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Teacher and student perceptions of online instructional methodology in higher education: an explanatory mixed-method study

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TEACHER AND STUDENT PERCEPTIONS OF ONLINE
INSTRUCTIONAL METHODOLOGY IN HIGHER EDUCATION:
AN EXPLANATORY MIXED-METHOD STUDY

A Dissertation

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

in

Educational Leadership and Research

by

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ABSTRACT

This mixed method Explanatory study examined the thoughts and beliefs of teachers and students at Southeastern Louisiana University (SLU) involved in online teaching and learning. Three research questions addressing faculty perceptions about their online teaching at SLU, effective teaching methods or strategies employed by online faculty at SLU, and the student perceptions about online teaching at SLU were addressed. There were two sequences of data collection: the first consisted of two surveys sent to online teachers and another to students enrolled in online courses in three academic colleges. The second sequence of interviews with nine experienced online teachers provided a fourth data source. Quantitative analysis of survey data was conducted and qualitative analysis of the interviews was accomplished. Survey findings revealed that faculty and students agreed that giving effective feedback, and providing clearly stated guidelines were important. The students said providing more clearly stated guidelines were among the things that faculty could have done more of to assist their online learning. Additional survey results and interviews with nine experienced online teachers revealed what methods and strategies were employed by online teachers at SLU within and across disciplines to build online learning communities. Findings indicated that most technical skills were not considered critical for effective online teaching; however facilitation skills such as giving effective feedback and engaging the online learner were the most critical. There was general agreement among online teachers that online teaching and face-to-face teaching were very different. Teachers who were interviewed reported that they used e-mail as the prime source of one-to-one communication with learners.

Chapter 1

Introduction

As universities strive to meet the needs of today's students by developing online courses and degree programs, more and more faculty will be required to adapt their courses for online delivery. Consequently, this study is the result of the author's personal interests in teaching online and finding ways to promote faculty development to meet the challenges of online teaching in the twenty-first century. Experiences with teaching online and faculty development for faculty beginning to teach online suggest that some teaching practices may be more compatible with the dynamics of distance learning formats.

Southeastern Louisiana University at Hammond, Louisiana has a student population of 15,000. In the Fall of 1989 there were 7,200 students enrolled. In the decade of the 1990's the enrollment doubled; however changes in the methods of the delivery of instruction have been slow to evolve. Currently, 2,000 students live on campus. Another 2,000 live within the city limits of Hammond. Nearly all of the other 11,000 students commute to the main campus each day. Lack of parking is the number one complaint among students. Many solutions have been proposed, but none have been implemented. With the recent growth in student population, the construction of new facilities has depleted parking space even more. Obviously, many students would opt not to have to drive to campus if there were viable alternatives.

Over 30% of Southeastern students are classified as non-traditional students. A non-traditional student is defined as a student over 25 years old and has never been enrolled in college, or has some college credit since graduating from high school. Many non-traditional students work full or part-time and have family responsibilities. The ability to attend class online is a big attraction for non-traditional students. Working students sometimes must delay their academic pursuits because of work schedules. There is a mandatory policy that at least 10% of a

department's course offerings must be after 5:00 p.m. The University has an off-campus academic center in Abita Springs, 25 miles to the East. There are also numerous off-campus, evening offerings in over 20 area high schools. The offering of online courses has the potential to meet the educational needs of a large segment of the university population.

Much of the literature provides specific information about developing a course online with particular reference to the enabling technologies and the design of course materials. Another large body of literature deals with comparisons of student performance in the traditional classroom with the performance of students in the online classroom. They are considered outside the scope of this study. Recently, a number of skills and effective strategies have been identified as indicators of successful online teaching. This study will analyze methods or strategies of successful teachers, and also perceptions of those teachers and students involved in online teaching and learning at Southeastern Louisiana University. The study is significant because it adds new research, rooted in accepted classroom theory and practice, to the literature for higher education distance learning. This research provides background for curriculum designers and facilitators of distance learning classes, regardless of the field.

Background

In January of 1996, the Vice President of Academic Affairs at Southeastern Louisiana University (SLU) committed the resources to establish a distance-learning program. He appointed an ad-hoc committee of eleven "pioneers", consisting of three academic deans, three faculty, the Dean of Continuing Education, the Assistant V.P. for Technology, the Assistant V.P. for Institutional Research and Planning, the Director of Academic Computing, and the Technology Coordinator for the College of Nursing. The College of Nursing was already heavily involved with the use of multimedia, video conferencing, and other innovative means of

instructional delivery. The charge to this committee was to study the different modes of delivery of instruction at a distance, and recommend guidelines and standards for distance learning at SLU. In the Fall of 1997 the committee developed a document titled “Standards for Quality Distance Education at Southeastern Louisiana University” (Appendix A). It was approved by the Academic Affairs Council, in the Spring of 1998.

In order to learn more about distance learning in higher education, the group attended a training workshop on distance learning sponsored by the College Board. Upon returning, a core group of faculty was selected and trained in the techniques of delivering instruction via compressed video. Shortly thereafter, the State Board of Regents (BOR) for public higher education institutions announced a five-year distance learning initiative and appropriated funding for a compressed video network of all twenty-two campuses. The BOR allocated \$80,000 to each site. These funds were to be used for site preparation, acquisition and installation of equipment, and some training. Each campus would have the ability to host and receive two-way video conferences through a common bridge administered by the Board of Regents’ Instructional Technology staff. This bridge made it possible for all twenty-two campuses to interact simultaneously or one-to-one, and any combination between. Because of this initial emphasis, most institutions began planning for the delivery of instruction via synchronous learning environments. These modes included satellite delivery, video conferencing, telephone conferences, or Internet chat.

For Year 2, the BOR solicited proposals for innovative distance learning programs. No specific method of delivery was specified. The Board awarded fifteen grants up to \$150,000 each. SLU was the recipient of one of those grants. The SLU objective was to offer (via distance learning) a specific group of core courses common to most undergraduate degree

programs, alternative certification for teacher education, and to establish a collaborative for Nursing with other schools for courses not offered at every school. The (BOR) emphasis for Year 3 was on collaboration among institutions. Southeastern proposed to expand on its Nursing Collaborative, and expand the collaboration of its alternative certification for teachers.

Two significant events occurred at SLU during the second year of the initiative. 1) In the Fall of 1997, The Vice President for Academic Affairs established the Center for Teaching Excellence. The purpose of the Center is to provide professional development opportunities for faculty. The Center offers various programs on issues related to instructional design, delivery, and evaluation. Faculty involved in designing and implementing distance education are provided training and assistance. It was initially co-located with Faculty Productivity Services, which, at that time was a division within Academic Computing. Academic Computing consisted of Student Productivity Services and Faculty Productivity Services (FPS). FPS was responsible for training and assisting faculty in the use of technology for teaching and learning in the classroom and at a distance. 2) In the summer of 1999, the Center of Faculty Excellence and Academic Computing with Faculty Productivity Services merged into the Center for Faculty Excellence.

Presently, approximately 10% of distance learning course offerings at SLU is via two-way video conferencing. Web-based (online) and telecourses account for the rest. Online courses are conducted using the World Wide Web, e-mail, chat, and discussion forums. There may, or may not, be several face-to-face meetings with students and the instructor. Telecourses are conducted through the local Louisiana Public Broadcast cable channel utilizing television as a medium to supplement classroom activities. Telecourse students may view their lessons or lectures on television and prepare assignments for submission. Students are assessed in the classroom to measure their progress. Some online courses are of a hybrid nature--online

combined with face to face. There are a small number of hybrid courses utilizing video conferencing. On the other hand, the amount of resources dedicated to the video conferencing delivery format has been inversely proportional to the number of online offerings and student/faculty involvement. As a result, most of the faculty teaching via compressed video received special training and support, while those involved in preparing to deliver instruction online, via the World Wide Web, designed and implemented practices and methods without nearly as much support. Only recently has the Instructional Systems Design Team (ISDT) concept, implemented by the Center for Faculty Excellence, had an impact on the teaching practices of the online faculty. At Southeastern Louisiana University, the ad-hoc committee for distance learning was dissolved before the rapid growth in the number of online or Web-based course offerings. A new standing committee for Educational Technology is now in place, and is beginning to revise the old standards and procedures, and establish new ones for the online environment. This study will provide valuable information for that purpose.

There are two identifiable models of online instruction at SLU. Model 1 is those courses conducted entirely online with a minimum of face-to-face activity between the students and instructor. There may be as many as three or four meetings during the course for orientation, and testing; but the majority of the activities are online. Model 2 is a hybrid model where the class meets on a regularly scheduled basis and the online component supplements classroom activity. Table 1 shows the number of courses offered, and faculty scheduled to teach via Internet or online for the Spring and Summer 2002 semesters. These courses were the primary focus of this study. A review of the class rolls for these two sessions revealed a total of 1355 students enrolled in Internet or online courses, both graduate and undergraduate. This represents approximately 9

% of the total student population, and nearly 30% of the faculty. No count of Model 2 courses scheduled was possible, because there is no designation for them on the Master schedule.

Table 1. Online Courses Offered at SLU – Spring & Summer 2002

Subject Area	Spring	Summer	Faculty
Art & Sciences	19	16	33
Business & Technology	21	7	21
Education & Human Development	19	23	28
Basic Studies	8	5	6
Nursing & Health Sciences	2	1	3
Total	69	52	91

While this study includes information on the characteristics of online faculty and students, the primary focus is on successful methods or strategies, and skills for teaching online and identifying those that exist at SLU. It provides quantitative and qualitative data about the institution’s online courses. The research design for this study is a mixed method which consists of first collecting quantitative data and then qualitative to help explain the quantitative results. The rationale for this approach is that the quantitative data and results provide a general picture, and the qualitative data collection helps to refine, extend or explain the general picture. Creswell (2002) talks about 3 designs of Mixed Method research: Triangulation, Explanatory, and Exploratory. This study fits the Explanatory model.

Overview of the Problem

During the year from January 2001 to December 2001, the Internet grew by 200 million users and the total number of users is estimated at nearly 800 million (Telecordia, 2002). Along with this explosive growth has been a rapid increase in distance education via the computer (Scigliano, Joslyn & Levin, 1988) with many organizations and institutions now developing systems and networks for learner access to the Internet.

Unfortunately, since utilizing the Internet for instruction is so new, few theoretical frameworks have been developed primarily for application to online education. Many faculty preparing courses for delivery for the first time in this environment, seek to transfer already established theories and models from the more traditional instructional contexts to this new environment, then assess whether or not these strategies are meeting the objectives and goals of the learners and the faculty.

With instant access to vast resources of data and information, students are no longer as dependent on faculty for knowledge. As faculty are incorporating information and learning technologies into the fabric of teaching, learning can become more collaborative, more contextual, and more active (Batson & Bass, 1996). According to Knupfer (1993), effective use of the computer as a resource in education "necessitates changes in pedagogy" (p. 171), with the teacher taking the role of "facilitator of information," (p. 173) while guiding the student toward solutions. Knupfer (1993) and more recently, Kearsley (2000) suggested that in order for teachers/faculty to be successful in facilitating technology-mediated learning, they must "be willing to release the control of learning to the students and feel secure in a different role" (Knupfer, p. 173). Berge and Collins (1995), and more recently, Palloff and Pratt (2001) have found that computer-mediated communication (CMC) generates improved tools such as asynchronous threaded discussion forums and e-mail, or synchronous chat, which permit a fuller range of interactive methodologies. "In addition, CMC encourages instructors to pay more attention to the instructional design of courses" (Berge & Collins, p. 2). "These factors can improve quality, quantity, and patterns of communication in the skills students practice during learning--a change that requires, in many cases, both teachers and students to learn different roles" (p. 2).

The literature related to online learning suggests there are two necessary elements in order to ensure successful outcomes in an online program: 1) Faculty must relinquish the role of “information provider” and 2) encourage students to become active learners and thus more responsible for the acquisition of information. The problems associated with the instructional design becomes one of how to establish the ways and means for both parties (students and faculty) to accomplish these outcomes, and then develop effective methods for assessing their overall effectiveness. Consequently, assessing the effectiveness of training for online faculty has to be measured in the context of those same terms.

On a national level, there has been extensive analysis of data relative to the effectiveness of training and quality of instruction for online or Web-based instruction (Keeney 1999; Moore & Kearsley 1996; Webster & Hackley 1997; Carswell et. al. 1999; Marks 2000; Alavi, Yoo, & Vogel 1997; Alavi, & Leidner 2001; Cashin, 1995; Ponzurick, France, and Logar, 2000; Smalley-Bowern, 2000). At SLU, assessment data are collected and analyzed to evaluate the effectiveness of the training and quality of instruction for compressed video; however, the assessment instrument is not structured for the differences in online instruction, and/or varying degrees combining online with face-to-face delivery. This is partially due to the lack of standardized faculty training for online delivery of instruction.

Statement of the Problem

This study will analyze successful teaching practices for online courses. Through an analysis of such factors as students’ persistence, quality of discussions, online attendance, levels of participation, and students’ opinion of online teaching, more effective faculty development programs can be designed to assist others in successfully transitioning into the online teaching and learning environment. Practitioners already involved in online teaching and learning will be

able to use the analysis to enhance their existing courses. I will also attempt to identify common threads across academic disciplines as well as within certain disciplines.

Research Questions

1. What are the faculty perceptions about their online teaching at SLU?
 - a. What skills and strategies do faculty believe are most important for teaching successfully online?
 - b. What difficulties did their students encounter?
2. What are some effective teaching methods or strategies employed by online faculty at SLU?
 - a. What online teaching strategies are implemented across and within disciplines?
 - b. What strategies do faculty use to build a sense of community among online learners?
3. What are the student perceptions about online teaching at SLU?
 - a. What strategies are the students most satisfied with?
 - b. What needs of theirs, if any, do they perceive as being unmet?

Definition of Terms

There is a dearth of terms in the literature relating to online teaching and learning. Some of the common terms used are, eTeacher, eModerator, cyberteacher, and online facilitator. All are intended to indicate that the teaching and learning is delivered using the World Wide Web. Salmon (2000, p.169) lists a total of 17 titles, but stresses that there is a need for the title to reflect the “need for experience,” meaning, if you have to ask, then you probably need to learn

more about it. Therefore, the practitioner who is teaching in an online environment is referred to in this study as a facilitator, or an online facilitator.

Successful teaching practices for online teaching can be defined as those activities that have a positive impact on such factors as student persistence, attendance, participation in discussions, and the students' opinion of their teacher's delivery of instruction.

For the purposes of this study, online learning systems are educational structures that include a web-based technological infrastructure, online course material, online enrollment, tutoring, communication, assessment, and administration procedures.

Limitations of the Research

There are a large number of teachers using the World Wide Web to deliver content, and conduct other asynchronous or non real time activities to enhance their courses. These courses were not listed in the official schedule bulletin, specifically as Internet or Online classes. Those courses that were not specifically listed as Internet or Online in the official schedule bulletin were not included in this study. Only undergraduate courses were used in the study.

Three other areas are outside the scope of this study. 1) The competencies associated with content expertise. It is assumed that all participants in this study possess those competencies. 2) The competencies associated with generic teaching skills, also taken as a given. 3) Faculty with no online teaching experience. All faculty participants selected for this study had a minimum of 1 semester of online teaching experience.

Review of Literature

This section reviews literature relating to the skills and strategies, or methods, of online teachers. Significant trends in this area of online teaching are identified. There are a number of generic skills and effective strategies identified as indicators of successful online teaching.

There is a wealth of information available regarding online course development and delivery. Several keywords will yield research articles and documents related to this topic. They are Computer Meditated Communication (CMC), Technology Based Training, (TBT), Computer Mediated Training (CMT), Web-Based Instruction (WBI), Web-Based Training (WBT), (Computer Based Training (CBT), and so on. Many of the articles and documents relate to specific case studies of how online learning was developed and implemented. The primary objective of the review is to focus on those articles and documents related to the technical skills, facilitation skills, and managerial skills related to online teaching and learning.

Impetus for Online Instruction

Over the past decade, as rapid advances in information technology have enabled the expansion of interactive communications among members of on-line learning groups, increasing numbers of professional educators are giving serious consideration to the distance learning (DL) option. A third of higher education institutions in the United States offered distance education courses in Fall 1995, and another 25% planned to offer distance education courses within the next three years (NCES, 1997). The trend is expected to accelerate in the future as bandwidth (the amount of data that can be transmitted in a fixed amount of time) increases, perhaps by as much as 25% per year (Moursund, 1997), rapidly increasing the interactive potential of computer-mediated communications. More current data provided by International Data

Corporation indicates that “distance learning enrollments are growing by 33 percent and will reach 2.23 million in 2002 (Deveaux, 2001, p239)”. A breakdown of those numbers show that among public and private two-year higher education institutions, 84.9% offer distance education courses. Among four-year institutions of higher education, that figure is 84.4% (p 240). Faculty members are being challenged to develop DL courses and/or to provide on-line access to instructional materials, often without access to practical advice from experienced colleagues. Faculty members new to computer-mediated DL, and administrators planning new programs, cannot always be sure what to expect when they take their educational offerings on-line.

The results of several studies suggest that faculty are more likely to participate in online distance education programs due to interest in using computers in teaching, interest in exploring new opportunities for programs and students and interest in the intellectual challenge, rather than monetary or personal rewards (Dillon, 1989, Dillon and Walsh, 1992, Schifter, 2000). The inhibiting factors identified relate to issues essential for a program to be successful, i.e., institutional support for faculty, technical infrastructure, and course development needs (Olcott and Wright, 1997, Wolcott, 1995, Schifter, 2000).

“For the majority of students, credit hours by contact is of little importance, but certification of learning is critical. To accommodate this majority, we can expect to see an increased emphasis on outcomes assessment and a decreased focus on seat time (DeVeaux, 2001, p 260)”. The Louisiana Board of Regents for State Colleges and Universities approved the recommendation of its Council of Chief Academic Officers to change the requirement for seat-time for academic credit for electronically delivered courses. The new policy states, in part, “with the growth in recent years in distance education, the introduction of technology in delivering instruction, and the increase in the number of readings/special topic courses and

independent study courses, the nature of contact hours has changed and requires greater flexibility (La. Board of Regents, 2001).”

Online Learners

High dropout rates are a common problem with on-line courses. Carr's study (2000) identified two study skill areas that may influence dropout rates in on-line courses: attitude and the ability to identify main ideas. “Students who do not fully appreciate the process of obtaining a degree in higher education may be at an increased risk of not completing the coursework in this learning environment. Likewise, students unable on their own to effectively ferret out the most important course information may not survive the online experience.”

One characteristic that might be a prerequisite for success online is computer experience. Martinez & Sweger (1996), for example, found that students without a certain level of computer skills had trouble taking advantage of computer-mediated communication, and Sturgill, et. al. (1999, pp 239-259) note that students without adequate computer skills experienced frustration trying to work collaboratively over distance.

Perhaps a more interesting line of research concerning student characteristics and online learning involves learning styles. Becker and Dwyer (1998), for example, compared students using groupware for online collaboration. They found that more visual learners tended to prefer the use of the groupware, while more verbal learners preferred face-to-face communication. Dille and Mezack (1991) tested for locus of control and found that students who were more internal were also more successful online. Douzenis (1999) gave both the Kolb Learning Style Inventory and the Group Embedded Figures Test (GEFT) to students involved with online learning at Georgia Southern University. Using multiple regression techniques, she found that higher achievement in online classes was linked to field independence and both divergence and

accommodation as indicated on the Learning Styles Inventory. Miller (1997) similarly reports that field independent students are more satisfied with online learning than field dependent students. On the other hand, Kearsley (2000) reports that neither learning styles nor learning strategies affected Iowa State students' achievement in an online zoology course.

Most of the research on online teaching and learning has attempted to identify how much students learn from online courses compared to traditional classroom contexts. Perhaps one of the broadest efforts at investigating asynchronous learning was reported by Arvan, Ory, Bullock, Burnaska and Hanson (1998). In that study, the University of Illinois at Urbana-Champaign's SCALE Efficiency Projects utilized computer-based instruction in seven different subject areas to make preliminary time and cost and student performance analyses. The authors found that student performance was comparable to the traditional classroom teaching environment with potential cost savings through time.

Student Performance

Bond (1998) compared student performance in a psychology class delivered via CD-ROM with another group that previously had taken the same class in the traditional manner. The CD program relied on audio lecture tracks mixed with numerous visual components to deliver the material. Bond compared the performance of the two groups of students (total n = 155) on three multiple-choice tests. No real difference was found in the performance of students who took the course on CD in 1997 from those who completed the coursework in the traditional way during 1995.

Schutte (1996) randomly divided a Social Statistics class of thirty-three students into two sections; one section took the course in the traditional classroom setting, the other section took the course on the Internet. The traditional section met in person fourteen times while the internet

section met only twice after the first two weeks. The internet section scored significantly higher (an average of 20%) than the traditional section on the two course exams.

Sherman (1998) incorporated asynchronous learning components into an advanced Social Psychology course of ten students. The students reacted positively to the online components because their work was shared with others, and they likely experienced active (as opposed to passive) learning processes. However, on the course evaluation some of Sherman's students expressed dissatisfaction with the amount of time spent on learning and mastering the technical aspects of accessing Web based information.

Wegner, Holloway, and Garton (1999) compared students' perceptions of their experiences in a course taught to one group on-line (n=14), and to another group in the traditional classroom model (n=17). Students were allowed to self-select into either section. The groups primarily consisted of part-time Masters degree students working on their principal certifications. The researchers found no significant difference in student performance on the final exam. However, the on-line students tended to express more feelings that are positive about the course.

The literature identifies that a combination of these skills and strategies is essential. Online teachers need to know not only how to use the technology efficiently; but also how to use the technology through online facilitation to achieve learning. Online teaching also requires strong skills in managing the online environment.

Course Design

The findings concerning relationships between student characteristics and success with online learning are often varied and contradictory. Perhaps students for whom time and/or distance are problematic give courses that solve such problems the serious attention they need. In

any case, questions concerning learner characteristics for success in online courses clearly deserve further investigation.

All asynchronous online courses have important features in common. Kearsley (2000), for example, asserts that the virtual classroom is a "unique social context, much different from that of a regular classroom." On the other hand, online classes can be as various as face-to-face classes. In addition, online, course interfaces are students' sole connection to instructors, peers, and the course materials, so their impact is magnified. Indeed, researchers have argued that the structure (Romiszowski & Cheng, 1992), transparency (Eastmond, 1995), and communication potential (Irani, 1998) of course interfaces heavily impact students' satisfaction, learning, and retention in online courses. Of particular importance, it seems, is the ability of the interface to facilitate interactions between students and between teachers and students.

