) of the students reported that participation in the chat sessions provided an opportunity to network with other students in the course. About a fourth (n = 11) of the students reported that participation in the chat sessions was too time consuming.

Interactions and Technical Assistance

Although the students enrolled in the course were, for the most part, computer savvy, 47.8% (n = 22) of the students sought out technical assistance during the semester. Table 2 depicts the sources of assistance including: (a) instructor (30.4%); (b) online student manual (15.2%); (c) University's Instructional Technology Services' web site for Blackboard (4.3%); and (d) Other sources (21.7%), which were primarily friends, family members, and co-workers.

Students were also asked to rate their level of satisfaction with the interactions they had with both the instructor and other students in the web-based course. Ninety-eight percent (n = 45) of the students reported to be satisfied either to "some extent" (56.5%) or to a "great extent" (41.3%) with their interactions with the instructor. Yet, in an open-ended question asking students to discuss their frustrations with the course, 10 students (21.7%) reported that they would have liked to have more interaction with the instructor.

In contrast, eighty percent (n = 37) of the students reported to be satisfied either to "some extent" (47.8%) or to a "great extent" (32.6%)

TABLE 2. Student Ratings of Sources for Technical Assistance (N = 46)

Source of Assistance	Sought Technical Assistance			
	Yes		No	
	n	%	n	%
Instructor	14	30.4	32	69.6
Student Manual Online	7	15.2	39	84.8
Instructional Technology Services	2	4.3	44	95.7
Other	10	21.7	36	78.3

with their interactions with other students in the course. Seven students (15.2%) were not satisfied with their level of interaction with the other students in the web-based course section and two (4.3%) students were "uncertain."

All ($N = 46$) of the students rated the social policy analysis assignment as increasing their knowledge of the legislative process either to "some extent" (19.6%) or to a "great extent" (80.4%). Likewise, 96% ($n = 44$) of the students rated the electronic advocacy assignment either to "some extent" (21.7%) or to a "great extent" (73.9%) as increasing their understanding of policy advocacy.

Finally, when students were asked whether they would take another online course, over 90% ($n = 42$) of the students reported they would enroll in another online course. Only four students reported that they were "uncertain" about enrolling in another online course. In an open-ended follow-up question, 63% ($n = 29$) of the students reported that the flexibility of the online course was an important factor towards contributing to their desire to take another online course.

Along similar lines, students were asked to describe any new learning that they achieved as a result of completing the web-based course. Sixty-one percent ($n = 28$) reported that they learned about new online data sources. Thirty-seven percent ($n = 17$) reported that they gained confidence in using computer technology.

In addition to the above univariate analyses, we examined the data for differences by class section (main campus vs. rural branch campus) and gender. We also examined whether past computer experience was related to satisfaction with the course. The only statistically significant difference found was that females were more likely to ask for technical assistance than were their male counterparts ($t = 3.0$, $df = 43.3$, $p = .005$).

Learning Outcomes

Learning outcomes by the three course sections are reported in Table 3. As shown in this Table, none of the course sections varied significantly on any of the learning outcomes. Overall, students in each section performed at a "B" grade-level in the three course sections. A grade of "B" for a graduate course is considered an "average" grade for graduate-level courses in the University.

The means values from the student ratings were all in the "Above Average" range on the standard Course Evaluation Instrument including: (a) average rating for course overall, (b) average rating for the teacher's

TABLE 3. Learning Outcomes by Course Section

Outcome	Web-Based Main Campus N = 23 Mean		Web-Based Rural Branch Campus N = 23 Mean		On-Campus Classroom Main Campus N = 22 Mean	
Course Grade*		3.48		3.40		3.32
Student Rating of Course Overall**		4.28		4.23		4.25
Student Rating of Teacher's Contribution**		4.19		4.33		4.30
Student Rating of Course Effectiveness**		4.38		4.14		4.21

Note: The course sections do not statistically differ on any of the learning outcomes.

*Course Grading Scale: 4.0 = A, 3.0 = B, 2.0 = C, 1.0 = D

**Course Evaluation Rating Scale: 5 = Outstanding, 4 = Above Average, 3 = Average, 2 = Below Average, 1 = Poor

contribution to the course, and (c) average rating for the effectiveness of the course. Thus, the two web-based course sections and the traditional on-campus course section were equally well received by the students. An "Above Average" rating would be expected of a graduate-level course in the University.

DISCUSSION

The most useful online features of the web-based course were the PowerPoint lecture notes and the Discussion Board. The students perceived the PowerPoint lecture notes as a tool for reviewing the course materials and studying for quizzes, as well as being a clear source of information related to the course content. This finding is in sharp contrast with Schoech's (2000) study in which only a few of the eight student subjects liked the use of PowerPoint presentations in his web-based practice course. Nevertheless, Seaberg's (2001) survey of the use of the Internet and other teaching tools in graduate social work education revealed that the most commonly used computer-based teaching tool was PowerPoint presentations of lecture outlines and other course material. Thus, further research is needed to examine the usefulness of this technological tool for online teaching.

