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Pedagogy For Internet-based Teaching And Learning And The Impact Of That Pedagogy On Student Achievement And Satisfaction

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PEDAGOGY FOR INTERNET-BASED TEACHING AND LEARNING
AND THE IMPACT OF THAT PEDAGOGY
ON STUDENT ACHIEVEMENT AND SATISFACTION

by

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ABSTRACT

The purpose of this research was to identify appropriate pedagogical practices for Internet-based teaching and learning, determine the status of their use in the community college adjunct instructor's Internet-based classroom, and examine the impact of these practices on student academic achievement and satisfaction. Frequencies, measures of central tendency, percentages, and SPSS Cross Tabulation procedures described and analyzed data from student and instructor surveys to answer these questions.

Internet-based best practice and recommended practice pedagogical methods and strategies were identified through extensive content analysis of the professional literature. Internet-based adjunct instructors at a Central Florida community college rated 43 selected recommended practices. Ratings were based on instructor perceptions of each practice's importance to student academic achievement in and satisfaction with their Internet-based learning experience. Students of community college adjunct instructors also rated these practices for their perceived impact on student academic achievement and satisfaction. Students identified from selected recommended practices the pedagogies that had been designed into the described Internet-based course in which they had been enrolled, providing better understanding of the current use of appropriate Internet-based practice in the instruction of adjunct community college instructors. To examine the impact of the use of those practices, average course scores were related to student-reported presence of practices in described courses and student-reported academic success and satisfaction in described courses was related to the presence of best and recommended practices designed into the course.

Results from this study can provide guidance for community college Internet-based programs and for adjunct instructors in those programs as they strive to design and instruct quality courses with appropriate pedagogical focus. Results can also provide local data to the larger discussion of appropriate pedagogy throughout the Internet-based educational community.

To my mother, Jimmie Lou Cobb Perkins, for whom graduate education was a way of life. For my husband Bob and Robert, Karen, Katherine, and Judith, all of whom have known graduate education firsthand. And for Johnny, Perrine, Owen, Katherine, Jimmy, Carson, and Bobby who have their education ahead of them.

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CHAPTER ONE
INTRODUCTION

With the recent advent of the emerging "Internet-based campus" with worldwide promise for reaching and teaching students, colleges and universities across the nation have rushed to provide quality Internet-based programs for their students. Pedagogical choices made by instructors for these Internet-based programs are a critical key to the development of quality and to the academic achievement and satisfaction of learners. As these new programs have developed, however, providing quality courses utilizing appropriate pedagogy has been a challenging task to Internet-based higher education. This study investigated the use of appropriate pedagogy by a sub-group of Internet-based educators, the adjunct instructor in the community college Internet-based program. These adjunct instructors must deal with the new pedagogical challenges faced by the Internet-based educational community as a whole, as well as with the additional challenges generated by their status as adjuncts in the community college program. It is within these parameters, inherent in this new educational environment, that community college adjunct instructors must find a way to teach, for student achievement and satisfaction, a pedagogically sound Internet-based course.

This study has sought to answer the following questions.

1. What pedagogical practices for Internet-based teaching and learning do adjunct instructors in the community college Internet-based environment identify as best practice and recommended practice?

2. What pedagogical practices for Internet-based teaching and learning do students of adjunct instructors in the community college perceive would, if successfully applied, improve student learning and satisfaction?

3. What pedagogical practices for Internet-based teaching and learning do students of adjunct instructors in the community college perceive as present in the classes of adjunct instructors?

4. What pedagogical practices for Internet-based teaching and learning are identified as best practice and recommended practice in the professional literature?

5. What professional development needs in pedagogical practices for Internet-based teaching and learning do adjunct instructors in the community college Internet-based environment identify?

6. Is there a relationship between student achievement and the sum of all recommended practice ratings for a described course as rated by students?

7. Is there a relationship between student satisfaction and the sum of all recommended practice ratings for a described course as rated by students?

8. Is there a difference between student academic achievement in traditional "face-to-face" courses and in comparable Internet-based courses with a high degree of best practice and recommended practice pedagogy?