The relationship between student-teacher interactions and learning outcomes has been well documented in traditional classrooms (Madden & Carli, 1981, Powers & Rossman, 1985, pp. 46-49). It stands to reason that interactions with instructors would be equally important online. Indeed, Picciano (1998) found that instructors' activity was related to students' perceived learning in online education courses. Richardson and Ting (1999) compared the perceptions of two groups of students involved in asynchronous learning. They found that students learning through written correspondence with instructors were more concerned with instructor feedback, whereas students learning online felt that all interactions with instructors mattered. Jiang and Ting (1998) found correlations between perceived interactions with instructors and the average numbers of responses per student that instructors made and the average numbers of responses students themselves made in course discussions.

Course discussions seem to be one of the most influential features of online courses. Wells (1992) asserts that subjects that involve discussion, brainstorming, and reflection are best suited to the online format. Perhaps this is because online discussions are significantly different from face-to-face discussions. To begin with, all students have a voice and no students can dominate the conversation. The asynchronous nature of the discussion makes it impossible for even an instructor to control. Accordingly, many researchers note that students perceive online discussion as more equitable and more democratic than traditional classroom discussions (Siegel, Dubrovsky, 1998, Boshier, 1998, Harasim, 1990, Levin, et al, 1990).

Burge (1994) investigated two on-line graduate education classes using in-depth interviews with 21 master of education students and their two instructors. The interview results indicated that learners had specific expectations of their on-line peers in the following four areas:

- 1) Participation - share different perspectives, demonstrate application of knowledge, risk sharing tentative ideas, and show interest in the educational experiences of other learners.
- 2) Response - provide constructive feedback, respond to questions without being repetitive, be a dependable small group member, share positive remarks with others, and actively participate in relevant dialog.
- 3) Affective feedback - use learner's names during course work, provide a sense of community or belonging to others, show patience, offer compliments, and encourage a learning atmosphere that is affirming and supporting.
- 4) Focused messaging - use concise on-line statements and avoid excessive messages that do not contribute to learning within the group.

Burge's (1994) study did identify instructor behaviors that were considered vital to being effective distance educators. The first involved being able to manage their class discussions. Burge (1994) also related that "instructors should support [students] by giving fast and relevant technical help, sending timely and individualized content-related messages and feedback, with, if

possible, summaries of discussion and guidance about resources, and offering affective support (welcome, encourage, show empathy, role model support-giving” (p. 30-31).

Research studies on interactivity reveal that students have a real need to make genuine connections with their peers and instructor (Muirhead, 1999). The affective and psychological dimension of distance education is an important part of their overall learning process. The online teacher will have to adapt his/her teaching style to meet the needs of their students. Berge (1999) relates that interaction in education “involves a continuum from teacher-centered to student-centered approaches” (p. 9).

In addition, because it is asynchronous, online discussion affords participants the opportunity to reflect on their classmates’ contributions while creating their own, and on their own writing before posting it. This tends to create certain mindfulness among students and a culture of reflection in the course. However, as Eastmond (1995) reminds us, computer-mediated communication is not inherently interactive, but depends on the frequency, timeliness, and nature of the messages posted. Indeed, Hawisher and Pemberton (1997) relate the success of the online courses they reviewed to the value instructors placed on discussion. Students in these courses were required to participate twice weekly and 15% of their grades were based on their contributions. Picciano (1998) found that students’ perceived learning from online courses was related to the amount of discussion actually taking place in them. Likewise, Jiang and Ting (1998) report correlations between perceived learning and the percent of course grades based on discussion, and between perceived learning and the specificity of instructors’ discussion instructions.

Such findings indicate that interaction among students is an important factor in the success of online courses. When these factors are present, students do not lose interest,

participate more often, and the environment becomes more student centered and less dependant on the instructor being a lecturer and more of a facilitator. Guidelines in the University of Phoenix Online *Grading, Evaluation, and Feedback Manual* (2000) require instructors and students to participate in discussions five of seven days by posting at least two messages to any of the discussion forums. Research thus far indicates that online courses that are both well structured and easy to use and that take advantage of increased access to instructors and more equitable and democratic discussion are the most successful.

In the course of this literature review, more than 400 publications, consisting of articles, papers, presentations, and books, were examined. The table presented later in this section summarizes 50 publications most relevant to this study. The table focuses on those articles that discussed or considered the teaching skills and strategies required to effectively teach online.

Berge (1995) categorizes the role of the instructor when teaching in the online environment into four main areas: pedagogical, social, managerial, and technical. Salmon (2000) offers insights into essential teacher competencies from her action research studies on Computer Mediated Conferencing (CMC). She has extensive online experience as a trainer of e-moderators for the Business School at the Open University (United Kingdom). Her findings were based on a combination of content analysis of online communication of students and teachers, focused group work and testing and evaluation of a new teaching and learning model. Salmon utilizes research studies to develop a comprehensive chart of five “e-moderator” or online facilitator competencies:

1. Understanding of online process-understand how to promote group work, pace online discussions, experiment with new ideas.

2. Technical skills -use software to facilitate student interaction by monitoring student messages and create conferencing opportunities.
3. Online communication skills - able to effectively interact with students by using concise and clear messages that encourage academic dialog and personalize the online experience.
4. Content expertise- credible subject matter knowledge and experience to share comments/questions that stimulate lively debate.
5. Personal characteristics-able to adapt to different teaching situations and demonstrates a genuine excitement about online learning.

For the purposes of this research, the essential teacher competencies, or skills and attributes, are more narrowly focused into three main areas: technical skills, facilitation skills, and managerial skills. There was some discussion in the literature about the need for content expertise and a number of related issues, such as online assessment. While these are important issues, as stated in the limitations of the research, such considerations are not within the scope of this study.

Research on Technical Skills

Teaching online requires a range of technical skills. These include the use of:

- Email, including being able to send and receive attachments, creating distribution lists etc.
- Discussion Forums, including posting comments, replying to messages and creating the new threads of conversation.
- Chat programs that allow real-time (synchronous) communication
- Website development tools and a general understanding of HTML
- Video and Audio conferencing tools.

These technical skills relate to the ability to use the technology, not the skills required to use them effectively as a teaching and learning tool. This is covered by the next skills grouping, facilitation skills.

The need for online teachers to have appropriate technical skills was mentioned by a majority of the publications reviewed. Collins and Berge (1996) state “learning to use the technology to effectively mediate the communications process is a critical skill to be acquired early in the teaching process”.

E-mail. The most frequent reference (Collins & Berge, 1996; Galloway, 1998; Gibson, 1997; Jasinski, 1998; Kearsley, 1997; Shepherd, 1999, 2000; Slay, 1997; Webb, 1997) was to the need for adequate email skills and the importance of email to the online learning process, thus implying the need for teachers to be able to use this tool effectively. Typical tasks identified for using email include receiving assignments and returning them marked, dealing with student queries and other situations that require one-to-one contact. Teachers also use email for one-to-many contact, perhaps sending broadcast emails to an entire group. At a more advanced level, a listserv can be established that allows many-to-many contact to be made between students and the teacher or teachers involved in a course.

Forums. Forums were also identified as an essential ingredient of an effective online course, with the teacher needing skills in creating and managing Web forums. Gibson (1997) notes that “teachers will moderate the forum, answering outstanding questions and ensuring all contributed questions and answers are suitable”. Forums are the tool most frequently identified as providing for asynchronous communication (although email is also a form of asynchronous communication). McDonald & Postle (1999) state, “asynchronous communication offers a lot in promoting instructional interaction”.

Chat. Chat is the most commonly identified form of synchronous, or real-time communication. It is not a tool that received a lot of attention in the literature, although it was identified as an excellent method for learner participation. Wheeler (1997), Collins & Berge (1996), Webb & Gibson (2000), Galloway (1998) and Jasinski (1998) all identify chat as playing a part in an effective online learning environment. An online teacher needs to know how to manage a chat, how to engender conversation, when to step in and when to let conversation flow.

Website Development. Opinions varied over the need for teachers to be able to create Web pages. Some researchers indicated that HTML skills were not at all important, while others identified it as quite significant to the online teacher's role (Bonk & Reynolds, 1997). Generally, there are two levels of possible teacher involvement in website development. The first relates to simple Web page development skills, such as creating basic HTML electronic handouts and activities, while at the higher level, it refers to teachers being responsible for full development of Web content, including animations, programming and interactivity. The need for these skills will vary depending upon the nature of the course material. If there is a large amount of HTML content used, the teacher is unlikely to change it much, if at all. On the other hand, there may be no content at all available and the teacher may need to create and maintain the content.

Video and Audio Conferencing. This was not identified in the literature as a significant part of the role of an online teacher, Taylor (1996) mentions that "the following new technologies offer opportunities for enhancing the quality of teaching: ...interactive multimedia, audio teleconferencing, audiographic communication systems, videoconferencing". He does not expand on how these technologies can be used effectively. He says, "Given that audio and video content can provide a rich and engaging experience for learners, researchers may well consider it

a technology that is not yet appropriate for the Internet, as it exists presently. In a few years time, when broadband Internet access is the norm rather than the exception, video and audio content could be more commonplace”.

Research on Facilitation Skills

Facilitating instruction mainly relates to the different ways of enhancing communication and interactivity among online learners. These methods are used in supporting, guiding, and encouraging the online learner through their learning experience. They include:

- Engaging the learner in the learning process, particularly at the beginning
- Appropriate questioning, listening, and feedback skills
- The ability to provide direction and support to learners
- Skills in managing online discussions
- Ability to build online teams
- Motivational skills.

In addition to these, there were two personal characteristics or attributes found to be as important in facilitating online:

- Risk taking (an ability to be innovative and experimental)
- A positive attitude towards online teaching

While much of the literature is focused on the technical skills required for online delivery, the need for appropriate facilitation skills are included. For example, how the teacher creates a presence online and creates a community in which teaching and learning are comfortable and effective.

Engaging the Learner. Many classroom strategies for teaching students to think about course content can be used just as effectively online. Peirce (2001, p. 2) said “In an online course

teachers can employ many of the same active learning strategies they use in their classrooms to encourage good thinking, engage students in the course content, and promote their intellectual development”.

Kearsley (1997, p. 16) notes, “online classes emphasize the social interaction among the participants and nullify the authoritarian role of the teacher”. In engaging the learner in the online environment, Phillips (1998, p. 44) stresses that it is “essential that students feel socially comfortable in the environment” and that they are “reluctant to contribute unless they have ‘met’ each other”. Online teachers need to employ strategies such as using orientation/induction programs (Salmon et al, 1997), individual, project, and problem-based learning to engage learners (Slay, 1997). Debates and polling activities are also options that can stimulate and engage learners (Berge, 1995).

Questioning. Questioning is mentioned throughout much of the literature. As with face-to-face teaching, it is a vital skill to possess. As Palmer (1998) has noted, how we ask questions can make the difference between a discussion that goes nowhere and one that turns into a “complex communal dialogue that bounces all around the room” (p. 134). Online questioning techniques, though, differ somewhat to face-to-face techniques. The Charles Sturt University’s Guide to CMC (1997) offers a number of creative questioning strategies ranging from a simple ‘any problems?’ question to brainstorming, ‘Socratic dialogue’, and online polls. Cyr (1997) points out that online teachers need to know how to construct questions at a variety of intellectual levels and for a variety of instructional purposes and “to move among these levels and purposes during a questioning interlude. He or she should know how to establish ground rules for asking and answering questions. He or she should also know how to encourage students to ask questions and how to provide positive feedback when they do” (pp. 16-17).

A list created by the Group Facilitation Listserv relating to qualities of a facilitator, some of the ideas posted included: ask questions that will lead to insight; knowing how to ask questions; asking provocative questions. Brookfield and Preskill (1999, pp. 87-91) list seven different kinds of questions that are helpful in keeping a discussion moving: 1) questions that ask for more evidence, 2) questions that ask for clarification, 3) open questions, 4) linking or extension questions, 5) hypothetical questions, 6) cause-and-effect questions, 7) summary and synthesis questions. “By skillfully mixing all of these different kinds of questions teachers can alter the pace and direction of a discussion, keeping students alert and engaged” (pp. 91).

Listening. “One of the most valuable benefits of good listening is that it increases continuity” (Brookfield & Preskill, p. 92, 1999). They also state that “listening is useless without retention” (p. 93). In an online environment, retention should not be a problem for either the teacher or the students because everything said in a discussion is in writing. The entire content of a discussion is available for review so there is ample time to formulate a response to any question or item that is a part of the discussion. It is also important to let learners know that they are being listened to. Online facilitators must be attentive to the learners, seek and give feedback, encourage them, clarify the message and check for mutual understanding. Shepherd (1999) suggests that without effective listening, the facilitator may “never properly understand the learner’s position or needs, and frustrate them into the bargain”. Palmer (1998) stated that “attentive listening is never an easy task—it consumes psychic energy at a rate that tires and surprises me. But it is made easier when I am holding back my own authoritative impulses” (p. 135).

Feedback. “Research studies over the last 50 years have demonstrated the usefulness of feedback and providing feedback has been cited in the literature as a major monitoring strategy.

The National Report on Learning published by the U.S. Department of Education in the 1980's stresses that improvement in learning is more likely to occur following both written and oral critiques of student work. It should be acknowledged therefore that a significant approach to improving grading is to supply much more information to each student than solely the number or letter symbol on a test paper or written assignment." "Feedback is essential for students to create meaning from what they have learned. They develop as learners when appropriate feedback alerts them to the accuracy of their work and deters them from learning things that may have to be unlearned later (Angelo, 1993; Van Houten, 1980). Often students decide whether they will stay with a course based on the feedback received on an initial assignment and/or exam. If the feedback is late, not very specific, and inappropriate to students' entry-level skills or knowledge, they may withdraw from the course or commit less energy to it (Eagn, Ferraris, Jones, and Sebastian, 1993, pp. j1-j7). The timeliness is a central concern. Reushle (1999) points to the importance of quick feedback: "If learners do not receive a response within a reasonable time frame they may get unnecessarily frustrated, especially those who are new to the technology and nervous about messages being lost in cyberspace". Depending on the technology used, timely and efficient feedback can be accomplished by e-mail, telephone, fax, or mail. Tutors, on-site facilitators, and graders can be used to reduce the time between submission and return of assignments (Cyrus, 1997, p. 37). Feedback is also critical for instructors. Asking students to summarize class activities, and what they learned from them, on a weekly basis is one way for an instructor to obtain feedback. "Another effective method is to use a form asking students to identify behaviors or procedures that an instructor should stop, start, or continue" (p. 38).

Based on my experiences from teaching online courses at two different universities over the past three years, I have formed some opinions and adopted certain practices, concerning the

feedback and evaluation of students' work. In addition, by conducting extensive research of the literature on this topic in preparing this study, most of my opinions and practices are grounded in solid theory and sound principles contained in the research.

According to Brookfield (1990), "Giving evaluations is one of the most difficult, demanding, and complex tasks teachers have to face; yet, done well, it is also one of the most significant spurs to learning". Feedback means informing students of what they have done well in addition to what they need to improve upon. Assignments that earn an A need feedback as much as assignments that earn a C. It is important that online learners receive honest, constructive, objective and timely feedback (Ko & Rossen), 1998; Gibson, 1997; Shepherd, 2000). They appreciate comments that indicate the faculty member has paid attention to what the student has written and has tailored remarks for that student. It is important that online learners receive honest, constructive, objective and timely feedback.

Feedback is only possible if we have something against which to measure students' performance. Therefore, faculty should take time before instructing a class to clarify what materials will be covered, what will be expected of students, and what will be the standard for evaluations. A syllabus that accurately covers these items is a good way to inform the students. Early clarification of expectations will serve to reduce student anxiety about grades and preconceived notions of how their work will be evaluated. A clear interpretation of expectations can be facilitated if evaluations have the following characteristics, quoted from the *Grading, Evaluation and Feedback Manual*, University of Phoenix Online (2000):

Feedback should be Multi-Dimensional and should cover a variety of areas: content, presentation skills, grammar skills, etc.

Feedback should be Non-Evaluative and provide objective information about the receiver's work; allows receiver to step back from his/her work and personally acknowledge strengths and weaknesses.

Feedback should be supportive and seek to offer information in a way that will allow the receiver to recognize areas for improvement.

Feedback should be receiver controlled and permit the receiver to accept or reject the information.

Feedback should be timely. It works best when given as soon as possible after the work for which it is intended.

Feedback should be specific. It works best when the information precisely describes observations and recommendations for the receiver's consideration.

Providing Direction and Support. Fundamental to providing direction and support, the facilitator must, as the subject expert, present information, demonstrate skills, refer and support the learner, and contribute to the knowledge bases (Shepherd, 1999). Harasim (1997) outlines a number of key strategies to facilitate collaborative learning. These include: don't lecture; be clear about expectations; be flexible and patient; monitor and prompt; write weaving comments; and do electronic housekeeping. "If you simply post your lectures and syllabus on the Web, you haven't necessarily created a viable tool for your students" (Ko & Rossen, 2001, p. 45).

Brennan (2000) states that "students need scaffolding through the new ways of learning. Learners have very different levels of 'autonomy'. Some are confident, some are not, and everything in the middle." Ryder and Wilson (1995) also reinforce the importance of "proper scaffolding".

Dereshiwsky (2000) identifies ten 'commandments of success in cyber-instruction', one of which is "Thou shalt possess high frustration tolerance". This study identifies and clarifies the issues that may challenge learners in an online environment and that online teachers need to know these issues in order to provide direction and support for the learners.

Managing Discussions. Online discussions are identified as an excellent way for engaging the learner for team and relationship building and providing support. It is very important, however, that these online discussions are managed effectively. Kearsley (1997) notes that the online teacher "must play a strong role in managing the discussion or chaos will result". Galloway (1998) recognizes that it is important that "something more than mere tutoring is being developed...it seems important to focus on the interactivity of the course. Discussions are a nice way to do this". Wheeler (1997) also provides in-depth analysis of the role and uses for online discussion, and the important role that the online teacher has in ensuring an effective discussion process is implemented. She states that it is a "critical function of community building". Shotsberger (1997) suggests that students need guidelines for online interactions. The guidelines should explain how to use the technology, suggest levels of participation, and encourage students to participate. Teachers can help facilitate interaction by stressing the need for frequent student participation and by posting messages that encourage students to respond. Shotsberger also suggests that teachers explore different methods by creating different roles, encouraging one-on-one communication, and having students work in small groups. "Professors should avoid the role of lecturer in an online discussion and switch to the role of facilitator" (Jonassen, et.al. 1995, p. 18). "If a professor desires an informal, less structured dialogue, then he or she should be absent from the discussion" (McAteer, et al, 1997). "Discussions requiring professors to take an active role tend to revolve around a facilitator-initiated question-and-

response format. Such a role meets the students' expectations of an authoritative leader in the discussion but may not facilitate the interaction between learners that is desired" (p. 217).

Another approach to using online discussions is to create multiple boards or mail lists for a class that consist of smaller numbers of students; this creates online learning communities (Egan & Gibbs, 1997). These collaborative learning groups are useful when students need to create new models or correct misconceptions or misunderstandings (O'Malley & Scanlon, 1990). Morrison and Guenther (2000) accurately summarized what the literature says about online discussions. They said, "Online discussions require careful planning and facilitation to be successful. The teacher must make a switch from lecturer to facilitator and determine when a formal discussion is required and when a less formal discussion is more appropriate. Online discussion also requires adequate technical support and instructions for the students to reduce problems with participating" (pp. 20-21).

Creating a Learning Community. Online learning provides a convenient, flexible, manageable alternative for many students in higher education. However, students in asynchronous distance classes work at computers miles apart at varying times of the day and night. "This feeling of being alone is overcome when students join together in a community of learners who support one another" (Eastmond, 1995). The process of forming a community of learners is an important issue in distance learning because it can affect student satisfaction, retention, and learning" (Powers, & Mitchell, 1997).

Although the term "virtual community" is in common use, few studies have been done to discover how adult distance learning students define community, whether they feel part of a community, and, if so, how that phenomenon occurs. Dr. Ruth Brown (2001) conducted a study to develop a theory about the process through which community formed in adult computer-

mediated asynchronous distance learning classes. A grounded theory design incorporated archived class input as well as interviews with twenty-one students and three faculty members from three graduate-level distance education classes. Brown also stated, “One possible implication of distance learning community-building may be students’ desire and ability to continue contact with one another and with faculty through electronic networking” (p.1). Other research points to the need for learning communities to sustain themselves (Gabelnick, MacGregor, Matthews, & Smith, 1990; Herrmann, 1995). At least one study found that interaction stops when a distance learning class ends, just like in a traditional classroom (Eastmond, 1995). With the availability of e-mail, this does not have to be the case.

By using discussion boards in the course, or even using e-mail if necessary, the instructor can encourage students to begin communicating with one another on a personal level.

For example, the instructor may ask all the students to create an e-mail list for the class in their electronic address books and use that list to share introductions, reflections on the readings, resources they might find on the Internet, and so on (Palloff & Pratt, 2001).

Another implication may be institutional ability to remain in electronic contact with students for alumni, development and community relations activities. The ages and increasing number of nontraditional students make that group ripe for distance learning classes and for fundraising activities that could follow. The technological sophistication of distance learners makes them valuable for electronic networking, grassroots support, lobbying and fundraising. “If nontraditional distance learners feel a sense of community within the classroom and with the institution, it is possible that this emotional connectedness may provide the support needed for them not only to successfully complete a class or a program but also to have a positive lifelong affiliation with both the department and the degree-granting institution” (Hallett, 1995).

In much of the literature on building learning communities, there was an emphasis on using group activities to strengthen the learning community. Many discussions of online facilitator skills mention team building skills (Harasim, 1994; Pitt & Clark, 1997; Wheeler, 1997; McDonald, 1999; Ellis & Phelps, 2000; Kearsley, 1997; Ko & Rossen, 2000; Arend, 2000). Arend cites Rossman (1999), “In a web-based environment, especially where students expect prompt and continuous feedback and learn more cooperatively with other learners, team approaches can be powerful tools”. Arend presents a large range of strategies for facilitating teams. Many papers and articles discuss the application of synchronous and asynchronous computer mediated communication (forums, chat, email) in the team building process. McDonald (1999) reinforces the use of online technologies in collaborative learning. The 2000 University of Phoenix Online Handbook requires that group or learning team assignments make up at least thirty percent of the students’ grade for every course. Collins and Berge (1996) and Bonk and Reynolds (1997) stress that it is important that the online teacher is seen as an active member of the learning team.