The students primarily perceived the Discussion Board as an opportunity for them to learn and share information with other students on the

web-based course. In the future, the instructor might consider assigning each student the responsibility of serving as a facilitator for a specific forum on the Discussion Board. This could be a creative way to weave opportunities for learner-learner interactions into the web-based course.

More than a majority of the students perceived the video clips to be useful in serving as a reminder about assignments and course requirements and for providing a sense of connectedness to the instructor. However, creating multi-media presentations, such as a video clip, can be a very frustrating endeavor for the instructor. Stafford and Namorato (1998) attest to the fact that the learning curve for using this technology is fairly steep and very specific. Creating the presentations requires a major commitment of time, as well as persistence to tolerate the inevitable glitches in capturing, editing, and making these clips.

Students expressed more satisfaction with the level of instructor-learner interaction than with the level of learner-learner interaction. This is not a surprising finding considering that students interacted more with the instructor around completing course requirements and maneuvering through cyberspace. In fact, the students reported that they primarily sought technical assistance for completing the web-based course from the instructor. Future research is needed, however, to examine the quality of the relationships formed between instructors and students when using electronic pedagogy as the instructional method.

The two major assignments, the social policy analysis and the electronic policy advocacy, were perceived to be useful by the students in increasing their knowledge base related to policy practice. Encouraging students to use electronic communications in influencing or contacting stakeholders to effect policy change is supported by Miller-Cribbs and Chadiha (1998) and by Fitzgerald and McNutt (1999).

Almost a fourth of the students expressed a desire for more personal interactions with the instructor. This again affirms the importance of weaving interactivity in the virtual classroom. Faux and Black-Hughes (2000) contend that using the Internet as an instructional tool must take into account the students' needs for interaction with the instructor.

Of significance is the finding that females were more likely to ask for technical assistance than were their male counterparts. Likewise, in Roberts-DeGennaro and Clapp's (2002) study, males reported to be more comfortable with learning about and using computers, particularly in regards to liking computers.

The most positive statement regarding the web-based course was the finding that over 90% of the students would take another online course and would also recommend this specific course to another student.

Overall, the course evaluation ratings indicate that the students enjoyed learning as much through the virtual classroom of a web-based course as through a traditional on-campus classroom.

IMPLICATIONS FOR WEB-BASED TEACHING IN SOCIAL WORK EDUCATION

The integration of technological tools for weaving interactivity into a web-based course is critical to the effectiveness of a virtual classroom. Key to the online learning process are the interactions among the students, the interactions between the instructor and the students, and the collaborative learning process that results from these interactions.

Moore (1989) contends that the learner-learner interaction is probably the most challenging type of interaction to implement in distance education. Online discussions help to promote a sense that there are real people that the students are interacting with when they communicate through the cyberspace of a virtual classroom. Knowlton, Knowlton, and Davis (2000) support the use of online discussions as students become part of an educational cyber-community of learners rather than feeling alone in the educational process. Palloff and Pratt (1999) suggest that a web of learning is created through the use of online discussions. Students are not only responsible for logging on to the web-based course, but are expected to contribute to the learning process by posting their thoughts and ideas, for example, to a forum on a Discussion Board.

A commonly used computer-based teaching tool is the construction of PowerPoint presentations. More creative approaches are needed in developing these presentations. Stocks and Freddolino (1998) suggest that a "thought problem" link could be inserted into these presentations. For example, a controversial question could be posed to students in the online PowerPoint lecture notes, which is then followed by a link to a listserv discussion list. Participation in this listserv might encourage more learner-learner and learner-instructor interaction.

The availability of training to support educational plans for building competencies in teaching through the virtual classroom is paramount to the success of online learning. This should include training on the use of technology for course development and on the methodology of electronic pedagogy. The availability of top-of-the-line software and up-to-date hardware is critical to constructing a web-based course. Both the instructor and the students must have access to technical support through the institution. In addition, adequate support has to be provided

to these instructors by the administration at all levels within the university.

In online teaching, the instructor is predominantly represented by the textual content of the course, rather than the personality of the instructor. Thus, seasoned instructors should be the dominant course developers for online programs since they understand the nature of the student population and the curriculum content for the courses, including competencies for professional social work practice.

Sandell and Hayes (2002) recently raised the question whether institutions of higher education are ready to champion and pay for course development, technological support, and the new creative synergies that are needed to make electronic courses effective, as well as to support research to investigate the effectiveness of electronic pedagogy. Schools of social work that do not have access to cutting edge technology in planning, constructing, and delivering web-based, or even web-assisted, courses might find their programs on the downside of the digital divide.

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