Since Internet-based education has become widely available for students across the educational community, a combination of interrelated issues has impacted its development and the associated use of appropriate pedagogy in its courses. The negative effects of declining resources, pressure to quickly publish courses on the Internet, and uncertainty surrounding the evolution of pedagogy from the traditional to the Internet-based environment have created challenges to and negatively impacted the development of quality Internet-based course design and instruction. These issues impact the instruction of the adjunct instructor in the Internet-based

community college program as well. However, community college adjuncts face additional challenges unique to their position that impact their ability to utilize appropriate pedagogy for student learning.

The first question for this study was designed to determine the "pedagogical practices for Internet-based teaching and learning" that "adjunct instructors in the community college Internet-based environment identify" as best and recommended practice. This question focused on three elements: best practice in the Internet-based environment, appropriate recommended pedagogical practice, and effective instruction by the adjunct instructor in the Internet-based community college program. The first section of this chapter will discuss the utilization of appropriate Internet-based pedagogy and effective instruction by adjunct instructors in the community college setting. Best practice and other recommended pedagogical practices will be discussed in a later section.

The negative effects of declining educational resources have impacted the development of appropriate pedagogy and of effective instruction by the adjunct instructor. Because funding is a critical issue in higher education today, to cut expenses colleges and universities are turning more and more often to adjunct instructors to provide instruction for their students (Lyons, Kysilka, & Pawlas, 1999). Nationally, large numbers of adjunct instructors are in the front lines of change as they respond to new challenges created by the rapid evolution of Internet-based learning. As they continue to facilitate significantly greater numbers of higher education classes every year (Gappa & Leslie, 1993; Wyles, 1998), throughout the nation adjunct instructors in higher education carry "a significant part of the responsibility for teaching, especially at the lower-division level of undergraduate education" (Gappa & Leslie, 1993, p. 12). This practice is particularly prevalent in the Internet-based programs of many community colleges (E.

McCulloch, personal communication, April 11, 2003). The "community college's challenge–meeting escalating demands with declining resources–has resulted in spiraling increases" in the number of adjunct instructors (Wyles, 1998, p. 89). Leslie (1998) determined that in the nation's community college environment up to 60% of faculty worked on a part-time adjunct basis, as compared with 23% in large research institutions. The research for this study is from a Central Florida community college that offered its first Internet-based courses in 1995. In those early days 25 full-time instructors taught Internet-based campus classes. Today, in 2004, 122 instructors teach for the Internet-based campus and, of that number, 55 (45%) are employed as adjuncts. That percentage is predicted to continue to increase rapidly until it reaches a potential 90% in future semesters. Planning for quality in the community college Internet-based classroom must focus on the instructional role of these large numbers of adjuncts who are, because of limited educational resources, facilitating learning for proportionally larger numbers of students across the nation each year.

Limited funding for higher education has impacted not only the employment of large numbers of adjuncts in many institutions, but also the utilization of appropriate pedagogy for the Internet-based program. Some pioneering institutions have focused funding to quickly establish strong Internet-based programs utilizing the new instructional technology that is revolutionizing distance education. The Course Management System, designed to support "specific or general pedagogic approaches" for the Internet-based campus became commercially available in 1997 (Robson, 2003). Since that date, pioneering institutions have funded extensive professional development opportunities to train instructors in the technology and Internet-based pedagogy considered appropriate for quality learning in the Internet-based classroom. These institutions have created extensive professional development programs in which instructional designers and

experts in pedagogy have provided broad support and professional development for educators as they converted traditional face-to-face course content into quality Internet-based courses. With the help of these strong faculty support programs, pioneering institutions continue their efforts to insure that recommended practice pedagogies for Internet-based learning are standard in their Internet-based courses. However, because of limited educational resources, other Internet-based programs, including many at the community college level, face greater challenges in their efforts to offer quality Internet-based instruction grounded in appropriate pedagogy.

Limited resources at the community college level (Wyles, 1998) force community colleges to examine institutional commitment to build Internet-based programs. The fewer the institution's resources, the greater is the challenge of providing instructors with the support of course design teams and experts in pedagogy. In fact, without that support each community college instructor may be forced to serve as content expert, course planner, instructional designer, pedagogy specialist, technical developer, writer, editor, librarian, and, of course, teacher (Mood, 1995). The Central Florida community college studied in this research is one of many institutions across the United States where instructors, including adjuncts, take on all of the tasks necessary to design, develop, and teach an Internet-based course. As is common in higher education (Lyons, Kysilka, & Pawlas, 1999), most adjunct instructors at this Central Florida community college teach a course that is pre-prepared by a full-time instructor. However adjuncts at this community college do make course changes to fit their needs or their teaching styles and they too may function in all the above roles to prepare and facilitate the course.