Phoenix and many other universities establish cohort groups of students. A cohort group is scheduled together for all of the courses in the program of study leading to the degree they are pursuing. This is a very effective technique of establishing and maintaining a learning community in an online environment.

Although online courses in many ways force students to work more independently, they also require a greater effort to connect with other people. A human being with feelings, experiences, and maybe even a knack for performing, a teacher in a traditional classroom can bring material alive simply by being alive. Without a personal presence in the classroom, online students should make an extra effort to connect with their teachers and classmates. Asking

student to introduce themselves by checking in, and posting their biographies, along with the teacher's, helps everyone in the class to connect to their classmates and the teacher. "Creating a friendly, social environment in which learning is promoted is also essential for successful online teaching. This suggests promoting human relationships, affirming and recognizing students' input; providing opportunities for students to develop a sense of group cohesiveness, maintaining the groups as a unit and in other ways helping members to work together in a mutual cause, are all critical to success of any conferencing activities" (Collins & Berge 1996).

Shepherd (1999) suggests, "one way of establishing the relationship between tutor and learner is to agree to a 'learning contract' defining the parameters for the way you work together". Shepherd (2000) also promotes the idea of exchanging personal information between a new learner and their facilitator to help in meeting each other's needs and expectations. Harasim (1994) identified a number of personal qualities – flexibility, patience, and responsiveness – that are important in facilitating the establishment of relationships.

Motivating. "Even more important is the ability to manage time and work effectively. Monitored by teachers who may call on them or quiz them, students in traditional courses resemble athletes practicing under a coach's watchful eye; in each case, the individual can rely on immediate—and, in some cases, forceful—external motivation." (Draves, 1999). The motivation for an online student to prepare must come from within. A few weeks into their first semester, most college freshmen taking traditional courses recognize that they have to take some responsibility and develop effective work habits. Online students, however, require such independence and initiative simply to acquire the knowledge they are supposed to gain in a course. In most cases students in traditional courses have to read articles, textbooks, or novels outside of class, but they often can rely heavily on the professor to review this material, highlight

key points, and ask provocative questions. “Online students must learn to be seekers of knowledge rather than mere receptacles of it. To help motivate online students to become independent learners teachers should emphasize the pursuit of knowledge—perhaps even using words such as “seek” and “explore”--when they communicate with their online students” (Canada, 2000, pp.36-37). Shepherd (1999) states “motivation comes when learners set challenging but achievable goals, which, when achieved, lead to outcomes that the learner regards as attractive”. The facilitator is seen as instrumental in the process, encouraging and motivating learners by: demonstrating confidence in the learner; monitoring the learner’s progress; identifying any areas where the learner may need additional support; and recognizing the achievements of the learner. Thus some of the more attractive outcomes for students are the flexibility to select when they want to participate because of the 24/7 access to the course, constant and frequent feedback from the instructor, and the feeling of community fostered by the online learning environment.

Positive Attitude. Several journal articles and papers mentioned personal characteristics or qualities that are important for the online teacher. Ko & Rossen (2001) see that it is important to recruit online instructors “who are enthusiastic about the possibilities offered by online teaching”. Schofield *et al* (2000) report that practitioners believe that “adoption of online practices is dependent upon practitioner attitudes rather than technical skills”. They stress the importance of having a “flexible attitude, and being open minded and being willing to explore the possibilities”.

Being Innovative and Experimental – Risk Taking. Possessing the attribute of being innovative and experimental was reported as important in a number of articles Eline,1998; Ko & Rossen, 1998; Schofield *et al*, 2000; Thiagarajan & Jasinski, 2000; Webb, 2000). Schofield *et al*

(2000, p. 6) reported that practitioners identified being imaginative and creative – a lateral thinker – as the most commonly described attribute. “This was frequently coupled with the attribute of being a risk taker, someone who was prepared to get out of their comfort zone and try new things, to experiment”.

Research on Management Skills

The research showed that management skills and strategies are also important to effective online teaching. These include management of the learners and management of the learning process. They include:

- Time management skills, both for the teacher, and the teacher’s ability to impart these skills to online learners
- The ability to establish and maintain guidelines for the learning process such as what type and how often learner communication is expected, when assignments are due, etc.
- Planning skills, looking at the online course or module and establishing the parameters for the teacher and learners working together
- A capacity to effectively monitor the learning process and take action where appropriate
- An ability to undertake review of the teaching and learning process to identify changes and improvement.
- The ability to adapt and change teaching and courses to accommodate the needs of specific learners and promote online diversity

Of the three identified skill groupings, management skills received the least attention in the literature. By far the most commonly identified aspect of management skills is the need to

establish and maintain guidelines. Some researchers, such as Shepherd, (1999) talk of ‘controlling’ the learning environment. In describing part of the online teachers role as that of a coach, he states:

It sounds like a strange behavior for a coach, but online group work, whether asynchronous or synchronous, may, upon occasions, require a degree of control.

Although learners will ideally be able to manage their own learning experiences, at times the coach will have to exercise some control to keep them on track” (p.2).

Planning, monitoring and reviewing were also mentioned in some of the literature (as identified in the table), although this tended to be in passing rather than as a substantive item.

Time Management. Time Management is another important management skill identified in the literature. Where it was identified, it was seen as a fairly significant issue. Dereshiwsky (2000) identifies one of her Ten Commandments of Success in CyberInstruction as “Thou shalt not procrastinate”. Some time management skills she identifies include providing a clear and definite date for each assignment, staggering the due dates of assignments fairly evenly, and including a penalty for late submitted assignments.

Schofield *et al*, (2000) note the problems that can be caused by time pressures: “on the one hand they are excited and challenged by their online activities while at the same time they are feeling frustrated and pressured by lack of time.” A very useful checklist has been put together by Webb (2000), which provides an excellent framework for online facilitators to assess their readiness for online course delivery, and also the readiness of their organization and systems. Jones (2001), in her article “Ain’t got time to teach” presents an in-depth discussion on online teaching and learning and the time factors that play a part.

Learner Needs. Adapting courses and teaching to meet the individual needs of learners is another skill that did not receive a lot of attention in the literature reviewed. Salmon (2000) offers some guidelines on how to accommodate individual needs of learners in an online course. As an example she says, “Moderators (teachers) will need to motivate students, recognizing that ‘hand holding’ may be required for those students lacking confidence. Additionally, participants can also become concerned at the amount of information and will need to develop strategies to deal with potential overload”. She also addresses the needs of learners with disabilities, and covers understanding lurkers, learner readiness, and valuing online diversity. Thiagarajan (2000) states “if we put the learner first, there is no room for either this- or that-type of polarized thinking”.

A List of Publications in Appendix A shows each publication examined for this literature review relevant to the research topic and identifies whether it mentions the particular strategies, skills, or attributes either in a significant way or in a less substantial way.

The Changing Role of the Teacher. Much of the literature commented on the changes the online learning will bring about for teachers (Kearsley, 1997; Salter and Hansen, 1999; Sobsk, 1997; Brennan, 2000). The main focus is on the change from that of an instructor or “expert authority to that of facilitator” (Salter & Hansen, 1999), supporting the learner through the learning process. Several authors described it as a move to becoming a “guide-on-the-side” instead of a “sage-on-the-stage”. The changing roles are well summarized by Collins and Berge (1996):

From oracle and lecturer to consultant, guide and resource provider

Teachers become expert questioners rather than providers of answers.

Teachers become designers of learning experiences rather than just providers of content.

Teachers provide only the initial structure to student work, encouraging increasing self-direction.

Teachers present multiple perspectives on topics, emphasizing the salient points.

From a solitary teacher to a member of a learning team

From total control of the teaching environment to sharing with the students a fellow learner

More emphasis on sensitivity to student learning styles

The skills involved in online teaching settings do not simply happen. Online teachers are aware that there is quite a difference when teaching in a face-to-face classroom and teaching online. Teaching online demands that the "Sage on the Stage" give way to the "Guide on the Side." Facilitating learning is becoming much more of a focus than ever before. Research generated by Mark H. Rossman (1999) at Capella University has developed suggestions relating to faculty responsibility, facilitating learner participation in the discussion forum and course requirements. It has also developed the above suggestions for improving online teaching.

“Feedback (or the lack thereof) is the most frequently mentioned concern of online learners. To quote from learner online evaluations, faculty who provide meaningful and frequent feedback are viewed as excellent, very good, concerned and caring while those who provide it superficially or infrequently are viewed as not very good, poor, unconcerned, and arrogant” (p. 94). In a qualitative study of role changes that occur when faculty become online or virtual professors it was found, in 20 semi-structured interviews, “overall, faculty reported a change in their teaching persona, toward more precision in their presentation of materials and instructions, combined with a shift to a more Socratic pedagogy, emphasizing multilogues with students” (Coppola, Hiltz, & Rotter, 2002).

The Importance of Pedagogy. Another common theme dealt with the tendency of many early forays into online learning to focus on the technology rather than the pedagogy, to the detriment of the programs being offered. Many publications emphasized the importance of appropriate teaching methods and techniques and then finding a technology that could support these.

As noted by Salter and Hansen (1999) “there is a tendency for those new to online teaching to rely too heavily on the technology”. Bennett *et al* (1999) state, “From a pedagogical perspective, the efficacy of online teaching and learning is still debatable”. Further, “it is not the technology that is important, it is how it is used by the teacher to create new experiences for the learner”.

The research literature also indicated that many early examples of online courses, and many current courses as well, simply transfer existing face-to-face courses over the Web. Ellis & Phelps (2000) describe this as “web mounting” of existing course material. They state that this does not “take full advantage of the pedagogical opportunities provided by the new technology”.

We use well, says Dale Burnett (1999). “The technology is more like prosthesis, permitting some new possibilities, but always under the control of the instructor, who can quickly and easily make some fine tuning adjustments. The instructor’s personality is still in evidence. It is possible to be a caring individual even in an online situation.”

Online Teaching Effectiveness in Higher Education

Research literature on teaching and learning in higher education does affirm the importance of interactivity within the educational process. Higher education faculty integrate academic communication into their learning theories as an essential feature of their educational

models. Collis (1998) shared the following six vital instructional principles that should characterize adult education:

1. Both learner and educator play an active and unique role in the educational process.
2. The process of creatively acquiring knowledge involves human interaction and learner competence that are developed and evaluated within a communication-oriented educational model.
3. Contemporary models of learning support learned centered instruction that encourages self-assessment, personal reflection, and elicit learner articulation of their ideas.
4. The learning environment should maximize meaningful and reflective interactions while providing a variety of opportunities for feedback.
5. Creating instruction that promotes learner self-regulation and individual responsibility is the product of educators who are academically well prepared and monitor the quality of student work.
6. Adult educators recognize that students want to move efficiently through their studies, in both time and energy; students do not automatically have good study skills, discipline, or motivation. (p. 375)

Burge (1994) did explore the strengths and weaknesses of computer-mediated education. Interviewees appreciated the flexibility in working in the discussion format that gave them the freedom to participate according to their schedules. Yet, the study participants expressed problems with their on-line educational experiences. For instance, several learners noted class discussions were only relevant if students responded within a narrow time frame. Students who fell behind in their discussion postings sensed that they were missing opportunities for interacting with others. When learners felt pressured to keep up with their classmates, that was

complicated by information overload and fragmented discussions. Learners had major problems handling the quantity of data generated during their course work (Wegerif, 1998).

Burge (1994) revealed the study participants positive and negative experiences with peer interaction. Students enjoyed having others help them, sharing critical feedback, and observing a diversity of perspectives during their on-line course. The study participants cited having problems with other learners during their group work and class discussions. Muirhead (1999) did identify students who expressed concern that group work can place unfair demands upon a few individuals who do all the work for the entire group. Teachers can help prevent negative group experiences by closely monitoring their work and giving grades to students based on their actual contributions. Additionally, it is important to have assignments that can be completed in a reasonable amount of time. Distance educators must create an online presence through posted messages that offer guidance and being available for student questions. The instructional support helps groups to stay focused on their assignments while developing effective online dialog with their classmates (Palloff & Pratt, 1999).

A major theme of interactivity literature involves the challenge of providing quality online instruction. Heath's (1998) experience with an undergraduate political and social philosophy class is a good example of the multidimensional nature of online interaction. The class began with good student involvement but their online participation declined as the semester progressed. Yet, Cronje (1999) and Reinhart (1998) reported have very positive online educational experiences.

Why is there such a discrepancy in reports about distance education classes? Cornell (1999) relates that research at the University of Central Florida reveals a problem with teachers and students of not being properly prepared for their online class work. The research project identified a variety of student problems: feeling isolated due to inadequate teacher feedback, struggling with technical aspects of the Internet and computer technology, and time management problems that resulted in failing to complete assignments. Teachers reported they appreciated the

flexibility of online instruction but struggled with increased time demands, technical problems with the technology, reduced student contact and a diminished sense of control.

Part of the discrepancy between the push for online instruction and the lack of reward for doing so can be accounted for by the lack of support at the departmental level. Even though the university administration may desire more emphasis on online course development, and provide the more incentives, resources, and support, the department sets the criteria for tenure and promotion. There is a reluctance of many faculty to give equal consideration to online teaching when considering a teacher's fitness for tenure and promotion.

As more academic courses develop an online presence, there is an increasing need to evaluate form and content in order to increase quality and usability. A case study conducted at the University of Tennessee School of Information Sciences (Welsh, 2000) indicates that "the higher the percentage of department courses with online syllabi, the higher the quality of those syllabi. An effective online syllabus includes standard syllabus information that students require and online resources such as tutorials, relevant links and online interactivity." The study produced an evaluation instrument to serve as a guide in developing and evaluating effective online syllabi.

Not all goes well when faculty become involved in the delivery of online instruction. Passmore (2000) identified three impediments to web-based course delivery that he believes are faced by university faculty members: (a) limited access to and experience with resources for web-based design, development, and delivery, (b) uncertainties about status of intellectual property created for web-based courses, and (c) lack of a reward system tied to innovation in instruction. He says, "The first two impediments probably will melt away as university experience with web-based course delivery increases. But will the thaw be quick enough to meet

strong competition? Removing the last impediment requires nothing less than a cleansing of the soul of the university. I, for one, always have wanted to witness a genuine religious conversion. Show me a miracle” (p 8). Deepwell and Syson (2000) discovered widespread resistance to change as a barrier to effective online teaching strategies when Coventry University decided in October 1998 that within a year all 2000+ modules of the University were to be supported by an online learning environment in order to enhance learning and teaching at the institution. They stated, “Strategies needed to be found to overcome the considerable resistance to change elsewhere within the institution. To this end, we have instigated a large scale and varied program of events to raise awareness and develop skills in web-based learning and teaching. A further aspect of our work has been the creation and ongoing refinement of a template for the learning environment which is applied to all modules across the University”. Their assessment of the effort showed an overall increase in the number of faculty requesting support enabling them to exceed their implementation goals for the first year of the initiative.

“Reasoning, argumentation and problem solving augment knowledge, as students become more autonomous and constructive agents in the learning process. Whiteboards and chat rooms, as well as bulletin boards, can be used for synchronous and asynchronous interchanges that support seminar-size groups. The cognitive emphasis shifts then to evaluation and reflection, not only on the results of the discussion and problem-solving activities, but on the processes and tactics that seemed influential and effective. Hence inter-group discussions can be useful” (Hartley, 2000). Another issue that is becoming more apparent in the educational arena is assessment of online participation as part of the total class grade. Hartley suggests, “If we make online discussions a bigger part of assessment, students will put more importance on participation, thus motivating them to do so. Students are motivated by what they are assessed

on”. This raises a question, how can a collaborative spirit be infused into the classroom if the students feel pressured or forced to participate? The teacher needs to be a facilitator, which may be a less prominent role. They need to be prepared to moderate the discussion.

Summary of the Literature Review

The literature reviewed relates to the skills and attributes of online teachers. Some significant trends in this area of online teaching have been identified. While this is still an emerging area, it seems that there are a number of generic skills that can readily be identified as a requirement for effective online teaching.

Most importantly, it is a combination of these skills that is essential. Online teachers need to know not only how to use the technology efficiently, but how to harness the power of the technology through facilitation to achieve learning. Online teaching also calls for strong management skills to deal with the range of administrative and functional issues that arise.

It is the contrasting need for both technical and facilitation skills, though, that is borne out most clearly in the literature reviewed. Perhaps this idea is best stated by Bourner and Flowers (1999): “Unfortunately (or fortunately) the acceptance of an increasing level of technology seems to be dependent on a concomitant increasing level of human interaction. It is the Ying of high touch that seems to permit the Yang of high tech. We suspect that they move in balance or not at all”.

Researchers need to examine interaction differences between undergraduate and graduate students because they have different learning needs. Interaction research studies highlight the need for distance education schools to invest more of their resources into the professional training of their educators. Additionally, research studies are needed to investigate what are the best staff development programs for online teachers. Today, the quality of online interaction in

computer-mediated classes varies greatly which indicates that changes are needed in the professional training of online teachers.

This review of the literature has focused on a discussion of what is relevant to the skills and attributes for teaching online. The next chapter examines these skills and attributes further by surveying and interviewing online teachers and learners.

Methodology

Design

The design of this study is a mixed method design as described by Creswell (2002). He describes 3 designs of Mixed Method research: Triangulation, Explanatory, and Exploratory. This study fits the explanatory model, which consists of first collecting quantitative data and then qualitative to help explain or elaborate on the quantitative results. The rationale for this approach is that the quantitative data and results provide a general picture, and the qualitative data collection helps to refine, extend or explain the general picture. During the first phase (quantitative) of the research a survey was sent to 82 online teachers, and another survey to 125 online students. A second faculty survey was sent to respondents of the first faculty survey. The goal for the student surveys was to obtain a sample of 100 students from the 125 surveyed. The second phase of the research was a series of targeted qualitative interviews with nine selected online facilitators. The following table (Table 2) presents a data collection plan.

Table 2. Data Collection Plan

Sample	n=	Instrument	Type of data collected
Online facilitators of courses in at least 3 colleges	82	Online surveys	Background + perceptions of the values of different online teaching skills and attributes
Online learners	100	Online survey	Perception of the skills and attributes of online teachers that facilitated their learning.
Consultation with experienced SLU online facilitators (> two semesters)	9	Interview schedule	Focused qualitative data examining the competencies of online teachers

The faculty and student surveys were conducted online in order to make the process as expeditious and convenient as possible. The survey was hosted on a web server made accessible to the participants, with completed surveys being e-mailed to the researcher.

Selection of Participants

The 82 faculty at Southeastern Louisiana University, from three different academic colleges, who were teaching undergraduate online courses in the Spring and Summer of 2002 were sent an initial survey; 1) Arts & Sciences, 2) Business and Technology, and 3) Education and Human Development. Table 3 shows the total number of courses and faculty in each academic college for courses offered in the Spring and Summer semesters of 2002. Teachers could decline the opportunity to participate in the study.

Table 3. Sample Population

Academic College	Faculty
Art & Sciences	33
Business & Technology	21
Education & Human Development	28
Total	82

Faculty respondents from the College of Arts and Sciences came from the departments of Mathematics, Music, Sociology and Criminal Justice, English, Communications Sciences Disorders, and Communications. Respondents from the College of Business and Technology were from the departments of Computer Science, Industrial Technology, Accounting, Marketing and Finance, General Business, and Management. The College of Education respondents were from the departments of Teaching & Learning, and Human Development.

A minimum of 100 student participants was the goal for this study. A tabulation of class rolls revealed a total of 1220 students enrolled in the targeted classes. Surveys were sent to a

total of 125 students. The sample was drawn at random from class rolls of online courses offered in each subject in each academic college. The target number of surveys for students was 100. Students could decline to participate in the study. A total of 104 surveys were returned, yielding a return rate of 83%. No graduate courses were included. Respondents to the student survey were enrolled in online courses in English (49), Education (30), General Business (12), Computer Science (11), and Sociology (2). All of the College of Education student respondents were enrolled in upper division Education courses (300 & 400 level). All of the English, General Business, Computer Science, and Sociology courses were lower division courses (100 & 200 level). No data on class standing, age, and gender was collected.

For the interview phase, online teachers were ranked within their respective academic colleges, according to the number of semesters of online teaching. The top three were asked to be interviewed. No teachers declined to be interviewed. This yielded a total of 9 interviews.

Procedures

Permission to conduct the research was requested from the university committee for using humans to conduct research at Southeastern Louisiana University and Louisiana State University. The Committees use a standard form for this purpose, which includes a section for dissertation research. Appendix C contains a Copy of the forms and approval for the research to be conducted. A written statement for all survey participants stating they were guaranteed anonymity was provided at the beginning of each survey, and at the outset of each interview. They were also told how the data collected would be used and that they could be provided with a copy of the results of the study if they so desired.

The faculty and student surveys were conducted online. Participants were sent an e-mail message soliciting participation, and informing them of the purpose of the study. The e-mail

message contained the World Wide Web address or Uniform Resource Locator (URL) of the server hosting the survey. If they were using an e-mail interface capable of receiving hypertext markup language (HTML), they were able to click the mouse on the link to open the web page on the server that contained the appropriate survey. If a recipient had “plain text” e-mail interface, they were able to type the URL into the address window of the browser to access the survey on the web server. When they completed the survey and selected the “submit” option, the results were transmitted directly to the researcher’s e-mail inbox for retrieval and analysis. No participant was identified by name, and each survey was coded with a participant number.

The targeted interviews were conducted face-to-face with each participant. Seven of the nine interviews were recorded with a voice recorder. The interviews were transcribed for qualitative data analysis (QDA).

Instruments

Faculty Surveys. There were two sequences of data collection. The first sequence involved the collection of the quantitative data using three questionnaires—two designed for faculty and the other for students. The type of data collected from the first survey of the faculty was background information and their perceptions of the values of different online teaching skills and attributes. The surveys were designed by the author, keyed to the research questions outlined earlier. The first survey consisted of four parts totaling 31 items, and was designed to answer Research Question 1 (What are the faculty perceptions about their online teaching at SLU?).

The demographic portion of the first survey consisted of five questions soliciting information about the teacher’s background and experience with online teaching, and the specific courses they are teaching online. The second part of the survey (questions 6-25) asked for

teachers' opinions and perceptions about teaching online, such as what skills and strategies they believed to be critical, and those they thought to be less useful. These were Likert-type questions with the choices of Critical, Very Important, Useful, and Not Required. The third part of the survey (questions 26-30) asked about their teaching effectiveness, and what strategies they thought were most effective. The last question (31) asked for additional comments. The Flashlight Evaluation Handbook (Ehrmann and Zuniga, 1997) was used for ideas and design for 3 questions in Survey 1, and 3 questions in the student survey. The rest of both surveys were designed by the researcher.