These adjuncts are initially provided three hours of professional development to ready them to utilize the required software and to "get online." They then attend three additional hours of professional development focused on institutionally required policies and procedures. With

the short training time remaining in this session, suggestions for effective Internet-based instruction are offered. Few institutional resources are left for additional follow-up professional development in the appropriate pedagogy of the Internet-based environment. For large numbers of institutions nationwide, at both the four-year and community college levels, this would not be a unique situation.

Because of limited resources, across the nation community college adjunct instructors are often untrained in appropriate pedagogy for the Internet-based courses they are teaching. Large numbers of adjuncts impact the learning of proportionately larger numbers of students, and it is critical that these instructors understand and employ appropriate pedagogical methods and strategies required for facilitating quality Internet-based courses. Leslie (1998) notes that we know very little about how adjunct instructors in large numbers at the community college level cope with the issues that are important to the success and survival of their students. We know very little about how these adjunct instructors utilize important pedagogical practices in their Internet-based classrooms. With a background of declining institutional resources that causes large numbers of community college courses to be facilitated by adjuncts, the first Research Question of this study investigates Internet-based adjunct instructors' perceptions of appropriate pedagogical practice.

Just as lack of funding has created a critical challenge, time constraints have also had a negative effect on the development of sound internet-based programs employing best practice pedagogy. Since the Course Management System became commercially available in 1997, Internet-based programs have exhibited phenomenal growth. During this short time student demand for Internet-based learning has grown so rapidly that often an institution's ability to provide courses has lagged behind demand (Moore, M., 2001). In the rush to complete courses

and make them available for students, important aspects of the development process have often been bypassed (Fidishun, 2003; Gibbons & Wentworth, 2002: Lynch, M., 2002). Evidence from studies has shown that the continuous pressure on Internet-based programs to "produce" has often necessitated that courses be rushed to completion without the expert pedagogical guidance that would produce quality (Lynch, M., 2002; Thompson, L., 2000). In the haste to "publish" courses electronically, not only has limited funding been a challenge, but also only limited time has been available to provide instructors with necessary professional development beyond the immediate and essential technical skills needed to "get on line." With many programs across the country finding little time and few remaining resources for professional development in necessary pedagogy, full-time and adjunct instructors alike often lack preparation for this new instructional experience. Like administrators in other four- and two-year institutions across the country, administrators at this Central Florida community college are challenged as they attempt to reduce the negative effects of time constraints on the pedagogical quality of their courses.

Research has shown, however, that utilization of appropriate pedagogy in course design is an essential key to ensuring quality in Internet-based distance courses (Lynch, M., 2002). In a study of faculty attitudes, effective pedagogy was identified as one of the most valued qualities in Internet-based course design (Fredericksen, Pickett, Shea, Pelz, & Swan, 2000 a). Quality course design requires appropriate content shared through appropriate pedagogical methods and strategies (Lynch, M., 2002; Dasher-Alston & Patton, 1998). An adjunct instructor's understanding and employment of these pedagogical practices is crucial to successful instruction. Course design that utilizes these pedagogies is important to student learning and student satisfaction and is therefore basic to a quality Internet-based program. In essence, it is critical

that adjunct as well as full-time instructors be prepared to utilize appropriate pedagogy for design of and instruction through courses utilizing an Internet-based platform.

Because of the rush to develop Internet-based programs, the adjunct instructor, as well as the full-time instructor, faces challenge in the identification of appropriate pedagogy for this new Internet-based environment. At first glance it might appear that individual adjunct instructors with successful teaching experience in a traditional setting could simply bring into the Internet-based classroom pedagogical skills utilized in past face-to-face classes and find equal success. Unfortunately, this is not the case. Because the presentation and delivery for Internet-based education is so unique and so different from traditional presentation and delivery, strategies and methods that might be taken for granted in a conventional face-to-face setting must be "addressed and validated" in the new Internet-based environment (Holland, 2000, p. 96). When a course is offered in both Internet-based and traditional mode the subject matter may be almost identical but the pedagogical model for the Internet-based course is, of necessity, different (Kurtz & Sagee, 2002). In this "frontier time to be involved with learning" (Dede, 2002), with educational opportunities now available 24 hours, 7 days a week from any location, the Internet-based environment is fundamentally different from conventional face-to-face educational experience (Phipps & Merisotis, 2000). Many traditional pedagogical methods and strategies will not work effectively in the new Internet-based environment and must be refocused to fit this unique setting. Most adjunct instructors will not be prepared to utilize this refocused pedagogy in their teaching experience without professional development. The short history of the Course Management System and the increasing demand for Internet-based courses has demanded that adjuncts transition from the traditional classroom to the Internet-based environment "overnight and unprepared" to fill the teaching vacancies in Internet-based programs.