After analyzing the data from Survey 1, a second survey (Survey 2) with 9 items was sent to all of the teachers who responded to Survey 1. It was designed to answer Research Question 2 (What are some effective teaching methods or strategies employed by online faculty at SLU?). Teachers were asked for more specific information about the particular strategies they were using. They were asked to describe individual and group activities, their objectives, and assessment methods. They were asked for information about strategies they employed to manage some of the technology they used in their online classes. Information about enrollment, and any class meetings was also solicited. The first part of Survey 2 (question 1) solicited the techniques for managing student e-mail. The second part (question 2) asked about the structure of their courses; what percentage of individual and group activity they conducted. Questions asking for information about actual class sizes and ideal class sizes were also included in this section. The third part requested more detailed information about individual and group activities (questions 3-4). Descriptions of the individual and group activity, along with objectives, and assessment techniques were solicited. Question 5 asked them to describe any between group activities they might have conducted. The final part of the survey (questions 6-9) asked for

information about face-to-face class meetings. Survey 2 was designed by the researcher and Dr. S. MacGregor, Associate Professor of Educational Leadership, Research, and Counseling, Louisiana State University. Surveys 1 and 2 are in Appendix B.

The first faculty survey and student survey were piloted with two teachers and their students in online classes being conducted during a six-week period between the end of the spring semester and the beginning of the summer session. Feedback from participants warranted some minor wording and sequential changes to both surveys. The pilot surveys were administered with paper and pencil; however, as stated earlier, the surveys for the study were administered online.

Student Survey. The student survey was designed to elicit the students' responses about their perceptions of their online learning experience, more specifically to answer Research Question 3 (What are the student perceptions about online teaching at SLU?). The survey consisted of three parts and totaled 11 items. Demographic data about individual respondents was not collected. Questions 1 through 4 collected information about the number of courses taken online, where, and what courses in their major area of study, and how many semesters they had taken online courses. In part 2, questions 5 through 9 asked them to comment on the level of involvement of their teachers and list comments about their overall beliefs towards the online teaching they had encountered. They were also asked to think of a positive experience and why they thought it was positive. They were presented with a list of 18 different statements about effective online teaching and asked to identify the ones they have encountered in their online classes. They were also asked to give any additional skills that their online teachers used to support their learning. In question 9, they were asked to rank order three skills or strategies they thought were the most important skills for an effective online teacher. Finally, they were asked

if there was anything that their online teacher could have done, but didn't, that would have helped their learning. Question 11 asked for additional comments. The student survey is in Appendix B:

Interviews. The second sequence of data collection was from scheduled interviews with nine faculty participants, three from each academic college. The script in Appendix B was used to stimulate their responses. The faculty targeted for interviews were asked to talk about their background and involvement in online teaching. They were asked to discuss factors they considered important for the effectiveness of their courses such as student persistence, the quality of discussions, participation and attendance. Additionally, they were asked to focus on three topics; 1) their background and involvement in online teaching, and what they do when teaching online, 2) their thoughts and ideas about what skills good online teacher should have, and also those of a good classroom teacher, 3) online teaching competencies--what their top three criteria would be if they were going to recruit an online teacher. Finally, they were asked for anything else they wanted to add. Each targeted interview lasted approximately 30 to 45 minutes and the audio was recorded with their permission.

Descriptive Statistics

Using descriptive statistics via percentages and means, representing the data graphically with charts and graphs accomplished the analysis of data from the survey questionnaires.

“Although questionnaires and quantification procedures are probably the most extensively used techniques in the social sciences, they have tended to become inhuman and reductionistic. This criticism is not so much against the procedures, which certainly could enhance understanding in the social sciences, as it is against their indiscriminate application” (Berg, 1998, p. 269). Berg further states (p. 269) “As Coser (1974, p. 691) warned more than two decades ago, ‘The fallacy of misplaced precision consists in believing that one can compensate for theoretical weakness by methodological strength.’ Application of sophisticated statistical procedures frequently seems akin to hunting rabbits with a cannon.” There are no hypotheses to test in this study; therefore, those quantitative methods would be of little significance in interpreting the data. The flexibility of the qualitative research approach permits the combined use of innovative data-collection and analysis strategies.

Many of the highly sophisticated quantitative data-manipulation strategies can become stilted because they require information in a limited specialized form and format.

Quantitative techniques are more quickly accomplished than qualitative ones, produce what is presumed by many social scientists to be more reliable conclusions, and offered what many public agencies consider truly reportable findings (percentages of variable occurrences) (pp 269-270).

Research Question 1

A total of 82 surveys were initially sent to faculty teaching online courses for the Spring and Summer semesters. The survey was designed to focus on Research Question 1.

What are faculty perceptions about their online teaching at SLU?

- a. What skills and strategies do faculty believe are most important for teaching successfully online?
- b. What difficulties did their students encounter?

There were 78 of 82 surveys returned, yielding a 95% rate of return. Of these, 3 respondents indicated they were not teaching courses online. Two of the three indicated their courses were cancelled due to low enrollment, and they had never taught courses online. The third indicated that another teacher was teaching the course. None of the three completed the survey, and their results were not counted. This left a total of 75 valid surveys. Of the remaining 4 surveys not returned, one was sent to a faculty member who had left the university, and there was no response from the other three. Some items on 10 different surveys were left blank. Thus, the numbers in the analysis of the surveys do not always add up to 75 responses.

Within 24 hours of sending the survey electronically, there were 32 respondents. Within 48 hours, there were a total of 55. After 72 hours, there were a total of 60. A reminder was sent on the fourth day, and 4 more surveys were returned within 24 hours, for a total of 64. On the fifth day, 7 more were returned making the total 71. The remaining 4 surveys were returned by the end of the seventh day. Another reminder was sent on the 8th day; however, no surveys were returned for the next 10 days, therefore no further reminders were sent. Three factors probably accounted for the high rate of return. One factor is the surveys were sent during the first week of the Fall semester when faculty were returning to campus and were in their offices preparing for

the upcoming semester. Another factor is that the university uses e-mail as an official medium of communication between the administration, faculty, and staff. The third reason is that the Controller’s office sends pay statements to all employees via e-mail, and the surveys were sent on the same day that pay statements were e-mailed to faculty. Table 4 shows the number and percent of surveys returned by faculty in each academic college.

Table 4. Surveys Returned by Academic College

Subject Area	Faculty	%
Art & Sciences	30	40%
Business & Technology	19	25%
Education & Human Development	26	35%
Total	75	

Table 5 shows the online teaching experience respondents have. The experience is shown in terms of the number of semesters and number of learners they have taught online. The results show that 26 of the 75 respondents (35%) have less than 3 semesters of experience.

Table 5. Online Teaching Experience

College	Semesters						Learners		
	<3 Sem	3 Sem	4 Sem	5 Sem	6 Sem	6+ Sem	Total	<90	>90
Arts & Sciences	10	7	5	4	2	2	30	9	21
Business & Technology	10	4	3	1	0	1	19	9	10
Education	6	4	5	4	4	3	26	9	17
Total	26	15	13	9	6	6	75	27	48
Percent	35%	20%	17%	12%	8%	8%		36%	64%

Another factor that determines the level of experience of online teachers is the number of learners they have taught online. The numbers ranged from 12 to 360. The average number of learners taught online was 112, with a median of 90. The percentage of respondents who had

taught less than 90 online learners each was 36%, and those who had taught more than 90 online learners is 64%.

- **Question: What online teaching activities or processes have you used?**

As anticipated, a wide variety of activities were listed. Table 6 shows what activities and processes were used and the percentage of respondents that said they used them. Of the three that were suggested, e-mail, chat, and threaded discussion, e-mail was reported to be used by everyone (100%). Threaded discussion was reported by 60 respondents (80%) as a teaching tool they had used. Only 4 respondents (5%) reported using chat. Other items were case studies (3), lecture notes (25), multimedia presentations using sound and/or video (4), PowerPoint slides (22). The most used tools are e-mail and threaded discussion or online forums. Some activities such as problem-based learning, simulation and modeling, online debates, and project-based learning were not mentioned here; however, they were indicated as having been used in subsequent questions.

Table 6. Online teaching activities and techniques used

Activity	No.	%
e-mail	75	100%
Threaded discussion	60	80%
Lecture notes	25	33%
PowerPoint slides	22	29%
Chat	4	5%
Multimedia (audio/video)	4	5%
Case studies	3	4%

- **Question: Please list five comments (words or phrases) that reflect your overall feelings towards online teaching.**

This question allowed respondents the freedom to list their attitudes and feelings towards online teaching. By asking respondents to posit words or phrases, the question aimed to condense and focus the respondents' views.

There were a total of 375 items listed in the responses to this question. The most common response to this question was the phrase “time consuming”, 49 respondents listed this phrase. Other responses can be seen in the table in Table 7. An overall analysis shows the comments made by teachers are primarily positive (exciting, enjoyable, rewarding, convenient, fun, and efficient), but faculty are also cognizant of the demands placed on them. Further analysis reveals several themes running through the comments. They can be summarized in one statement: Some online teachers stated that, “Teaching online is time consuming and demanding, requires planning and discipline, is not for everyone, and there are technical issues to deal with.” These comments are intended to be more cautionary than negative about online teaching.

Table 7. Comments towards online teaching

Comments	No.
time consuming	49
challenging	38
exciting	35
enjoyable	33
rewarding	30
requires planning	28
demanding	26
convenient	24
flexible	24
requires discipline	15
not for everyone	15
provides more communication	14
fun	12
student centered	11
technical issues	10
immediate feedback	6
efficient	5
N=	375

- **Question: Please rate each of the identified skills and strategies associated with online teaching. Based on your experience with online teaching at SLU, rate each point as either critical to successful online teaching at SLU (must have), very**

important (should have), something that would be useful to an online teacher at SLU (nice to have, or is something that is not required by the online teacher.

Respondents rated each of 19 skills or attributes using their experience in online teaching as a guide. The average response was calculated by allocating a score of three for each “critical” response, two for each “very important” response and one for each “useful” response. A score of zero was allocated if the respondent indicated that the skill or attribute was not required. The score was then totaled and divided by the number of respondents to give an average score.

As an example, for the total of 75 respondents a total of 68 considered the ability to use e-mail effectively as critical, 6 said very important, and 1 said useful. No one considered that this skill would not be required. Therefore the average rating for this skill is calculated as follows:

$$\frac{68 \times 3 + 6 \times 2 + 1}{75} = \frac{217}{75} = 2.893$$

Table 8 shows how these derived scores can be used to classify the skills and attributes as Critical, Very important, Useful or Not required.

Table 8. Classification of skills and strategies

Score	Ranking
2.5 – 3.0	Critical
1.5 – 2.5	Very important
0.5 – 1.5	Useful
0.0 – 0.5	Not required

Table 9 shows the comparative weightings of each of the various skills and strategies that online teachers were asked to comment on. The yellow bars represent technical skills, the blue bars represent facilitation skills (including communication and pedagogical skills and attitudinal factors), and the green bars represent managerial skills. On the whole, the facilitation skills were

viewed far more highly than any others. Eight of the ten facilitation skills and strategies were rated as Critical, while the other two were rated as Very important. None of the six managerial skills were rated as Critical. It is somewhat surprising that the technical skills received as low a rating as they did. Only one technical skill was considered Critical (use of e-mail), two as Very important, and the remaining three were rated as Useful. One skill, “higher level Web page development skills”, was very close to being rated as “not required” (.587) and was considered so by 51 of the respondents.

Table 9. Weighting of skills and strategies

Skill or Strategy	Type	Rating	Category
An ability to provide effective feedback online	Facilitation	2.862	Critical
An ability to engage the learner in the online learning process	Facilitation	2.842	
An ability to provide direction and support to online learners	Facilitation	2.821	
Skills in online listening	Facilitation	2.758	
An ability to use e-mail effectively	Technical	2.703	
An ability to motivate online learners	Facilitation	2.663	
Having a positive attitude to online teaching	Facilitation	2.663	
Skills in effective online questioning	Facilitation	2.653	
A capacity to establish a sense of community among the learners	Facilitation	2.532	
Being prepared to be innovative and/or experimental	Facilitation	2.484	Very Important
An ability to establish and maintain guidelines for the learning process	Management	2.319	
Skill in using online forums	Management	2.295	
Skills in time management	Management	2.242	
Instructional design skills	Management	2.232	
Skills in planning, monitoring, and reviewing training	Management	2.200	
An ability to build online teams	Facilitation	2.097	
Skill in using online chat	Technical	1.842	
An Ability to develop simple Web pages	Technical	1.452	Useful
Higher level Web page development skills (e.g. JavaScript, ASP, Flash)	Technical	0.587	

These findings are interesting because they show, quite clearly, that most of the identified skills are significant to the online teachers at SLU, but also that some are more important than others. Another interesting discovery, concerning the ability to use e-mail effectively, was made during the interviews of experienced online teachers. This will be discussed later in this section.

- **Question: Considering your responses to the above items, what three skills do you consider to be the most important for teaching your course online?**

This question served to elicit from respondents what they consider to be the key skills and strategies. Some respondents indicated they found it difficult to nominate just three, but the process of doing so compelled them to focus on the most significant skills and strategies.

The results of this process, in some respects, matched the results from the earlier question where respondents were asked to rate the 19 identified skills and strategies. However, some of the more highly rated skills from the earlier question did not rate as highly in this question. For example, the ability to provide direction and support was the third highest skill in the earlier question, but only ranked tenth when teachers were asked to rank their top three. The converse is also true. Despite the range of technical skills being judged as less important in the earlier question, the catchall classification of “technical ability” ranked very high in this question.

The number one response, with 40 respondents identifying this skill/strategy, is “an ability to engage the learner in the online learning process”. The second most common response was the ability to motivate online learners (33 respondents). At least one of the five technical skills (e-mail) classified as critical in the earlier question was ranked one, two, or three by 29 respondents to this question. It is also worthy to mention that there was a greater dispersion among the top three skills than the rest of the items. A notable anomaly occurred with this question: Only 20 respondents selected the ability to provide feedback as one of their top three skills or strategies for teaching online. This contrasted with the previous question where the mean classification of 2.862 for this skill is critical. The surveys submitted by those teachers interviewed were reviewed to determine if they had not ranked giving feedback as one of their

responses to this question. None of them had; therefore, no explanation for this irregularity can be provided. Table 10 lists the significant responses.

Table 10. Rated among 3 skills or strategies needed for teaching online

Skill/Strategy	Score	Skill/Strategy	Score
An ability to engage the learner in the online learning experience	40	Online listening skills	18
An ability to motivate online learners	33	Online questioning skills	17
e-mail	29	Planning, monitoring, and reviewing training	17
Ability to establish & maintain guidelines for learning	27	Ability to manage online discussions	15
Having a positive attitude	24	Ability to build online teams	15
Build relationships w/learners & among learners	22	Instructional design skills	14
Be Innovative and/or experimental	21	Skills in using chat	13
Time management skills	20	Simple Web pages	9
Ability to provide direction and support	20	High level Web development	9
Ability to provide feedback	20	No response	5

- **Question: Considering your responses to the above items, what three do you consider to be the least important?**

The responses to this item were surprising. Fifteen of the respondents ranked only two skills, and did not list three. Seven respondents did not provide responses to this question. Overall the list of least important skills is rather short. The skill that most respondents (55) considered least important was “higher Web page development skills such as JavaScript, ASP, and Flash. An ability to develop simple Web pages was a close second with 52 respondents who considered that skill to be the least important.

- **Question: Thinking of your experience in online teaching, how close to traditional classroom teaching do you perceive the role of an online teacher to be?**

The chart in Figure 1 shows that respondents were fairly evenly divided over this point. Only two respondents saw the two roles as being very similar, and 12 respondents saw the roles as very different. The rest of the respondents were in the middle, with 25 favoring many aspects as similar with some different skills required, and 36 favoring many aspects as similar but many new skills required.

A total of 27 respondents (36%) consider the roles to be similar. When combining the last option (very different) with the third (some aspects are similar, but many new skills are required, a total of 48 respondents (64%) said the roles are different.

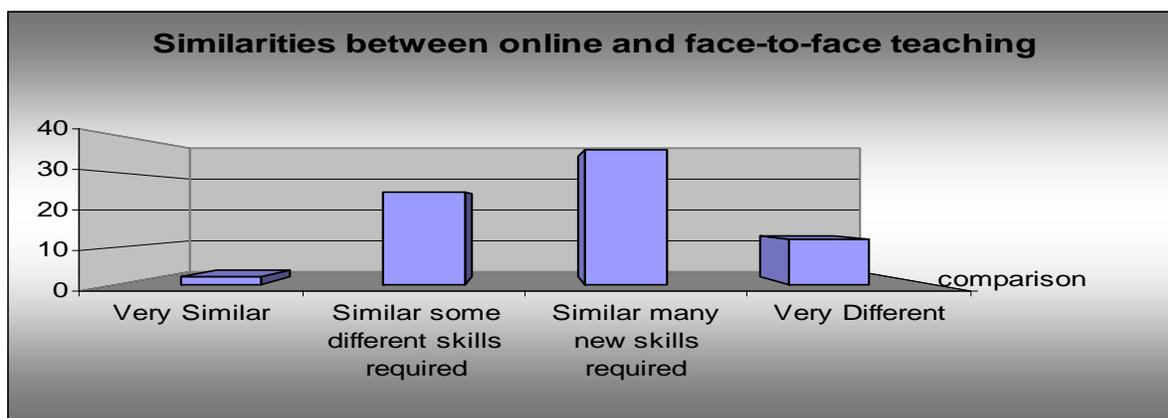


Figure 1. Similarities between online and face-to-face teaching

There was an option with this question for the respondent to explain their answer. This generated many comments from the respondents. In looking at the way respondents saw the differences between face-to-face and online teaching, several themes emerged. The overarching themes are:

Instructional strategies, classroom management, technology, and learners

Examples and comments relevant to each theme are:

Teacher Comments on Instructional Strategies

1. “The goals and objectives can and should be similar; however, the technique and approach to [online] course execution will more than likely be quite different. The communication skills especially, should be more highly developed.”

“I think that a successful teacher, both on and off line, requires curiosity [sic] and a drive to reach your students. It is harder to do so online, so you have to want to succeed to do so. You don’t happen onto it. It comes with much frustration and hard work.”

2. “It depends on your definition of “traditional classroom teaching”. There is more student involvement in the learning process online than what a “traditional” college classroom and a great deal less “lecturing”. However, it is similar to math classrooms of more recent years that involve the students more and include a discovery method of teaching.”

3. “The teacher needs to nurture the students and help build their student support teams more”

4. “The ability to trust the student with his/her learning and the skill set of the teacher in his/her learning is unique to the online learning process”

5. “All of the traditional skills necessary to classroom teaching come into play; it is the tranference [sic] of these skills into an environment in which you are not actually physically present to the students that is the challenge.”

6. “Giving explanations or answering questions without the immediate feedback to know if I’m answering the right question or if I’m clarifying an issue. In class, there’s a certain amount of ad libbing [sic] that I can do if I need to re-explain a concept (kind of tailoring

the response to the crowd), but on-line, I don't feel that I can change an explanation on the spur of the moment. I seem to need to very carefully write what I want to say and hope that the students will ask about it if they don't understand me."

Teacher Comments on Classroom Management

1. "I believe that the online instructor is much more a "facilitator" of learning than often happens in the face-to-face environment."
2. "[online teaching] requires careful planning and thinking about online communication, and a constant nurturing of the 'online space' as a dynamic living teaching area"
3. "In a traditional classroom, a teacher has much more control of student's progress—in an online environment, the teacher has to give up control and let learners take more control"

Teacher Comments on Technology

1. "The teacher must be able to motivate through the written word; developing interesting lesson plans is a whole new art."
2. "I never had to worry about organizing e-mail from my students in a traditional class. In an online class, you really need to know how to manage all of the e-mail you are going to get from students."
3. "I like the idea that you can carry on a discussion for several days. When you have had time to think about it, you can compose your thoughts and go to the computer and type them in."
4. "With all of the different communication tools, it's hard to choose which one to use sometimes."

5. “My students like to do their web pages in Blackboard.”

Teacher Comments on Learners

1. “In an online environment... you can’t see what [your students] are doing – it’s more about helping them to learn rather than spoon-feeding them with information”

2. “I get to know my students better, and they get to know me.”

3. “It doesn’t seem like it takes as much to motivate online students; however, some are a little slow getting started.”

- **Question: How effective was your teaching in this course?**

The responses to this question were not surprising. All respondents (100%) said their teaching was very effective.

- **Question: When you think about the learning experiences, what three strategies do you think were most effective in your online teaching of this course?**

Respondents were asked to pick 3 strategies from the list of 19 skills and strategies given in the earlier question concerning the importance of these skills and strategies for teaching online. Table 11 shows the rank order of the respondents. “Providing timely feedback” was picked by 39 respondents (54%). “Establishing clear guidelines for their learning” and “helped direct their learning when needed” were both picked from the list by 27 of the respondents (38%), followed closely by “had appropriate content knowledge”, picked by 24 respondents (33%). “Used e-mail was the only strategy involving the use of technology that was picked by 21 respondents or 30%. The other strategies involving the use of technology, online chat and simulation and modeling, were not picked from the list by any of the respondents (0%). Conducting debates and case studies were also not picked from the list. Three of the 75 respondents did not supply a ranking for this question.