In this new environment, transforming a traditional spoken, face-to-face teaching approach into the visual environment of the computer screen is a new and unfamiliar experience for most instructors, including adjuncts. The "departmental Web enthusiast" as well as the reluctant and doubting "Web-warrior" may be ready to put their content on line. Both, however, are "likely to be somewhat perplexed about how to make an imaginative Web-course, particularly one nested in a dynamic ideology of adult education" (Boshier et al., 1997, p. 337). Without the support for pedagogical design that is provided to faculty by those pioneering institutions with greater resources, instructors have been forced to discover for themselves "as best they can" the intricacies of quality Internet-based instruction. Innovative adjunct instructors may look at new teaching experiences through "new eyes" to discover creative ways to transfer content to the computer screen, reexamining and recasting traditional instructional practices into strategies more suitable for the Internet-based experience. But this kind of original thinking and experimentation takes effort and time. Many adjuncts are already fully engaged as they work to master critical technology skills of the software; prepare for the course; develop, edit, or revise it to fit new needs; and then guide students through the content. Little time may be left for extensive research to develop or discover refocused teaching methods and strategies to fit the new delivery platform. Simple identification of the appropriate refocused pedagogy for this new Internet-based instruction is just one more challenge for adjunct instructors. Because of the constraints on their time, most adjunct instructors need support to identify appropriate pedagogy refocused to fit the new Internet-based environment. Time constraints on Internet-based adjuncts have had a negative effect on the utilization of appropriate refocused pedagogy in Internet-based courses.

Responding to both full-time and adjunct instructors' needs for clarification of the refocused pedagogies suitable for the new Internet-based environment, Internet-based staff from some institutions, including staff from this Central Florida community college, have attempted to research and then create "in-house" opportunities for professional development in Internet-based pedagogy. Starting with the most critical and most basic course development needs, additional concepts and strategies have been added as time has allowed (E. McCulloch, personal communication, April 11, 2003). Just as it would be for full-time or adjunct instructors, this is a complex and time-consuming process for staff that is already heavily committed. Few, if any, local staff members are likely to be trained in appropriate Internet-based pedagogy. While the professional literature is filled with evidence from studies and anecdotal reports about recommended Internet-based pedagogy, the information is dispersed through an extensive array of journals, texts, and Internet-based sites. Because the field is so young there are few places where local institutions can find a thorough overview and compilation of recommended methods and strategies that can be easily and effectively shared with adjunct or full-time instructors. Little time may be available for local staff members to research appropriate pedagogy from the many hundreds of journal articles, texts, and Web sites that offer insight into pedagogy for the Internet-based environment. As a result, administrators for this Central Florida community college have unrealized goals for identifying appropriate pedagogical approaches and for sharing them with faculty. Finding time to fully accomplish these goals has proven to be a challenge. Little funding is available to provide additional expertise in Internet-based pedagogy and time constraints on Internet-based staff, as well as on adjunct instructors, have had a negative effect on the utilization of appropriate refocused pedagogy in Internet-based courses.