Table 11. Most effective strategies in my online teaching

Strategy	Score	%
provided timely feedback	39	54%
established clear guidelines for their learning	27	38%
helped direct their learning when needed	27	38%
had appropriate content knowledge	24	33%
used e-mail	21	29%
answered their questions clearly	18	25%
asked questions that helped them to learn	18	25%
created a stimulating learning environment	12	17%
solicited feedback from them	12	17%
online forums	9	13%
project-based learning	9	13%
appeared to have a positive attitude	6	8%
appeared interested in their progress	6	8%
problem-based learning	6	8%
seemed to listen to what they had to say	3	4%
online chat	0	0%
conducted debates	0	0%
simulation and modeling	0	0%
case studies	0	0%
N=	237	

- **Question: From your experience with teaching online at SLU, which three things have you found to be most helpful for students to participate effectively online?**

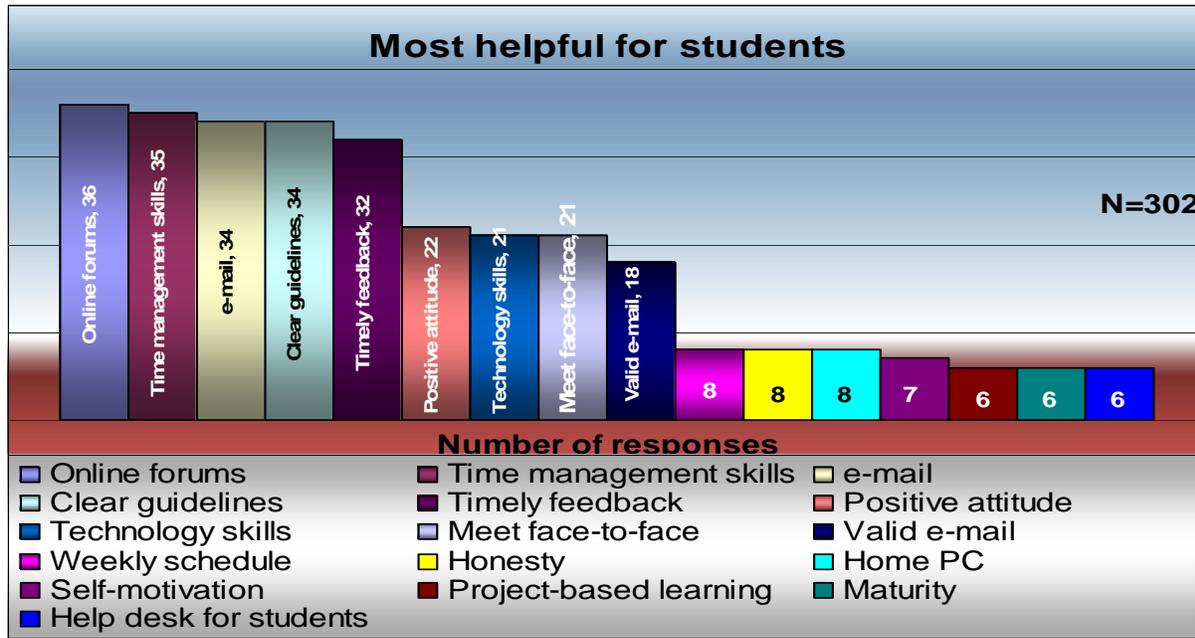


Figure 2. Most helpful for students

Respondents were not given a list of choices for this question; however, most of the items came from the list for the previous question. Table 2 shows that online forums ranks as the number one activity found most helpful for online students at SLU, while it stands at number two among activities that students have the most difficulty with.

Within every discipline there was agreement that students need more help with following directions and guidelines, online forums, and e-mail. There is also agreement within disciplines that a more positive attitude is needed. There were some comments made at the end of the survey offering suggestions for overcoming a negative attitude towards their online courses and creating a sense of community. One computer science teacher suggested a socializing phase at the beginning of the course, to help students feel more comfortable, and develop their skills for using the discussion forums. Below are some of the comments made:

1. “Many of my students are initially ‘techno-phobic.’ Some of them have had little, if any positive experiences with technology and on-line learning. Once you get over the initial hurdle of getting them comfortable, most all of them find it quite useful and very helpful. Many ask me throughout the semester why more instructors/professors don't use on-line instruction or Bb [Blackboard] in their classes.”
2. “Online teaching has been both my most challenging and most rewarding teaching endeavor! I believe, just as in on-campus classes, respecting students and relationship building to be essential to creating a positive learning environment. I have found that simply responding quickly to student requests can go a long way in communicating care and concern for student progress. Also, finding ways to involve students in helping each other has been a tremendous asset to my online classes.
3. “After teaching only one semester, I am considering modify some things:

I spent a great deal of time putting up my philosophy of teaching and directions on how to navigate the course. I think I might give them a graded quiz on this information the first week to ensure that they have read it and worked through the steps. I will grade everything that I want them to do online and establish shorter deadlines for completion. Without these criteria, some students participate minimally or ‘save up’ their assignments until the end of the semester. I actually like the evaluation I developed for the final examination--a combination of the quiz and case study. I will continue. I also spent a great deal of time on the external links, and I will ask the students to use them in some type of graded activity. You see a trend that graded activities will be increased because students weren't responsive to emails from me about "where are you?" when they were absent from discussion boards, and their assignments were minimally completed. I believe if I had seen them face-to-face and had a chance to talk with them about the assignments, they would have been of better quality.”

- **Question: Do you have any other comments that you would like to make?**

It was very pleasing to the researcher that many respondents used this question as an opportunity to express support for this study, indicate an interest in the findings, and to compliment the survey instrument. Some examples of comments made include:

“Glad you are doing this survey”

“Will you send us the results of your research?”

“This was a good questionnaire”

“I think it is great that this survey is being done”

“I can't wait for the results of this research”

“This was a great instrument – well done”

“Thanks for doing this study! Please keep it up and do lots more! Please send me a copy of the final study. Thank you.”

Some of the comments were reflections on the online teaching and learning process:

“Online is a great alternate way of learning for many students, but it requires an instructor who is willing to make the change to a new form of education, not one who puts F2F on the web.”

“Online is an exciting new journey that we should all try at one stage – who knows, we might even like it!”

“It is a wonderful way to work, it won’t suit everyone, but for me personally, I would not like to go back into other forms of working.”

“I’m very excited about the possibilities online instruction has for SLU. There are many potential students out in the hinterlands that cannot attend school on campuses but will be able to take courses online. Online instruction brings education to those who were before disenfranchised or dislocated.”

Other comments addressed some of the difficulties they had:

“I never imagined that 15 students could generate so much e-mail...HELP!!!”

“I wish there was a way to get students to read the syllabus, I even tried giving a test on it.”

“Some of my students didn’t get their e-mail accounts straightened out until mid-semester.”

“Students need to have attendance guidelines, some of them never “came to class”.

Of course, nothing is perfect:

“This survey is too long”

Research Question 2

The primary purpose for administering a second survey was to answer Research Question 2:

What are some effective teaching methods or strategies employed by online faculty at SLU?

- a. What online teaching strategies are implemented across and within disciplines?
- b. What strategies do faculty use to build a sense of community among online learners?

This survey was designed to probe for more specific information about specific successful teaching strategies and methods. In their responses to the first survey, some faculty indicated several things that students were observed having difficulty with, such as using discussion forums, and e-mail. Some teachers commented that they were spending a lot of time managing student e-mail. The second survey solicited more detailed information about effective strategies and methods some teachers were using to facilitate the online teaching and learning process.

The second survey was sent to all 75 of the respondents to the first survey. Within 48 hours, 33 were returned, and 4 more were returned on the fourth day. All 37 of the surveys were completed. The surveys were sent by direct e-mail, and were contained in the body of the e-mail message. Respondents completed the survey by filling in the information and returned the completed questionnaire by “Replying” to the researcher’s original message. Although the return rate was slightly less than half (49%), there were only two departments, from which there were no responses; Communications and Management. The responses were distributed fairly evenly

between academic colleges. Arts and Sciences had 14 respondents, Education had 12, followed by Business and technology with 11.

- **Question: Managing student e-mail is a challenge in online instruction. If you have found an effective way to deal with e-mail demand, please describe the strategy you use.**

Paraphrasing, the most frequent response to this question was a consensus "...No, I haven't found an effective way to deal with all of the student e-mail I get, but if you have any good ideas, please contact me..." There were 19 teachers who responded in this manner. There were 4 individuals who did not respond to this item. Of the 14 remaining responses, two individuals had a unique strategy to manage student e-mail.

The first strategy, described below, was designed as a preventive strategy to answer questions before they arose.

SLU automatically provides an e-mail list for each section of a course. One powerful use of that list is to contact students even before the course officially begins. About 1 week before the beginning of the semester, I send out an e-mail message to the class and direct them to our Blackboard course site. Thus, they learn a bit about both the course and me before we get started.

The students receive their first assignment in the welcome message. They are asked to go to the Assignments section and participate in a quick survey. Two questions are posed to each student: "How often do you check your e-mail?" and "How often do you use the World Wide Web?" The possible answers are "several times per day," "at least once per day," or "every few days." Their choices are recorded by the Blackboard Survey Assessment tool. All of the responses are anonymous. I establish a profile of the class

computer and Internet habits. I usually receive responses from almost half of my online students within 24 hours. The rest trickle in during the next 3 or four days. There are usually about 3 or 4 students who do not respond for one reason or another.

Once I have the class starts I refer them to a discussion forum titled “Letterman’s Top Ten Questions for the Week”. Over the years, I have compiled a list of questions asked by students for every topic in the course content. I have organized them into the sequence they will occur, and stored them in a Blackboard folder for with 10 questions each week of the class. Only the current and preceding weeks are made visible to the class. The questions are released as separate threads in the top ten list for each week. An announcement is generated to direct students to the forum. Students are allowed to ask questions and discuss the topics with each other. As a result of the interactivity from this forum, there are very few e-mails sent directly to me regarding assignments, and other class-related items. I usually spend about 20 to 30 minutes each day responding to questions, and adding comments to some of the students’ discussions. Students may also post anonymously to the forum.

The second strategy described was an “Online Anonymous Suggestion Box”. The teacher described the procedure as follows:

I make available a discussion forum in Blackboard where a student can send a suggestion to me anonymously. It comes directly to my e-mail. Rather than posting the suggestions automatically, I give each one some thought, perhaps holding on to it for a day or two if some action is warranted. I then provide a response along with the suggestion, maintaining as much of the original wording as is prudent. The availability of this online forum saves me time, as I can avoid repetitious e-mail queries and private responses.

The remaining 12 respondents all reported that they were using a strategy they learned from a faculty workshop conducted by the researcher. The technique involves setting up a Question and Answer (Q&A) discussion forum in the Blackboard course site. The objective is to direct all matters concerning the course to the forum. E-mails sent to the instructor's inbox are repeated in the forum with the author as "Anonymous". The procedure is introduced in the initial welcome message that goes out to the students before the semester begins. That message asks the students not to send questions to the instructor's inbox. During the first few weeks of class, students will still send e-mail directly to the instructor; however, after they finally realize that the reply will be posted in the forum, the direct e-mails slow to a trickle.

An added value to this strategy is that the Q&A forums can be archived. Over several semesters the teacher will have a "bank" of questions that can be sorted by subject. It becomes very easy to anticipate what questions will be asked about almost any topic in the content of the course. These Q&A's can be posted when the topic is introduced or the sequence begins. This saves the online teacher many hours of reading e-mails or answering questions posted to the forum.

- **Question: For the online course you are teaching, consider all of the teaching-learning activities you have used this semester:**

What percentage are individual student activities?

What percentage are group activities?

How many students are enrolled in this class?

What do you think would be an ideal class size for this online course?

All 37 respondents supplied answers to all of the items in this question. These two questions, (What percentage are individual student activities? and What percentage are group activities?)

were combined into a ratio of individual to group activities. A total of 22 respondents said they used individual activities 80% of the time and 20% group activities. One individual said individual activities were used 90% of the time and group activities 10% of the time. The remaining 14 respondents reported using no group activities, or 100% of their activities were individual. Table 12 below, shows the ratio of individual activities compared to group activities.

Table 12. Ratio of individual to group activities

Indiv=100%	Group=0%	Indiv=90%	Group=10%	Indiv=80%	Group=20%
14		1		22	

The next question (How many students are enrolled in this class?) also provided a student-teacher ratio for online teachers that responded. The class sizes ranged from a low of 9 (1 class) to a high of 40 (1 class). The mean and median for class size were 23, and the mode was 15 (6 occurrences). Table 13 shows a breakdown of the class sizes and the student/teacher ratio for the 37 teachers.

Table 13. Class sizes and student/teacher ratio

Number of Students	Number of Classes	Total Students
9	1	9
12	2	24
15	6	90
17	1	17
20	5	100
22	2	44
23	2	46
24	2	48
25	3	75
27	1	27
28	3	84
29	1	29
30	5	150
33	1	33
35	1	35
40	1	40
Totals	37	851
Student/Teacher Ratio = 23:1		

- **Question: What do you think would be an ideal class size for this course?** This question provided some interesting comments. One respondent said,

“If I didn’t have so many students in this class, I could do a lot more of the types of activities that should be conducted in an online class; however, with 30 students I am forced limit my assignments to thinks[sic] I can handle quickly, because I have 30 students in 3 other traditional classes.”

Another respondent said,

“I think we should get a one course release from the regular teaching load because I spend twice as much time with my online class, with only 12 students, as I do with my other 3 classes that have 24 or 25 students. I think the ideal class size is 12 students for this class.”

The ideal class sizes ranged from 10 (1 respondent) to 25 (1 respondent). The majority of respondents (26) said the ideal class size for their courses was 20. There were 9 teachers who said 15 was an ideal class size for their courses.

The last question in this part (**Does your department limit the enrollment in online classes?**), did not provide too much variation in the responses. All said that their departments did limit class sizes for online classes; however, 8 respondents said that the size was the same as regular classes, and “...should be lower for online classes...” One respondent said that class limits for online classes were at the discretion of the teacher. One respondent mentioned that Records and Registration required a class limit to be set for all classes, and his/her department set the same limits for all classes, unless requested by the instructor. One respondent said that “...although the department does limit the class size for online classes, the instructors can choose to overflow their own classes...”

In summarizing this part of the survey it can be said that 22 of 37 teachers (60%) use group activities 20% and individual activities 80% in their online courses. The average number

of students enrolled in 37 online teachers' classes is 23, with a median of 23, and a mode of 15 (6 classes). Of 37 teachers responding, 26 (70%) said the ideal class size is 20 students. All respondents (37) said that their department limited enrollment in online courses.

- **Question: Describe 2 of what you believe to be the most effective Individual Teaching & Learning Methods you use. For each activity be sure to provided detailed descriptions of the Objectives, Learner Activities, and Assessment (% of course grade).**

This question contributed to the general body of knowledge related to effective online teaching and learning methods at SLU and higher education. It generated a virtual treasure of individual activities being conducted in SLU online courses. Of the 37 surveys returned there were 10 respondents that described 2 activities. One respondent described 4 activities. The 27 other respondents described one activity employing the use of self-assessment quizzes, reading assignments, summarizing articles, summarizing weekly class activities, answering discussion questions, quiz/exam activities, and discussion forum activities. The following is a description of some of the more unique individual methods from the 51 submitted. Most respondents did not follow the format of the question; but used their own style to describe the activities. However, with one or two exceptions, they provided objectives and assessment methods. Rather than trying to decipher the narratives of the activities to fit the format, the complete text, for each activity presented, is included below:

1. Music-Individual Activity

Objectives: 1. To be able to identify the creative choices more effectively.

2. To promote the exploration and comparison of fine details.

Activity: Demonstrating creative choices:

Streaming software allows me to isolate specific moments in a musical work to demonstrate the creative choices a composer made. I chain three or four examples in immediate succession so that the students can compare different appearances of the same melodic material. Students can work at their own speed and review material at their discretion.

Assessment: They make notes in a log using the word processor while they are listening. They submit their logs to my Blackboard drop box and I respond individually with feedback to each student. They are required to do 5 logs, worth a total of 25% of their grade or 5% each.

3. General Business-Individual Activity (10%)

I teach a course in Business Management. I have found a Web site where there are at least a half-dozen virtual tours referenced there. I must admit that I have not taken them all, but I made one of them an Individual assignment worth 10% of the grade. I want the students to focus on decision making and the developing of alternatives; the premises I created for the course are 1) operations is subjected to constant change, thus 2) executives should think it terms of alternatives, not "absolute" solutions. They flesh out new or not given ideas from the virtual tours.

I provide feedback in three ways:

1. I provide a grade, explanation, and comments on all written material submitted within 7 days of receipt.
2. I provide a comprehensive summary every two weeks with comments on progress.
3. Occasionally, I will send a private note to individuals if I feel they are struggling or missing the point of some objective.

4. General Business-Individual Activity

To make sure they read the text, I give a snap quiz every week based on the course objectives for the week and the major points in the text chapters. These questions require definitions, parts of a theory (Maslow) or some other key point for the week. The total point for the quizzes would cause a one letter grade reduction if the student flunked all of them. Here is the first week Snap Quiz. I think it is an easy one for the first week, but it gives them an idea of what I will be expecting in the coming weeks.

SNAP QUIZ

1. Name the four functions of management.
2. When a company decides to open up operations or sales around the world, they should look at three methods to achieve their goal. Name these three approaches.
3. What is organizational culture?
4. Name the six groups that make up the stakeholder theory that affects any business.

I ask them to post their responses ASAP and I trust them to try and know the answer without reading from the book. However, even if they copy from the book, they have had to "look" for the answer and it serves to get them into the book. I have found several cases where the student does not have the text or has bought one from another source (student) that is out of date. They have a very hard time even answering the simple questions.

5. General Business-Individual Activity (15%)

Everyday Ethical Dilemmas

I ask the students to choose a specific ethical issue or question then locate or create a short case that captures the issue. I appoint other students to respond, and take a position

on the dilemma and justify it. I read the student responses and score them according to a given format. I then let the students know what the results were. I usually extend this by facilitating a group discussion of the issues.

6. General Business-Individual Activity (10%)

I have the students do an individual PowerPoint presentation. It gives me a chance to give them some feedback on what makes up a good presentation. I'm always surprised at how many students comment that it's the first time they've ever used PowerPoint. I think the main thing students miss in the online environment is the repeated skill of giving presentations. They should know how to create one, even if they can't give it to you orally and they should know how many minutes their presentation will take.

7. General Business-Individual Activity

Final Exam

Due Date: 07-24-2002, Midnight SLU Blackboard Server Time (No exceptions)

Ground Rules: All work is to be completed independently and submitted to my Blackboard Drop Box: for grading. Any student that posts their final exam answers to any public forum will receive zero credit for their work. If this occurs, any student who has not yet submitted their exam will be given a new test.

Exam: You are the coach of a 9-12 year old girls basketball team. From your observation, you note the following:

- They are the shortest team
- They are out of shape
- They don't know the rules
- They can't shoot

- They can't pass
- They can't play defense
- Most of the girls can't shoot the ball to the rim (regulation 10 foot rim)

You are to use what you learned so far to develop this team into "winners." Determine a three-year plan to accomplish this.

Good luck

8. General Business-Individual Activity

Discussion forum on Bad Management:

I have students who rant about bad management. I post a thread during the first week of class titled, "Bad Managers - Dis 'Em Here." If they try to complain in other threads, I just direct them to the rant thread....it'll direct their attention to the fact that they are complaining and not putting themselves in management's shoes.

9. English-Individual Activity (5%)

I teach English Composition. For the first writing assignment, I usually ask them to write their autobiography. I give them a topical format or template to fill in. I really mark up the mechanical issues (and include examples of the correct way), and reiterate the need to type their work in Word. Seems like a lot of the learners want to try and "beat the system" and type their papers straight into Blackboard, with the resulting spelling/grammar disaster. Where I have a tough time, is when the paper isn't up to college standards, let alone high school standards. I'm sending them back for rewrite now, less late points. I'm also referring a good number of students to a VWL (Virtual Writing Lab) to help them with writing issues.

I assess their writing and provide feedback in two different ways.

1. Assignments: I respond to each assignment that is turned in with the final grade, comments, and a graded version of their papers. I strive to do this within 24 hours if possible. Usually within two days.
2. Each weekend, I provide a short weekly feedback summary to each student's individual email account. Here I recap their points, participation, and assignments turned in. I use this as an opportunity to discuss any other issues with the student such as online discussion etiquette. The students seem to really respond well to the constant feedback.

10. English-Individual Activity

Objectives: To help build a sense of community

To become familiar with the use of discussion forums

To begin forming groups

Prior to the beginning of the semester, and during the first two weeks of class, each student is asked to write a biographical sketch and post it in the “Bio” discussion forum in Blackboard. I post mine there to start the discussions. Students are allowed to comment on bios of other students. I also post a brief comment on each student’s Bio. If I know something about their home town, or high school, I will make a comment or ask if they know someone, in order to generate conversation. Usually the students will get the idea and start conversations among themselves. I also ask them to start forming groups. It usually takes four or five exchanges between three or four students to accomplish this. This is not a graded activity, and each student is awarded two points when their Bio is posted.

11. English-Individual Activity

I've found two techniques helpful for dealing with the writing issue.

1. All papers are posted, sans names, for all to see in a Blackboard discussion board. I make a point to compliment the best ones on writing style, and I'm silent -- at first -- on the others. This usually improves the overall writing in one assignment cycle for the ones who "know better but didn't bother", and permits me to focus on those with real problems. I keep negative feedback personal via e-mail, but praise on discussion board.
2. I comment on all assignments in a discussion forum that all can see. The best papers really stand out. I've found that the best papers tend to serve as a standard for the others - - no one wants to be left behind. It doesn't work in every instance, but it seems to help. I use a 20 item Rubric that are demonstrated in a sample paper I also post which explains how these 20 items should be done. They will write 3 formal papers of 750 to 1000 words for the course, each worth 25% of their grade. Their final exam is a 2500 to 3500 word formal paper on a separate topic assigned to each of them to be completed the last week of class.

12. Mathematics-Individual Activity (~10%)

I find the students who are math averse will often participate more if a discussion question brings out the qualitative aspect of the material. For example, I ask them to discuss "whether algebra helps them understand graphs or graphs help them understand algebra" and to give examples to support their point. Even the ones who "don't get it" can discuss a question like this. I usually have 3 or 4 such discussions.

13. Mathematics-Individual Activity

I teach both Math 160 and 161. Let's face it; math just doesn't lead one into meaningful let along substantive conversations. After a bit of trial and error and listening to all of the previously mentioned student complaints about having to take the class I hit upon the

concept of focusing some class discussions not on technical math topics but the importance of math/algebra in their everyday lives and the work environment. The objective is to raise the awareness of how much algebra they already use and its importance in the work environment. The trick was to develop a series of discussion questions that focus on this. For example in 161 I ask:

Most of the business and every day applications of Algebra are covered in Math 160. Unless you are in a scientific field or one that uses statistics or advanced mathematics such as calculus I doubt whether you ever come across, in your normal course of work, any of the equations or techniques we have been working with. Given this, why do you feel universities require the study of college algebra? Do you agree or disagree and why? I ask the students to give feedback on each other's responses, according to a criteria rubric.

Comment: I have no problem with students evaluating each other's work and offering substantive comments and suggestions (formative feedback) regarding the quality of that work. You can even grade them on the quality of their feedback. Evaluation is a high form of thinking and I think this is good for students. The fact that you create a criteria rubric for them guides their comments in an appropriate way. The score, however, should be administered only by you.

14. Sociology-Individual Activity

I allow students to write test questions (or discussion questions) and model answers for specified topics, in a format consistent with course exams. This gives students the opportunity to evaluate the course topics, reflect on what they understand, and what are good test items. I then make a rough tally of the questions students propose and the topics

that they cover. I evaluate the questions and use the good ones as prompts for discussion. I revise some of the questions and use them on an upcoming exam. I reward students whose questions are selected by giving them a “24 hour late pass” for one future individual assignment. It usually turns out that the whole class gets a late pass for one assignment, and I get a built in test bank for the class and future classes that keeps getting larger each semester.

15. Sociology-Individual Activity (15%)

One-Sentence Summary

In the One-Sentence Summary, students address the who, what, where, when, how and why of an article, then reduce the article into a defining sentence. The result should be a substantial, grammatically correct summary in the form of a single sentence. I assess how well the student can grasp a large amount of information and present it in small, interrelated chunks. It is both a writing skills and critical thinking exercise. There are required to summarize 1 article every other week, from an annotated bibliography that I post in the Assignments section of Blackboard.

16. Education-Individual Activity

To stimulate discussion:

One strategy I have employed for stimulating discussions includes letting the students come up with their own "course related questions and discussions". Meaning, I put out discussion questions to discuss, but by about the 3rd day, they are burned out from rehashing them. If you target them to start a new thread on their own related to something they read in their text or articles, or concepts they are working on they are more apt to

feel in control of their online environment. I do not let these self initiated discussions wander though. I still explain that chat can happen in the chat room.

I introduce this option at the end of the 3rd or 4th week or beginning of the 5th week if I see discussions dragging.

17. Education – Individual Activity (10%)

Creation of an Electronic Annotated Bibliography

My online course is a Middle School Math Methods course. During the first two weeks of class, I require the students to find 10 free journals, newsletters, Web sites, or complete research articles that available electronically. As an example Technical Horizons in Education (T.H.E.) publishes an electronic version of the hard-copy magazine, and both are free. The publications or Web sites must be related to the topics covered in the course and there can be no charges for access or a subscription. They are required to create an annotated bibliography complete with the URL for the publication in MS Word and send a copy to my digital drop box in Blackboard. After I filter out any unworthy or unrelated publications, I send a copy of all of the remaining submissions to each student in the class. Only students who submit a bibliography get a copy of the others. Each student compiles one list from the 10 to 15 bibliographies they get (depending on class size and my filtering), eliminating any duplicates. Each student winds up with an annotated electronic bibliography of approximately 60 to 100 items, sometimes more, depending on how many duplicates they have to eliminate. The objective of this activity is to give each student a knowledge base to draw from for future papers they will write, and online discussions they will be required to participate in. This process also cuts down on the lead time I have to give for a written assignment, or

research for discussion, because they have all the sources they need already. This also gives them time to get oriented and acquainted with each other before we get into the actual content of the course. This also gives me an opportunity to make sure that everyone has a good grip on the technology and using Blackboard.

18. Education-Individual Activity

I don't give a final exam. I think there is enough opportunity for assessment with the individual and group papers. I expect each student to complete one paper every 3 weeks, and accomplish one individual project during each of the last four weeks, including the creation of a fictitious school. I think this is plenty of work to learn, comprehend, and apply the objectives of this course. I have actually had students request a final exam in exchange for dropping a paper. I found an old graduate psychology exam and presented it to them to see if they still wanted to trade. I had several papers turned in the next day and there was no further discussion on the subject. The every 3 week paper is 25% of their grade. The final 4 weeks projects accounts for another 25% of their grade, and replaces a final exam.

19. Education-Individual Activity

At the beginning of the semester, I establish a discussion forum in Blackboard and I call it “Gumbo Ya-Ya”. It serves as sort of a student lounge, where they can have conversations about anything, including what’s going on with the class. Inappropriate topics and language is not allowed—proper classroom decorum must be maintained. This helps to establish a sense of community, and also serves as a place where they can relax and talk about almost anything. I monitor the forum; however, I do not participate in conversations. I can always find out what is

playing at the movies, what movies are good and bad, what is the best place to order pizza, and other interesting events.

20. Marketing-Individual Activity (20%)

Weekly summaries account for a combined 20% of their grade, and they are required to post them in a discussion forum after the deadline. Summaries should be approximately 150-200 words. Material from the textbook or assigned readings should not be summarized. What was learned from reading the text and/or assigned readings as it relates to the objectives should be summarized. Did the textbook or readings address the objectives? Was the material current?

One area I try to get all students to include in their summaries each week is a connection between what we did in class and the real world. Here is my guide for writing summaries:

A little help on writing summaries...here are some suggested questions to ask yourself when writing your weekly summaries:

Please answer EACH of the following questions (a-e):

- a. What are the most important concepts you have learned this week?
- b. What would you recommend to management/leadership based on these concepts? (e.g., change of direction, new systems, re-engineering).
- c. How will these concepts impact you personally and professionally?
- d. What is the value-added from these concepts or what differences can these concepts make to your organization? (e.g., financial savings, productivity improvements, expanded marketing activities)
- e. Any additional personal notes and observations?

The following table (Table 14) is a concise summary of the previous twenty individual activities. Some subjects within disciplines that have identical activities have been consolidated.

Table 14. Summary of Examples of Individual Activities

Individual Activities							
Subjects	Music	Gen Bus	Eng Comp	Math	Sociology	Education	Marketing
Technology Tools							
Word processing	X	X	X	X	X	X	X
e-Mail	X	X	X	X	X	X	X
Streaming	X						
Virtual reality		X					
WWW		X					
Discussion forum		X	X	X	X	X	X
Pedagogical Activities							
Making creative choices	X						
Decision making		X					
Developing alternatives		X					
Create definitions from readings		X					
Ethical Dilemmas		X					
Case studies		X					
Problem Solving		X					
Strategic Planning		X					
Discuss examples of Mgt.			X				
Write autobiography			X				
Building learning community			X				
Forming groups			X				
Contextual writing			X				
Organizing thoughts			X				
Writing about Math				X			
Writing test questions					X		
Writing discussion questions					X		
One sentence summary					X		
Stimulating discussion						X	
Writing papers						X	
Projects						X	X
Writing weekly summaries						X	X
Assessment							
Create logs	X						
Comment on all writings		X					
Summary		X			X		
Notes		X					
Snap quiz		X					
Discussion questions		X			X		
Score responses		X					
Facilitate discussion		X			X		
Final exam		X	X				
Participation & Contribution		X	X	X	X	X	
Grammar & mechanics			X			X	
Rubric							X

- **Question: Describe 2 of what you believe are the most effective Group Teaching & Learning Methods you use. For each activity be sure to provide detailed descriptions of the objectives, Learner Activities, Assessments, Presentations, and Group Size.**

There were 22 respondents to the survey that reported group activities were 20% of their coursework. One respondent reported that 10% of course work involved group activities. The

remaining 14 respondents did not report that group activities comprised any part of the online course work. There were 6 of the 22 respondents who reported at least 2 group teaching and learning methods. The other 15 respondents reported only 1 method for their group activities. Although not solicited, several comments made about groups in the earlier survey were repeated with this survey. One such comment, expressed within the same context, by 4 respondents to this survey concerned difficulties with communication between group members. Another concern, expressed by 5 respondents, concerned the issue of assigning a grade for the project when one or more members did not do their share, or participate in group activities. Some of the group methods described by the respondents to this survey were designed to address that issue. Descriptions included most of the elements asked for: objectives, activities, assessment, presentation, and group size. Some of the respondents went into great detail about teaching and learning methods used for conducting online group activities. One respondent who reported no group activities offered the following comment:

I think the implementation of the group concept leaves a lot to be desired in the online environment, to begin with. I haven't really put all my thoughts together, yet, but I do know that for my own classes the group tasks from the textbooks are enough of a challenge for regular classes that I don't feel any burning desire to modify them for online use.

1. Sociology-Assessing Groups

How I assess my groups:

I require all group members to submit a group evaluation at the end of the class. All group members will most likely receive the same group grade for group assignments. However, individual points may be deducted for inadequate participation.

Granted, it may be a little vague using words like "will most likely receive the same group grade...". However, this allows me the flexibility of either deducting from the grade during a particular week, or waiting until the end of the course to deduct individual points for the times that they did not participate. Usually, I will give the same grade for a specific assignment unless the group has notified me and stated that the individual group member has not participated in the activities for that assignment at all. Then they will receive a "0". (Again, this is not what I usually do). Instead, I advise all the class that when they turn in their group evaluations at the end of the class, they should be specific with their comments regarding the participation of the group members because I use their input to make adjustments to individual grades. (Which I state that I may deduct individual points for inadequate participation in my syllabus) If 3 members of a group of 4 all state that the 4th group member did not participate in certain group activities or if each of those members each gave that person a 1, which is the lowest rating, in all categories, then I take that into consideration when adjusting individual points.

Sometimes group members have situations that come up that cause them to have limited participation for a short period (family emergency, unscheduled work trip, etc.). However, they have worked something out with the group where they will do something "extra" to help compensate for the time they will miss working with the group. So, I don't want to automatically deduct points for an individual's participation if their lack of participation was something that was agreed upon and worked around by the group.

Also, I only adjust points for what I consider "extreme" situations. If someone is rated a "3" in several categories by one of their group members then I don't do any adjustment. It would be a mistake to get into too much detail. The bottom line is that you can try to

make this process as "objective" as possible, but the final adjustment will always be "subjective" based on what you know.

Sorry this turned out so long.... but, to summarize this is what I do...

- 1) State in the syllabus "All group members will most likely receive the same group grade for group assignments. However, individual points may be deducted for inadequate participation." (This gives me options as the instructor)
- 2) Monitor the group forum to get my own opinion of how each student is participating in their group
- 3) Read and review individual emails regarding group members' participation (if any).
- 4) Communicate to the groups that they must be specific with their group evaluation information because I use their input to adjust individual grades.
- 5) Review the group evaluations to see if potential adjustments will be required.

I'm not sure if this helps you, but this has worked for me. So far, I have only had to adjust individual grades down on 3 occasions and none of the students questioned the adjustments. (They knew whyand I had the supporting information with specifics even if they asked... which they didn't).

2. Business Management-Group Activity

Creating a Pro and Con Grid for a Debate:

The objective of the Pro and Con Grid is to get students to analyze and evaluate an issue or proposal, in terms of its advantages and disadvantages, costs and benefits. It provides me with an understanding of each student's capacity for objectivity and ability to search for all sides of an issue - and to weigh the value of competing claims.

I use the debate technique when I want students to really “dig” into an issue. It requires that all members of the group look at more than just one side by establishing a pro and con grid from the research they have done on the topic. The group must divide itself into Pro and Con teams and use the findings from the research to prepare their debate. Each member has to “sell” rest of their team on their views, and why they should be incorporated in the strategy for the upcoming debate. Effectively, there are two debates taking place; the one within each team, and then the one between the two teams. I like to use the issue of monitoring and/or restricting Internet use in the workplace. This usually generates a lot of discussion, and lively debates.

3. Mathematics-Group Activity

I assign problems to the groups each day. Each group works on them and then posts the solution in the main newsgroup the next day for class-wide discussion. Each problem takes approximately 10-15 minutes for someone who is active in the class and gaining familiarity with the material. Each correct solution receives 5 points. Group problem solving is worth 20% of their grade.

4. Education-Group Activity

I have four separate group projects on unrelated topics. For me, it seemed more logical to have these four. Plus, the feedback I get favors the four topics. I have 100 points for the project—40 for team dynamics.

5. Computer Science-Group Activity

Project Description

Objective: To Compare and contrast Windows 98, Windows CE, Windows 2000, and Linux.

1. Prepare an outline of Windows 2000 and Windows CE. Include:

- a. The important features of Windows 2000.
 - b. The important features of Windows CE.
 - c. A comparison and contrast of Windows 98 and Windows CE.
2. Prepare an outline of Windows 2000. Include in the outline:
- The important features of Windows 2000.
3. Prepare an outline of Linux. Include in the outline:
- The important features of Linux.
4. Each group will submit their final report and make their presentation.
- a. Complete an 8-12 page (350 words per page) report.
 - b. Prepare a 15-20 minute PowerPoint presentation (submit slides electronically).

6. Computer Science-Group Activity

Project Description

The objective of this group project is to introduce you to the methodology used to develop systems in either a single-user or a multi-user environment, and to familiarize you with the System Development Life Cycle (SDLC). You will be introduced to SDLC in the second half of the course. System solutions are a large capital investment in today's business world, and the application of such large investments must be based on specific business needs and subsequent returns. System projects are being held accountable for meeting business needs. It is therefore critical to identify and articulate both verbally and quantifiably, those business needs in order to obtain successful information technology solution projects.

For the group project in this course, you will select a business situation that requires a system solution and develop a proposal for a project that will meet the business need.

Project Deliverables

Business Problem Statement

Prepare a business problem statement in the form of an executive summary that states the business need to be solved, identifies the purpose of the project, and lists constraints and assumptions used in defining the project.

Business Requirements Definition

Prepare the business requirements definition in the form of business topics, such as:

Inventory tracking

Accounting

Marketing communication

Marketing research

Sales – projection, actual

Salesperson production

Manufacturing production

Service tracking

Besides a listing of requirements, you may want to use process flow charts, procedures, or policy statements to articulate the business requirements in terms of specific process or business development needs. Write a 2-4 page (350 words per page) paper that would identify the business requirements definition.

Solution Design

Develop a solution design consisting of both software and hardware recommendations for the information technology solution.

- **Question: If you have students do any between group activities, please describe the approach you are using.**

One respondent, from Education, offered 2 between group activities, and one respondent from computer science offered 1 between group activity.

7. Education-Between Group Activity

The groups do an Instructional Plan, and then they trade with another group. That group then reviews and writes a Formative Evaluation Report, which provides feedback, pros & cons, etc. of the other team's plan. It's interesting, because their paper is turned in after I have already graded all of the instructional plans and I must say, they all do a great job at appropriately grading one another's work.

8. Education-Between Group Activity

Set up two groups in the course and have each team post their paper for the other team to review. I provide the criteria and rubric and each team reads the work of the other and decides whether they met the required elements of the assignment, which leads them to a total points score. They also provide some overall feedback to the other team. Of course there is oversight on my part and I have the ability to raise/lower the grade assigned by the "other" team if I think it is necessary.

9. Computer Science-Between Group Activity

[Java Applet Random Question Generator for Quiz Bowl](#)

The purpose of this group activity is to write a Java Application that will generate a question selected at random from a bank of questions. The group or team that executes

the Applet must solve the problem or answer the question within 24 hours in order to score points and advance to the next round. Points are scaled according to the amount of time each team takes to solve the problem or answer the question. Each team compiles a bank of questions and/or problems and writes a Java Applet Random Question Generator and uploads it to a Web server used for the class. No team may use its own Applet to select a question. The winner of the Quiz Bowl is the group that has the most points after 5 rounds. There are 4 Quiz Bowls for the semester each worth 25 points. Grade points are awarded according to the team standings. The winner of each quiz bowl gets 25 points; all other participants get 20 points. Table 15 on page 96, summarizes the group activities.

- **Question: Are you having any face-to-face meetings with your online classes?**

Each department that schedules online classes at SLU must post a course information sheet for each class on the Continuing Education Web page, and provide a link to it from the department Web page. Each instructor is responsible for completing the form which gives detailed information about their online course. One of the items on the form gives information about any class meetings that are to be held. The reason for the meetings, number and frequency of the meetings is also given. Twenty-six respondents (70%) answered “yes” to this question.

- **Question: What are the primary reasons for choosing to have F-T-F meetings?**

Reasons given for meeting were; orientation (19), testing (23), individual and group presentations (12), complete Student Opinion of Teaching (2).

- **Question: How many sessions are you having and at what points of the semester do you schedule the F-T-F meetings?**

Of the 23 respondents who said they were meeting for testing, 19 said they were meeting three times (once during the first week, for a mid-term and final examination during Final Exam week). Two respondents reported they were meeting one time for a final exam during finals week. The remaining 2 respondents said they were meeting once for a mid-term exam.

Table 15. Examples of group activities

Group Activities									
Subjects	Soc	Bus Mgt	Math	Educ	Educ	Educ	Comp Sci	Comp Sci	Comp Sci
Within Group	Yes	Yes	Yes	Yes				Yes	Yes
Between Goup		Yes	Yes		Yes	Yes	Yes		
Technology Tools									
Word processing	X	X	X	X	X	X	X	X	X
e-Mail	X	X	X	X	X	X	X	X	X
WWW						X	X	X	X
Discussion forum	X	X	X	X	X	X	X	X	X
Java Scripting							X	X	X
Databases							X	X	X
Operating systems							X	X	X
Spreadsheets							X	X	X
PowerPoint							X	X	X
Pedagogical Activities									
Forming groups	X								
Evaluating peers	X								
Teamwork	X								
Create team log	X								
Create group charter	X	X							
Create Pro-Con grid		X							
Debate			X						
Group problem-solving			X	X	X	X	X	X	X
Posting solutions for discussion		X	X			X		X	
Group projects		X	X			X			
Developing instructional plans						X			
Write formative evaluation report						X			
Write team paper						X			
Give feedback to other groups						X	X	X	X
Programming							X	X	X
Write Java Applet - quiz generator							X	X	
Evaluating operating systems								X	
PowerPoint presentation			X	X	X	X	X	X	X
System Development Life Cycle									X
Assessment									
Group grade	X								
Individual project grade	X								
Participation & Contribution		X							
Solutions graded			X						
Project & processes are graded				X					
Plans and reports are graded					X				
Rubric provided						X			
Quiz Bowl							X		
Project deliverables							X	X	X
PowerPoint presentation	X	X	X	X	X	X	X	X	X

Faculty Interviews

For the targeted interviews, online teachers were ranked within their respective academic colleges, according to the number of semesters (including summer sessions) of online teaching. The three teachers from each college with the most online experience were asked to be interviewed. No teachers declined to be interviewed.

Two of the teachers from the College of Arts and Sciences had 7 semesters of online teaching experience, and the third had 6 semesters experience. Departments represented were Sociology and Criminal Justice, English, and Mathematics. One teacher from the College of Business and Technology had 4 semesters, another had 5, and the third had 6 semesters of online teaching experience. Departments represented were Computer Science, General Business, and Industrial Technology. All 3 teachers from the College of Education had 6 or more semesters; one had 6 and two had 7 semesters of online teaching experience.

The teacher interviews produced the qualitative results that were analyzed. The qualitative data analysis (QDA) of the content of the interviews was accomplished by using the framework of Grounded Theory (Glaser & Strauss, 1967). A set of concepts was linked using relations that represent aspects of the research questions under investigation. These constituted the main questions that guide the development of the theory. The Grounded Theory method of Glaser & Strauss uses relations like “is consequence of”, “is-strategy-for”, “is evidence of”, etc. to relate the concepts found in the data.

In the analysis of the content, there were five major elements counted as defined by Berg (1998, p. 231):

Words: the smallest element or unit used in content analysis. Its use can result in a frequency distribution of specified words or terms.

Themes: a more useful unit to count. A theme is a simple sentence, a string of words with a subject and a predicate. The transcripts of the interviews were searched for themes.

Items: represents the whole interview. Each interview was counted as an item.

Concepts: are words grouped together in conceptual clusters or ideas, they constituted the concepts from the research questions such as strategies, skills, methods, unmet needs, etc.

- **Question: First, can you outline your involvement in online teaching?**

All of the teachers interviewed had not taught online classes at any other institution of higher education except SLU. All of them said they had gradually transitioned from using some of the technology to enhance their classes such as Web boards, e-mail, chat, etc., before teaching a course online. Seven of the nine had been given a one course release from teaching to prepare their course for online delivery. The other two said they had taken over courses that had been prepared and taught by other teachers.

- **Question: A comment made by many teachers involved in online learning is that many of the skills that a good online teacher has are similar to the skills possessed by a good classroom teacher. What are your thoughts on this comment?**

The question created quite a creative reflective process.

A difference of opinion seemed to emerge. Out of the 9 teachers interviewed 5 stated that many of the skills for online teaching are indeed similar to classroom teaching. That is, a good online or face-to-face teacher needs to be:

Learner centered

A good motivator

Use communication methods well

Lead learner-centered discussions

Create communities of learners

Effectively track learners' progress

The views were well expressed by one teacher:

“Good teaching is good teaching. I believe a good teacher in face-to-face will be a good teacher in the online environment. I suspect good teaching is as much attitude as it is technical skill.”

A second teacher interviewed said:

“I think this is really true—online is simply medium of delivery. Thinking, planning, following through is simply good teaching.”

Another teacher stated:

“It is hard to transfer from one environment to the other – the same elements are there, but you need to think a bit differently and deliver it differently. Some classroom teachers will find it hard with the technology.”

The proponents of the view that online teaching and face-to-face teaching require different skills sets presented that idea with equal passion. One teacher questioned whether face-to-face experience is a prerequisite of some sort:

“At first glance, I agree...however, when I start thinking more deeply about that statement, I begin to think about all the subtle differences between the two. I would be really interested to see someone with no previous classroom or face-to-face teaching experience go into online teaching—would classroom or F-T-F experience be of any benefit (i.e., is it a prerequisite of some sort?) – I guess the vice-versa of that scenario

would be interesting to observe. I think the key in the comment you quote is the work “many” – yes... many skills are similar; however, many are different.”

Another teacher commented that there are common elements and that in their experience:

“The best online teachers I know have the same characteristics:

They have all studied online

They immerse themselves in the online environment

They develop a whole set of online behaviors

They tend to be more team people

They are very interested in the learners’ progress

Another teacher being interviewed said:

“The online learning environment is a new learning space. The metaphor for the classroom is an old one and reinforces old paradigms. A good classroom teacher involves one set of skills for a face-to-face context. Online is another context, and while some skills overlap, new ones are needed. If good classroom teaching skills are so easily transferred, then all of the resources being dedicated to distance learning would not be required. There are so many other factors besides good teaching to consider in an online environment.”

These comments prompted the researcher to further solicit the interviewees’ opinions about the fundamental nature of good online teaching in order to clarify their thoughts on the important characteristics or features of online learning, and to zero in on the teachers’ philosophy about teaching online. The difference of opinion still persisted, but the distinction was less apparent. Some of the comments were:

“...A willingness to listen and to change; humor; building relationships....”

“...The same as it is in face-to-face – attitude, care for student learning, knowledge of the subject matter, enthusiasm for the subject matter being taught.”

“...It involves excellent moderation skills, motivation skills and leadership skills, as well as time management, and organizational skills....”

“...Building a community with your clients – bringing it in gradually, where it fits a need....”

“...The most significant thing is the need to build online communities....”

“...Communication and quick responses – knowing how to manage online discussions....”

“...A good teacher is a good online teacher....”

“...A good online teacher needs to be a good teacher plus have a new set of different skills....”

“...To me, it [good online teaching] would be the ability to establish, maintain, and grow a relationship between my students and myself where the learning environment is supportive, helpful and sharing....”

- **Question: If you were going to recruit an online teacher, what are the three top selection criteria that you would use?**

The focus of the interview then turned to the teachers’ perceptions of what competencies the online teacher should possess. This question generated a lot of good ideas, and some remarkably similar responses. There was consensus among those interviewed, to some extent, over the types of capabilities that are required to teach online. They can be put into three main categories:

1. Appropriate attitude

2. Suitable technical skills
3. Facilitation skills

Table 16 is a summary of comments about each of the 3 criteria above, as expressed by the 9 teachers interviewed, plus any other comments they made.

As Table 16 shows, the comments, in terms of their basic thrust, are quite similar. Eight of the teachers interviewed mentioned attitude as a critical factor and seven listed ability to use technology as an essential skill. The third category, facilitation skills (including pedagogical and/or communications skills) was cited as critical by all nine of the teachers interviewed, and they listed a variety of skills.

Three teachers listed factors that could not be categorized as one of the main three. Several saw that there is a need to fuse the technologies with the teaching methodologies.

Their comments were:

“...They [online teachers] need to have a sound grasp of their own teaching methodology and how that translates to an online environment, matching technologies to learning styles. This means using interactive technologies not as tricks and toys, but for sound learning practices....”

“...I think every online teacher should take at least one course online. This should be done as part of the preparation for teaching online. Every classroom teacher has been a student in a traditional classroom. Why not experience what the online student experiences before becoming an online teacher....”

“...Knowledge of the subject matter is even more important in an online environment because of the various roles an online teacher must assume. Online students spend much more time reading and analyzing, which requires more participation from everyone....”

Table 16. Comments about competencies for online teaching

Interviewee	Attitude	Technical	Facilitation	Other
1	Enthusiasm and initiative	Skills in using technology	Excellent facilitation skills	Have studied online
2	Someone who will follow through		Understands cooperative learning design	
3	An agile mindset— not a fixed attitude A committed lifelong learner	Reasonable amount of IT skills	Good traditional classroom track record	
4	Willingness to participate in online teaching		Someone who knows when to direct and when to support	
5	Motivated about teaching— anxious to engage the learner Vision and commitment to seeing online learning work	Use technologies to create a supportive learning environment	Excellent communication skills interpersonal skills in an online environment An ability to motivate in an online environment	
6		Very good with the technology	Aware of different teaching and learning strategies and techniques	
7	Someone who loves teaching Willing to get hands dirty	Using communication technologies well	Styles Have an online persona and understanding of the written word	Knowledge of the subject matter
8	Commitment— availability of time An openness to learning and to questioning	Technology ability – not high level but ability to cope Basic computer skills	Ability to communicate more written than verbal	
9	Someone who likes to do things differently, to take risks	Someone who couldn't live without their e-mail	Educational design skills	

- **Question: Are you aware of any selection criteria that have already been developed that specify competencies for online teachers?**

Some teachers asked for clarification—“does this mean SLU, or in general”. There was a mixed response, but most were not able to identify anything specific.

- **Question: Are there any questions that you would like to add, or comments you would like to make?**

In most interviews, the response was “no”, but some of the additional issues identified included:

Management of time and students (class sizes)

Levels of support that are required

Commitment from online teachers

Research Question 3

What are the student perceptions about online teaching at SLU?

- a. What strategies are the students most satisfied with?
- b. What needs of theirs, if any, do they perceive as being unmet?

A minimum of 100 student participants was the goal for this study. A tabulation of class rolls revealed a total of 1220 students enrolled in the targeted classes. Initially, surveys were sent to 125 students, selected randomly from the class rolls. The target number of surveys returned for students was 100. Students could decline to participate in the study. Within 24 hours, 48 surveys were returned. Within 48 hours the total was 63. After 72 hours there were 65 surveys. Reminders were sent to all 125 students again, requesting that they return their surveys if they had not already done so. Within 24 hours after sending out the reminder 28 more surveys were received, bringing the total to 93. After another 24 hours 6 more were received bringing

the total to 99. During the next 24 hours 5 more surveys arrived, bringing the total to 104 surveys. After the seventh day, no more surveys were received. The 104 surveys represented a return rate of 83.2% within six days. After an initial examination of the data, it was discovered that there were approximately 25 surveys that did not have all items complete. There was no pattern to the incomplete items, so it was decided to use all 104 surveys for the study. The most number of incomplete items on any survey was 3. The last item which solicited comments was not counted as an unanswered question, because it was an optional item.

- **Question: What courses have you taken online?**

Table 17. Current courses being studied

Subject	No.	%
English	49	47.1%
Education	30	28.8%
General Business	12	11.5%
Computer Science	11	10.6%
Sociology	2	1.9%
	N=104	

The results of this question were interesting. Almost all responses (79) came from students who were studying either English (49) or Education (30) courses online. Thus, 76% of the students participating in the survey were currently enrolled in online English and Education courses. The remaining 25 respondents or 24% were divided among students studying General Business (12), Computer Science (11) and Sociology (2). Table 15 gives a breakdown of the subjects the respondents were currently studying online.

Only three respondents in this group indicated that they studied any other subject areas online. Industrial Technology (2), and Mathematics (1) were the other subjects reported.

- **Question: Where have you studied online?**

All respondents indicated that SLU was the only place they had enrolled in online courses.

- **Question: Have you taken any online courses in your major at this university? If yes, please list them.**

Logically, all 30 of the students enrolled in Education courses, said yes, and listed the courses they were enrolled in. Additionally one education student indicated they had taken one other education course online. Two other students indicated they had taken one other course in their major, which is English.

- **Question: How many semesters have you taken courses online?**

The overwhelming majority, 94 respondents, indicated they had not taken courses online for more than two semesters. There was an even split with 46 indicating they were studying online for the first time, and 48 studying online for their second semester. The remaining 10 respondents indicated they were in their third semester of taking online courses.

- **Question: How would you describe the type of teacher/facilitator involvement in your online learning?**

The responses have been summarized in Figure 3. Only 3 respondents (2.9%) indicated that they did not feel that they had a teacher.

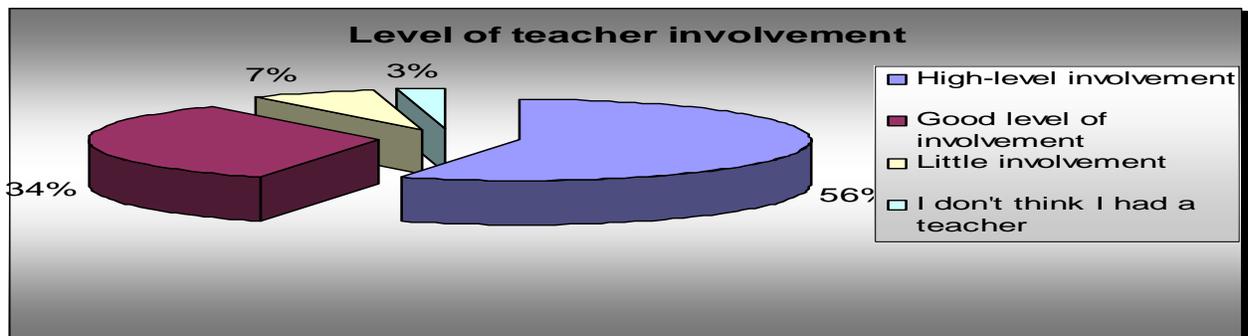


Figure 3 – Level of teacher involvement

- **Question: List five comments (words or phrases) that reflect your overall feelings towards the online teaching that you have encountered.**

It was interesting to note that the comments made by most student respondents mirrored very closely the comments made by online teachers. There were many more positive comments than negative, with many of the comments listed receiving multiple mentions.

Flexibility, for example, was mentioned by 22 different respondents (21%).

On the positive side:

intense	dynamic	stimulating
challenging	addictive	flexible
emotional	fun	empowering
enjoyed input from other learners		good response time
rapport with other students		intellectually stimulating

The range of negative comments was smaller, and there were less negative comments overall.

However, of those mentioned, “frustrating” was very much the most common expression (14 respondents or 14%). Other comments that students made were: “time consuming”, “little feedback”, “bewildering”, “frustrating”, “isolating”, “a lot to wrestle with”

- **Question: Thinking of a good experience, what made it good?**

This question aimed to elicit from respondents the things that they valued most from their online learning experience. There was a fairly consistent theme to the answers. As one respondent put it:

“...the enthusiasm of the teacher combined with knowledge of the subject and an ability to communicate these two things....”

Learners appear to appreciate the level of interactivity with their teachers. Those learners who indicated that they had little or no involvement with their teacher were far more likely to list negative comments. Students who had earlier listed a good or strong level of interaction with

their teacher tended to list very positive comments, and provided more comments in answer to this question. Some of the comments listed include:

Positive and useful feedback (20)

Frequent communication (16)

Group collaboration/interaction (13 respondents)

Work at my own pace (9)

Helpful attitude (8)

There were a number of comments from students related to the level of freedom that online learning affords.

- **Question: When you think about the teacher in that learning experience, what did they do that helped your learning?**

This question presented online learners with a list of 18 different tools and techniques that could be used by an online teacher. For the most part these skills items mirrored the 19 skills and attributes listed in the faculty survey.

Table 18. What the teacher did that helped learning

Tools & Techniques	No.	%	Tools & Techniques	No.	%
Answered my questions clearly	42	40%	Made me feel part of a learning team	8	8%
Established clear guidelines for my learning	40	38%	Was able to motivate me	5	5%
Used e-mail effectively	38	37%	Created a stimulating learning environment	4	4%
Used online forums or threaded discussions	36	35%	Had appropriate content knowledge	4	4%
Asked questions that helped me to learn	34	33%	Used online chat	3	3%
Was able to adapt the course to meet my needs	24	23%	Used project-based learning	0	0%
Appeared interested in my progress	14	13%	Used simulated work-based learning	0	0%
Seemed to listen to what I had to say	10	10%	Changed and adapted web pages	0	0%
Managed online discussions well	10	10%	Used video and/or audio conferencing	0	0%

Overall, respondents did not select many of the items listed. On average, each respondent checked seven of the 17 items listed. This average is a bit misleading because respondents tended to fall into two categories – those who selected 3 or 4 items, and those who selected almost all of the items. Table 18 lists all of the options that were presented, and the percentage of responses that each item received.

- **Question: Of all the skills or strategies noted above, which three do you think are the most important for an online teacher?**

The most common skill or attribute that students identified in their online teachers was answering their questions clearly (45%), the second highest item was content knowledge (38%). The technical skills of using e-mail and forums were the next most commonly identified by students (35%). Additionally, some students listed other factors in response to the last item of the survey that asked if they had any other comments. Some of the significant items identified include:

Use of humor (5 responses)

Interpersonal skills (3)

- **Question: What else do you think your online teacher could have done but didn't, that would have helped your learning?**

This was one of the items on the survey that was not completed by many of the respondents, thus yielding a low response rate. The items most listed by respondents included:

Established clear guidelines (33)

Providing better feedback. (30)

Answered my questions more clearly (20)

Asked questions to help me learn (18)

- **Question: Please make any other comments below:**

A sample of the other comments:

“This was the most empowering class I ever had! I learned skills that I will be able to use for the rest of my life”.

“Not all teachers and learners are suited to online learning. It takes positive attitude plus ability to work independently”

“Online is definitely the way to go”

“Thank you for the opportunity to reflect on this experience. As I am preparing to teach online, it is especially helpful to be clear about what works and what does not.”

Conclusions

Summary of Results

A major focus of this study was to examine the thoughts and perceptions of teachers and students at SLU involved in online teaching and learning. Every teacher interviewed indicated that prior to becoming involved in online teaching, they were more concerned about their limited technical ability to develop web pages and to write the necessary code to accomplish this. However, they said after becoming involved in teaching online, they quickly discovered there were other skills that were more important. The skills that they considered to be of primary importance were related to the facilitation of teaching-learning interactions.

The development and acceptance of web-based course management systems such as Blackboard have practically reduced the technical skills required for teaching online to the pointing and clicking of a mouse. However, first-time online teachers initially tend to focus more on the technology associated with teaching online rather than the pedagogical issues. They believe instruction on how to use Blackboard is more important than pre-planning and design of their online courses.

Of the three skills and strategies groupings (technical, facilitation, and management), experienced online teachers at SLU overwhelmingly viewed facilitation skills as the most important. Only one technical skill (the ability to use e-mail effectively) was noted as critical. Ten facilitation skills were listed. Of these, eight were considered by online teachers to be critical. The remaining two facilitation skills were viewed as very important. This prominence given to facilitation skills by teachers at SLU was generally supported in the literature reviewed (Bonk & Reynolds, 1997, Canada, 2000). Some of the recurring themes in

the literature included the importance of engaging the learner (Berge, 1999), maintaining communication with the learner (Brookfield & Preskill, 1999), including listening, questioning and feedback (Ko & Rossen, 2001), along with the need to provide direction and support (Palloff & Pratt, 2001). Teachers who responded to the first survey identified an ability to provide effective feedback as the most critical facilitation skill or strategy. From a list of 19 items involving technical skills, facilitation skills and management skills, providing feedback were ranked first. Another important factor mentioned was the need for a quick turnaround in online feedback. An interesting comment was made by one of the teachers interviewed: “Students perceive themselves as being your only student and as such, expect feedback to be immediate.” Nearly 55% of the respondents to the first faculty survey said the most effective strategy in their online teaching was providing timely feedback. Many of the online teachers surveyed at SLU offered specific strategies and methods for individual and group activities they were using in their online classes designed to maintain communication, engage the learner, stimulate interactivity, and give feedback.

When considering the management skills listed, the general feeling among online teachers at SLU seemed to be that they are very important, but not critical during the beginning stages of the online teaching process. Examples of management skills are 1) the ability to establish and maintain guidelines for the learning process, 2) skills in managing online forums, 3) skills in time management, 4) skills in planning, monitoring, and reviewing the teaching and learning process to identify changes and necessary improvements, and 5) instructional design skills. Most of the teachers interviewed agreed that their management skills improved with experience. They stated that as they gained experience teaching online, they learned how to

manage their time better, were able to manage online discussion forums better, and give more consideration to pedagogical and instructional design issues.

One of the most frequent comments of online teachers at SLU is that their students had difficulty following directions. On the other hand, some SLU students surveyed, commented that they had difficulty understanding the instructions of their teachers. Several teachers said they had developed procedures for finding out what their students were having difficulty with and for giving them more explicit instructions. The use of question and answer discussion forums was one of the techniques recommended. For example, if a student needed clarification of specifications for an assignment, instead of e-mailing the instructor directly, the question would be posted in a Question and Answer or For Your Information discussion forum. Other students could also add their concerns to the question posted in the forum. The teacher would reply to the question posted in the forum so the whole class could benefit from the clarification. The teacher said it was also possible for students to post questions anonymously. It was reported by several teachers that this technique significantly reduced the amount of one-on-one e-mail traffic from their students.

Although this study did not seek information about technology support or difficulties that online teachers and students were having with the technology, there were several comments about difficulties with the e-mail system. During interviews with faculty, six of nine complained that they continuously had problems making initial contact with their students because there was either a problem with their e-mail account, or the students were using an e-mail service other than the account assigned to them by the university and that created problems in the communication circuit between the instructor and the students because the correct e-mail address was not available to the teacher.

As an experienced online teacher, this researcher can attest that this is one of the technical problems most difficult to deal with. Some students did not begin participating in their online class until almost mid-semester because they did not realize they were not receiving important information via e-mail. In an attempt to solve this problem, five of the six teachers interviewed said they were requiring an orientation meeting at the beginning of their courses in order to obtain a valid e-mail address and to deal with other matters related to the online class. This requires students to be at a specific location at a certain time, which is not always convenient for all students in the class. Additionally, many students said they preferred online courses because there is no requirement for class meetings. Even though there were orientation sessions, there were still problems with students' e-mail accounts. Some providers' servers went down, or students exceeded their account limits and were not able to receive e-mail. Additionally, many more teachers, who were teaching traditional classes, were requiring the use of e-mail for their courses. As a result of these kinds of problems, the university administration implemented an official policy concerning the use of e-mail by all students. At the beginning of the spring semester of 2003, all students were required to use their SLU e-mail accounts when required to use e-mail for academic coursework, and certain other official correspondence with the university. In order to determine whether or not this new policy is effective, a mid-semester survey of faculty and students is being conducted by the department of Institutional Research and Assessment.

One of the dominant themes in the literature is the emphasis on the need to build online learning communities (Bonk & Reynolds, 1997, Collins & Berge, 1996). Online teachers at SLU rated building learning communities as "very important". Teachers who responded to the second faculty survey identified the role of online discussion forums to support the learning

community as important. Several gave examples of individual and group activities they conducted in online forums to foster a sense of community among the learners. They said they were particularly useful at the beginning of courses and also aided students in becoming familiar with the technology, and the use of threaded discussions associated with online forums. Among faculty surveyed and interviewed, asking students to provide information about their background and experiences in an informal discussion forum at the beginning of the course was the most cited technique used to foster a sense of community.

Another effective strategy for building a sense of community is the use of a student lounge or a discussion forum for communicating about anything not relevant to the course. They also found this to be an effective technique to help students become familiar with threaded discussions before getting into the actual content of the course. These strategies were also mentioned in the literature, (Collins and Berge 1997), (Cyrus, 1997). Siegel, Dubrovsky, Kiesler, and McGuire (1998), pointed out that “the use of the group process is also an effective strategy for building a sense of community in the online classroom”. One very experienced SLU teacher who was interviewed commented that good online teachers were able to build effective learning teams by being team players themselves. That teacher recommended that online teachers require minimum a level of participation from their students, and that they should also assess the quantity and quality of their participation. An example given was the requirement to post a minimum of two substantial responses to ongoing discussion at least 5 days in each 7-day period. The definition of substantial responses should be covered in the course syllabus. It was further recommended that teachers impose the same or similar standards upon themselves for participating with their students. From the author’s personal experience, participating with the students instead of assuming the traditional role of the instructor or lecturer is one of the most

effective strategies for increasing interactivity and collaboration among online students.

“Knowing that the teacher will be participating along with them, motivates students to assume more responsibility for their learning and in turn they become more active learners (Siegel, Dubrovsky, Kiesler, & McGuire, 1998).“

Another important focus of this research was the students’ perceptions about their online learning experience. Students strongly expressed the importance of the pedagogical expertise of their teachers. As an example, the most common skill or attribute that students identified in their online teachers was answering their questions clearly (45%), the second highest item was content knowledge (38%). They said “...the enthusiasm of the teacher combined with knowledge of the subject and an ability to communicate these two things...” helped make their online learning experience a good one. On the other hand, they said that their teachers could have done a better job of directing their learning, establishing clear guidelines, and providing better feedback. This matches with what teachers said when asked what they could have done a better job with; providing timely feedback, and establishing clear guidelines for their learning.

Students said the three most important skills for online teachers were establishing clear guidelines, creating a stimulating learning environment, and adapting the course to meet their needs. Teachers said that providing timely feedback, establishing clear guidelines for the learner, and helping direct their learning when needed were the three most effective strategies in their online teaching. Overall, the faculty and students’ perceptions about online teaching and learning at SLU were almost identical. Many of the comments of the teachers about what was important for their students to be successful online learners were mirrored by the students.

Implications for Practice

Implications for practice that emerged from this research are related to three categories: 1) pedagogy, 2) professional development, and 3) organizational considerations.

Pedagogy. Giving frequent and detailed feedback emerged as one of the most important strategies for online teachers at SLU. Many reported that this was the one activity that occupied most of their time. One teacher stated that “...You can never give them enough feedback—just as you finish giving feedback on one activity, it’s time to start on another...”

An increased focus on giving clear and detailed instructions to guide their students’ learning was realized as necessary by online teachers. Many of them devised new strategies to make sure their students understood and received important guidance. One teacher who was interviewed described a technique she called chunking. As an example, a part, or chunk of the guidelines for an important assignment given in the syllabus could be extracted and displayed in more than one location in the online course site. It could be posted in an assignment forum, or even e-mailed to each individual in the class prior to the due date. Another chunk could be a summary checklist of important assignments and tasks, with due dates in table format.

Recommendations were offered by more experienced teachers about instructional practices that facilitated student involvement and the creation of a learning community. As discussed earlier some activities that promoted this were individual and group activities conducted in online forums.

One teacher said that allowing the students to form their own groups was an excellent way to promote the building of learning communities. During the process of forming groups students would seek information from each other about their background, experience, and expertise. They might also attempt to form groups based on geographical locations or time zone

constraints that would affect their ability to meet certain deadlines. Work schedules, family responsibilities, and other personal information are discussed. This exchange of information allows students to form smaller communities within the larger community based on those factors that they identify with and promotes a sense of belonging. There is practically no possibility for any student in the class to feel isolated or left out.

Posting an autobiography in a discussion forum during the beginning of the course and allowing students to comment on interesting aspects of each other's background and experience was another activity proposed by an experienced online teacher. The teacher should also post an autobiography. The teacher who uses this technique reported that students discuss their pets, children, grandchildren, educational goals, careers, their marriage plans, hobbies, etc. The teacher would then summarize everything for the class in a list. Example: "...This class has 15 children, 4 grandchildren, 6 dogs, and 4 cats. There are 2 expectant mothers and 4 expectant fathers, and so on...." The teacher reported that although this takes a little extra time at the beginning of the course, it really is worth the effort because the students enjoy it and feel more relaxed and say how much they are enjoying the opportunity to get to know each other. Comments such as "I have never felt this close to my classmates in any of my classes." "I feel like I am forming the same kinds of lasting friendships in the first week of this class that it took years to form when I was in elementary and high school."

There were several teachers who said they had not used groups or learning teams when they first started teaching online; but after several semesters they began to see the value of using groups in their online classes and have incorporated them into their courses. Two teachers devised group projects that included between group activities. Even though the use of groups

was seen as a desired practice, the most weight given to group activities was 20% of the total grade for the course, with the majority of teachers allowing 10%.

This study did not attempt to determine the justification for assigning relative weight to various activities in the online courses, or how teachers planned to assess their students' work. One teacher professed the belief that students would tend to place a higher priority on activities that were to be assessed and assigned the most weight. The author has found this to be generally true of all students, regardless of the method of delivery; however, it seems to be more valid in online courses. Therefore, it would be a sound practice to plan for assessing everything the students are asked to do in an online course because as one experienced online teacher stated, "...If an online activity is not assessed, it usually doesn't get done...." It was noted during the interviews that, while discussing their activities during the planning phase, less experienced teachers were not focused as much on assessment and giving feedback as the more experienced teachers.

One experienced teacher said that she devised a feedback survey similar to the formal student opinion of teaching that is administered at the end of each course. The Blackboard Assessment Manager allows for students to respond anonymously to a survey, so she could make it available at certain times during the semester and make adjustments based on the results and comments of the students.

Another experienced teacher said that he imposed certain constraints upon himself concerning when and how often feedback would be given to the students. He included this information in his syllabus. For instance, he would give the times during the week that he intended to be online, and those times that he might not be available. He said if he would be offline more than 24 hours he would let them know. Therefore, they could expect an answer to

their questions no later than within 24 hours. He also said that all papers, writing assignments, or projects would be graded and returned within seven days after they were submitted. Tests and quizzes given online would be graded and results returned within 48 hours.

Faculty Concerns

Most faculty surveyed and interviewed implied that they did not think their effectiveness as online teachers were being given the same credibility and weight especially for tenure and promotion. Dillon and Walsh (1992) stated “faculty are the forgotten resource in distance learning”. Southeastern Louisiana University online teachers said they had devoted many more hours of work in developing their online courses than they had for traditional courses. Several believed that the administration did not know how much was involved in preparing a course to be offered online. Some said high numbers of students enrolled in their online courses hampered their ability to be effective online teachers. This, they said, caused the student opinions of their teaching to be lower than those teachers who were teaching traditional courses. Many departments include the student opinions of teaching in the tenure and promotion portfolio. Another factor affecting online teachers’ professional development is the method of administering the student opinion of teaching. The opinion surveys are mailed to online students, while the surveys for students enrolled in on campus courses are given to students in the classroom. The rate of return for the mailed opinion surveys has been poor. For some online courses there have been none returned. The university piloted an online student opinion of teaching in selected courses last semester; results have not been made available. Southeastern is not a research-oriented university, and has no doctoral degree programs. Therefore, a higher premium is placed on teaching excellence in the tenure and promotion process. Most of the faculty development activities associated with tenure and promotion are focused on the

traditional methods of delivering instruction in the face-to-face classroom. As mentioned in Chapter 1, there is a committee at SLU charged with establishing standards for distance learning. It is anticipated that the recommendations of this committee will be ratified sometimes within the next six months; however, it is not known what, if any, professional development standards are included in the committee recommendations. Only two of the ten members of that committee have any actual online teaching experience.

Some of the literature reviewed dealt with how to reward and recognize faculty for their hard work in preparing and teaching online courses (Bennett, Priest, & Macpherson, 1999). Dillon and Walsh (1992) stated, "Faculty are the forgotten resource in distance learning" (p. 7). From the comments made by online teachers at SLU, there is definitely a need for a professional development program to be established that will allow teachers moving towards online teaching and learning to develop the skills and attributes necessary and valued by online teachers.

Some faculty interviewed implied there were no forums or very little opportunity for the existing experienced and effective online teachers to collaborate with other less experienced faculty, or be used to lead the professional development and training of new online teachers, using such techniques as mentoring. This could be a controversial issue if it were mandated by the administration in a public university such as Southeastern. It could be perceived by tenured faculty as an attempt to weaken their status as tenured professors. Such an initiative would probably be more successful if it were faculty driven.

At Southeastern, adjunct or temporary faculty teach some online courses. However, most of the resources and support for online course delivery is offered to full-time teaching faculty. Some of the adjunct and temporary online teachers are not able to come to the campus for professional assistance and development opportunities. The needs of part-time teachers should

be addressed by including them in professional development and training designed to meet their needs. This should include devising ways for them to participate without having to travel to the campus.

There should be faculty development opportunities, including workshops and area content meetings that help all online teachers improve application of the teaching and learning model, share ideas and best practices with colleagues, and remain current in their areas of substantive expertise. Training sessions and workshops should be conducted in order for faculty members to receive updates on university policies and procedures, and participate in activities with faculty colleagues that help improve the quality of instruction and enhance learning. Examples of these are workshops on intellectual property and copyright, plagiarism, developing an online syllabus, managing student e-mail, managing learning teams, and other pedagogical topics related to teaching online.

Organizational Considerations

Collis (1998) noted that, “Online programs should not be an all-or-nothing proposition for institutions of higher education”. Accordingly, Southeastern Louisiana University started its online program with two or three of the on-campus courses within each academic college with high enrollment. Support was provided for volunteer faculty to develop these courses for online delivery. The support was in the form of release time from teaching, a stipend, and a grant for travel, training, and other essential resources. This was also done to recruit or attract faculty to teach online. The focus was on subject areas that were more easily converted to online courses. As discussed in Chapter 1, the Chief Academic Officer at SLU appointed a distance learning committee to find ways to get the distance learning programs started.. One charge to that committee was to recommend process changes in student support services such as advising and

admissions, the bookstore, textbook rental, and the library. An online advising and registration procedure was implemented. This procedure was also implemented for all students. The bookstore, which is owned and operated by an outside vendor, devised an online textbook ordering system. Online students were able to receive rental textbooks for those courses that utilized the university textbook rental system. The university library implemented an electronic reserve system. All of the electronic databases were made available through the library web site. As a result, there is excellent support for online students at SLU. Another outcome was the designation of a distance-learning librarian to work with faculty during the planning and development phases for their online course. The distance-learning librarian is part of a designated instructional design team consisting of a web design specialist, a distance learning and/or instructional design specialist, and a student worker or graduate assistant. The activities of this instructional design team are coordinated through the SLU Center for Faculty Excellence.

Most of the faculty interviewed for this study did not express dissatisfaction with administrative support for their online students. Additionally, there were no negative comments from students surveyed concerning advising, registration, acquiring course materials or library services. However, faculty did express a desire that consideration be given to establishing standards for class size and course length and starting times for online courses, along with consideration for the amount of time required to teach effectively online. Some faculty stated that the class size for an online class should be negotiated with the teacher and the department chair. Some department chairpersons arbitrarily require the same number of students for an online class as an on campus class. Several English teachers said that it takes much more time to teach effectively online than for their on-campus classes, and the same number of students in an online English composition course is “overwhelming.” Another teacher interviewed said that

there is no need for an online course to take 16 weeks or an entire semester to complete, because the course is available 24 hours each day for 7 days each week (24/7). The teacher reasoned that most online classes could be completed in 8 weeks, because that is the normal time for an on-campus course during the summer semester, and "...those students only attend class 75 minutes for 5 days each week..." Another teacher said that if an online class could be offered once every 8 weeks, then the number of students could be one-half of the number for a 16-week semester. Another teacher suggested that online classes could start later during a 16-week semester because "...it doesn't take 16 weeks to complete a 3 semester hour course online..." In the document they produced, there were no recommendations from the distance learning committee concerning these issues; the consensus was that the department offering online courses should decide such matters.

Another matter the committee recommended for the department to decide, and also some faculty interviewed, was that consideration of working arrangements should be made that include flexible working arrangements such as working online from home. One teacher said that her department allowed her to have office hours online for all of her students in both her regular on-campus classes and her online classes. She only had to come to campus to teach her one on-campus class. She said she had much more time to do research and was still able to serve on committees and attend meetings. She also said that she had much more interaction online with students in her on-campus class than she had ever had before. One SLU online teacher said that a laptop or personal computer provided by the university for home use along with subsidized Internet access would be both an incentive and reward for all of the time and effort it takes to teach a course online. As mentioned earlier, this is also a topic addressed in the literature by Bennett, Priest, & Macpherson, (1999) who commented that "some universities were beginning

to take their cues from business and industry and implement such practices as telecommuting for their online faculty.” Additionally, Dillon and Walsh (1992, p. 16) noted that “some large state universities such as Penn State and the University of Maryland had established a true virtual campus where there were no classrooms, no offices, and some faculty were hired without ever having been on the campus.”

Another area of support for online teaching is support for the technology required to deliver instruction online. There were no negative comments concerning technical support from faculty or students surveyed and interviewed. Licensing for the Blackboard course management system used at SLU is paid for and supported by the university and supplemented by the Louisiana Board of Regents. Specific IT personnel are designated as systems administrators for the hardware and software. The faculty is frequently surveyed to determine their needs for technical support. Upgrades are planned and coordinated with everyone, including students, involved in the use of hardware and software hosted on the university servers. Over the past four years, there has never been any downtime that has adversely affected those faculty and students using the systems for online teaching and learning.

Southeastern Louisiana University has a large population of non-traditional students (over 30%). Online courses are very popular with that group of students. Some online students at SLU commented they registered for an online course because a course they needed was offered on campus at an inconvenient, or early morning time slot. This author has had non-traditional students in online classes who stated they are returning to school after several years or they are first-semester college students and they are trying a course online in order to build their confidence because they are intimidated by the prospect of attending courses on campus.

Recommendations for Further Research

The survey questionnaires utilized in this research delimited the teachers' responses to those areas perceived by the researcher to be important. During the interviews and subsequent data analysis other issues and questions emerged that could be addressed through further research.

Significant numbers of online degree programs are beginning to emerge among institutions of higher learning. Factors such as persistence, graduation rates, time required to complete a degree are measured for traditional programs. Although there may be a lack of such data for online programs because they are so new, there is an emerging base of data that will provide a rich source of information about these issues. Research that looks at the quality of learning by online students would provide important information to institutions of higher education.

Many accrediting agencies assess the ability of some graduates of traditional degree programs obtain employment in career fields related to their degrees. Do graduates of online degree programs obtain employment in fields related to their degrees in equal numbers compared to graduates of traditional degree programs? Do employers give equal credence to traditional and online degrees? How is equity across courses delivered online and face-to-face?

This study included only courses classified as online. Some teachers are offering hybrid courses—that is, courses that combine the benefits of online and face-to-face learning. A class might meet once a week instead of three times a week, with the rest of the coursework online. A movement toward hybrid courses is already happening at SLU. A study similar to this one could provide valuable information for planning the future distance learning initiatives of the

university, and providing a more formal basis for categorizing various forms of instructional delivery.

The research from this study has revealed that using effective online teaching methods involves an ability to determine appropriate online teaching strategies and use them effectively. A capacity to be innovative and adapt online teaching strategies and content to meet the needs of the learners requires that sound instructional design principles be applied. Relating to the learner requires an ability to engage the learner in the online environment. The online teacher must have an understanding of the role of motivating the learner and how to accomplish this in an online environment. Building online relationships or communities both with and between learners is very important for a successful online teaching and learning experience. Maintaining support for those online communities and learning teams along with having a positive attitude about online teaching and learning is essential.

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Survey Information Sheet

You are invited to participate in this survey. This survey is part of the requirements for completion of my doctoral dissertation in Higher Education Leadership, Research and Counseling at LSU, and is an effort to study instructional strategies used in online courses in higher education.

INFORMATION

This study information sheet has been prepared to inform you how the information gathered in the survey will be confidentially managed. In completing this survey, the information you provide should be based on your experiences as an online teacher. **Please take 15-20 minutes** to complete the survey. Survey responses will be submitted anonymously to a text file on a Web server. Please respond to the survey as soon as possible before August 30th, 2002.

BENEFITS

The efforts of this study are to improve online teacher training programs. I am relying on your cooperation to help determine student opinions about the current strategies used by online teachers. Results of this survey will be available by request from Fred Guillot, by e-mail at guillot@selu.edu upon completion of this study.

CONFIDENTIALITY

The information in the study records will be kept confidential. Individual questionnaires will not be saved, only the responses will be submitted. Once the researcher receives the responses, they will be stored securely. No reference will be made in oral or written reports, which could link you to the study.

CONTACT

If you have any questions at any time about the study or the procedures, you may contact the researcher at the e-mail address listed above, or confidentially by SLU faculty mailbox 10370. If you feel you have not been treated according to the descriptions in this form, or your rights as a participant in this research have not been honored during the course of this project, you may contact the Chairperson for the SLU Institutional Review Board, Dr. Michelle Hall, at mhall@selu.edu.

PARTICIPATION

Your participation in this study is voluntary; you may choose not to participate. Because I do not ask for your name in the survey, and no other contact information is asked or otherwise obtained, I will not be able to identify an individual survey to return or destroy if someone decides to withdraw after they have submitted the survey.

Survey for Faculty

1. In which department do you teach?
2. Please check the following online teaching activities or processes you have used.

- E-mail
- Chat
- Threaded Discussion

- Others (please list)

3. What subjects have you been teaching online?

4. How many semesters, including summers, have you taught online?

5. Approximately how many online learners have you taught?

6. List five comments (words or phrases) that reflect your overall feelings towards online teaching:

1.

2.

3.

4.

5.

Please look at the skills and strategies listed below that are associated with online teaching. Based on your experience with online teaching at SLU, rate each point as either critical to successful online teaching at SLU (must have), very important (should have), something that would be useful to an online teacher at SLU (nice to have, or is something that is not required by the online teacher).

7. An ability to use e-mail effectively.

Critical Very Important Useful Not Required

8. Skill in using online forms.

Critical Very Important Useful Not Required

9. Skill in using online chat.

Critical Very Important Useful Not Required

10. An ability to develop simple Web pages.

Critical Very Important Useful Not Required

11. Higher level Web page development skills (eg. JavaScript, ASP, Flash, etc.)

Critical Very Important Useful Not Required

12. An ability to engage the learner in the online learning process

Critical Very Important Useful Not Required

13. Skills in online “listening”.

Critical Very Important Useful Not Required

14. An ability to provide effective feedback online

Critical Very Important Useful Not Required

15. Skills in effective online questioning.

Critical Very Important Useful Not Required

16. An ability to provide direction and support to online learners.

Critical Very Important Useful Not Required

17. An ability to build online teams.

Critical Very Important Useful Not Required

18. A capacity to build relationships with your online learners and between your online learners.

Critical Very Important Useful Not Required

19. An ability to motivate online learners

Critical Very Important Useful Not Required

20. Skills in time management

Critical Very Important Useful Not Required

21. An ability to establish and maintain guidelines for the learning process

Critical Very Important Useful Not Required

22. Skills in planning, monitoring, and reviewing training

Critical Very Important Useful Not Required

23. Skills in being able to adapt courses and teaching to meet the individual needs of the learners

Critical Very Important Useful Not Required

24. Having a positive attitude to online teaching

Critical Very Important Useful Not Required

25. Being prepared to be innovative and/or experimental

Critical Very Important Useful Not Required

26. Considering your responses to the above items, what three do you consider to be the most important for teaching your course online?

1.  2.  3. 

27. Considering your responses to the above items, what three do you consider to be the most important?

1.  2.  3. 

28. Thinking of your experience in online teaching, how close to traditional classroom teaching do you perceive the role of an online teacher to be?

- Very similar
- Most aspects are similar, but there are some different skills required
- Some aspects are similar, but many new skills are required
- Very different

Please explain your answer:

29. How effective was your teaching in this course?

- Very effective
- Somewhat effective
- Somewhat ineffective
- Totally ineffective

30. When you think about the learning experiences, what three strategies do you think were most effective in your online teaching of this course? (select only 3)

- e-mail

- answered their questions clearly
- established clear guidelines for their learning
- online forums
- asked questions that helped them to learn
- online chat
- helped direct their learning when needed
- appeared to have a positive attitude
- conducted debates
- Seemed to listen to what they had to say
- Appeared interested in their progress
- created a stimulating learning environment
- had appropriate content knowledge
- project-based learning
- problem-based learning
- simulation and modeling
- case studies
- provided timely feedback
- solicited feedback from them

31. From your experience with teaching online at SLU, which three things have you found to be most helpful for students to participate effectively online?

1.  2.  3. 

32. Please make any additional comments below.



Student Survey

1. What courses have you taken online?



2. Please list the colleges or universities where have you have studied online.



3. Have you taken any online courses in your major at this university? If yes, please list them.



4. How many semesters have you taken courses online?

5. How would you describe the type of teacher/facilitator involvement in your online learning?

(Select 1)

- High-level involvement, with a range of support options provided
- A good deal of involvement, with support provided upon request
- Little involvement in my learning
- I don't think I had a teacher

6. Please list five comments (words or phrases) that reflect your overall feelings towards the online teaching that you have encountered:

1. 



7. Think of a good online learning experience you have had. What made it good?



8. When you think about the teacher in that learning experience, what did they do that helped your learning? Check each of the following that appl

- Used e-mail effectively
- Answered my questions clearly
- Established clear guidelines for my learning
- Used online forums or threaded discussions
- Asked questions that helped me to learn
- Was able to adapt the course to meet my needs
- Used online chat
- Changed and adapted web pages
- Managed online discussions well

- Seemed to listen to what I had to say
- Used video and/or audio conferencing
- Made me feel part of a learning team
- Was able to motivate me
- Appeared interested in my progress
- Created a stimulating learning environment
- Had appropriate content knowledge
- Used project-based learning
- Used simulated work-based learning

9. Of all the skills or strategies noted above, which three do you think are the most important for an online teacher?

10. What else do you think your online teacher could have done but didn't, that would have helped your learning?

11. Please make any other comments below:

Appendix B: Letter of Permission



Institutional Review Board
Box 11851
Phone: 549-2077

Campus Correspondence
www.selu.edu/Academics/OSRP/IRB.html
Fax: 549-3640

DATE: August 7, 2002
TO: Fred Guillog
FROM: Dr. Michelle Hall, Chair *MHA*
RE: IRB Action on Proposed Project

This memo is to inform you of the IRB action with regard to your proposal:

Title: A two-sequenced model study for assessing online teaching and learning.

This proposal was given: Expedited Review: _____
Full Committee Review: _____
Exempt: X

The result was: Full Approval: X
Denied Approval: _____

If anything other than Full Approval is recommended, it is your responsibility, as investigator, to submit changes/corrections or plans to accommodate conditions listed below to the Office of Sponsored Research and Contracts prior to initiating the project.

Failure to acquire full approval by IRB before implementation for any project which involves humans or live vertebrate animals means that the PI is not acting in "good faith" with university policy and is not, therefore, guaranteed the protection of the university.

Committee Comments:

IRB Number: 2002-05

Vita

Fred Arthur Guillot is currently employed as the Director of Educational Technology and Outreach, The Center for Faculty Excellence at Southeastern Louisiana University. He has been employed at Southeastern since 1989. He has been in that position since July of 1999. Since coming to SLU he has served on the faculty as an instructor in the Department of Computer Science for seven years. In July 1994, he assumed the position of Director of the Electronic Learning Center. Two years later, in July of 1996 he was named Southeastern's first Director of Academic Computing, and remained in that position until merging with Faculty Development to form the Center for Faculty Excellence.

Prior to his employment at SLU, Mr. Guillot was a teacher of mathematics and computer science at Northdale Magnet Academy in Baton Rouge, Louisiana. Northdale was the first high school in the state exclusively for at-risk and dropout students. His experience in working with at-risk and troubled youth started in 1983 when he was employed as a teacher by the Department of Corrections at Louisiana Training Institute (LTI), in Baker. At LTI, he established a GED program that graduated over 150 students in the four years he was employed there. Prior to his employment at LTI, there had only been a total of 17 high school graduates in the history of the institution, which dated back to 1950.

Mr. Guillot started his career as an educator in March of 1982 as a full-time substitute teacher of Civics at Port Allen High School, from which he had graduated himself, in 1960. After finishing the year at his alma-mater, he moved next door to the Jummonville Technical College as an Adult Education teacher. During the period of 1982 through 1986, Mr. Guillot returned to graduate school at Southern University where he obtained another 30 semester hours of course work in administration and supervision. He also earned a Master of Science in

Computer Science. In addition, Mr. Guillot taught computer science as an adjunct professor at LSU, Southern University, and SLU.

Prior to returning to the classroom as a teacher, he was employed as a Manufacturing and Marketing Representative for nine states in the Southeastern U.S. by Hauenstein and Burmeister, Minneapolis. He provided marketing and management consulting services to end users of interior sports wall systems for public and private sector enterprises. He coordinated his activities with production management, lending agencies, architects, manufacturers, and distributors of related products and systems, and engineers for project development through delivery and installation of systems. He provided detailed specifications and pricing for public bid, design and construction.

In April of 1977, he founded the Courtyard Health and Racquet Club in Alexandria, Louisiana. The Courtyard was a one million dollar private, full service, health and racquet club, which was Alexandria's first. In addition to founding the business, he obtained financing, supervised construction, conducted membership sales, advertising, and public relations activities, managed and operated the facility on a daily basis.

Prior to opening the Courtyard, Mr. Guillot was Major Guillot of the United States Air Force. During his 20 year career as an officer, he served as a Navigator, Instructor Fighter Pilot, a Chief of Social Actions, and a Liaison to the Civil Air Patrol for education and training. He served two combat tours in Vietnam as an aviator flying F-4 Phantoms and the F-111 supersonic all-weather fighter. He served as an Instructor of Weapons and Tactics at the Fighter Weapons Center (Top Gun), Nellis AFB, Nevada. He accumulated over 2,000 hours of flying time in various aircraft such as the T-28, T-41, T-37, T-38, F-4, and F-111. He is a graduate of the Aerospace School of Applied Sciences, Squadron Officer's School, Air Command and Staff

College, the Naval War College, and three Air Force Survival Schools (All Weather, Jungle, and Deep Sea). In 1977, while on active duty, he earned a Master of Arts in Human Resources Management from Pepperdine University at Malibu, California. His awards and decorations include the Silver Star for Gallantry in Action, The Distinguished Flying Cross for Heroism in Aerial Flight, 15 Air Medals for Extraordinary Achievement in Aerial Flight, The Vietnam Cross of Gallantry with Silver Palm for Combat, The Air Force Expeditionary Medal for the Pueblo Crisis, and The Air Force Combat Readiness Medal. He retired from the Air Force Reserve with 20 years of service in 1985.

Mr. Guillot earned his B.S. degree in secondary education from the University of Louisiana at Lafayette. His major was physical education and social studies. Upon graduation in July of 1964, he was employed by the City of Lafayette Parks and Recreation division as a supervisor of recreation and operations. He resigned that position in January of 1965, upon enlisting in the U.S. Air Force. Before assuming his duties as an officer training candidate, he was a teacher of science and social studies at Fatima High School in Lafayette until he entered the Air Force in July of 1965.

During his days as a high school student and while attending college he worked at the West Baton Rouge Parish Community Center as a recreation attendant, water safety instructor, and life guard. He graduated from Port Allen High School in June of 1960, and entered Southwestern Louisiana Institute (SLI) that same month. In August of that year, SLI became the University of Southwestern Louisiana (USL). While at USL he was on the football team, and worked in the off-season as a statistician for basketball and baseball in the Sports Information Office. He was a member of the Newman Club, and the Physical Education Majors Club, having served as President of both organizations during his senior year.