If individual instructors and staff at this Central Florida community college are uncertain about the identification of the most appropriate instructional strategies in this new educational setting, they are not alone. The jury is still out among educational experts, as well. Research indicates that, because of the speed at which worldwide Internet-based programs have been developed and embraced, program growth has outpaced critical research into refocused pedagogy (Buckley, 2003; Dasher-Alston & Patton, 1998; Garrison, Anderson, & Archer, 2001; Moore, M., 2001). There is little consensus on "what works" in Internet-based instruction, but educators are striving to breech the gap between current uncertainty and research-based knowledge. In a field that is so very young there has been little time for steady, balanced, validated research into pedagogy for the Internet-based program and its effect on student learning (Buckley, 2003). This innovative new environment presents "new questions" and "different answers to old questions" (Feyten & Nutta, 1999, p. 2) about instructional practices, and these new educational technologies and delivery systems test our traditional assumptions about the experience of learning (Dasher-Alston & Patton, 1998; Regional Accrediting Commissions, 2000). Studies show that appropriate pedagogical practice for the new Internet-based teaching and learning experience is still very much "'under construction'" (Brace-Govan & Clulow, 2000, p. 118) and many observers of this new learning environment are concerned that they see no agreement on what makes good practice (Twigg, 2003). For administrators and adjuncts in Internet-based programs, recognition that there has been little time to develop a commonly agreed upon pedagogical model is yet another challenge in the effort to provide quality Internet-based instruction. Time constraints on the evolving understanding of appropriate Internet-based pedagogy, as well as on the efforts of adjuncts and staff, have had a negative effect on the utilization of appropriate refocused pedagogy in Internet-based courses.

However, even though the Internet-based environment has not yet been grounded in a commonly agreed upon pedagogy, instructors in the field, including adjuncts, have moved closer to understanding through their own Internet-based teaching experience. The first Research Question for this study was designed to learn about those experiences and to add the perspective of Central Florida community college adjuncts to the larger debate within the community to identify best practice and recommended practice pedagogies.

The second Research Question of this study investigates student perceptions of Internet-based practices that would, if successfully applied, improve student learning and satisfaction in Internet-based courses. Student questionnaires sought to learn about the importance of best practice and recommended practice from the learners' experience. Students of adjunct instructors were asked to identify practices that would, if successfully applied, improve student learning or satisfaction. Student perspective, too, can add information to the debate within the larger community about best practice and recommended practice pedagogy. The third Research Question for this study examines these students' perceptions about the utilization of these practices in the Internet-based community college classroom.

The fourth Research Question sought to identify the pedagogical practices for Internet-based teaching and learning that are identified as best practice, as well as recommended practice, in the professional literature. Although a clear determination of appropriate pedagogy is still "'under construction'" (Brace-Govan & Clulow, 2000, p. 118) research-based studies and anecdotal accounts do recommend methods and strategies for consideration for best practice as well as for appropriate practice pedagogies. A number of educational associations have recommended "best practices," "principles," "guidelines," "guiding principles" or "standards" to help ensure pedagogical quality in the Internet-based classroom. These groups include the

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American Council on Education (2000); American Distance Education Consortium (2002); Foundation for Quality of the Electronic Campus of the Southern Regional Education Board (2003); Global Alliance for Transnational Education (2000), Higher Education Program and Policy Council of the American Federation of Teachers (2000); Innovations in Distance Education (2002); North Central Association Commission on Institutions of Higher Education (2000); Institute of Higher Education Policy (see Phipps and Merisotis, 2000); and Regional Accrediting Commissions (2000). A great deal of inconsistency exists among practices included in these varied listings and in the purposes, levels of measurement, and terminology used to describe these practices.

Of these groups and authors, only Phipps and Merisotis (2000) defined the recommended pedagogies in their report as "best practice" (p. 2). This term is interpreted in many different ways throughout the literature (Peters & Heron, 1993). It is often used to simply suggest methods and strategies that would serve as good pedagogical options for instructor consideration. In contrast, Phipps and Merisotis–and only Phipps and Merisotis–narrowly define best practices as those benchmarks that identify exemplary pedagogical methods and strategies for the Internet-based environment that are considered "vital" and "essential" for a quality Internet-based program. Best practice benchmarks are those that are "mandatory" and "*the absence of the benchmark would detract from quality*" (p. 2). Phipps and Merisotis defined pedagogical benchmarks identified for their study as "best practice." For the purpose of this study, best practices will be defined narrowly, as Phipps and Merisotis (2000) have defined them. Therefore, to answer Research Question 4 for this study, only those practices identified by Phipps and Merisotis as best practice will be considered "best practice." This study focused first on those Internet-based pedagogies identified in the literature (and consequently by Phipps and Merisotis)

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as best practice. Once identified, these best practices were included in the list of practices utilized in the adjunct and student questionnaires developed for this study. Responding to researcher-developed questionnaires, participating adjuncts identified the practices from the literature that they considered essential to student achievement and satisfaction. A practice determined by them to be "essential" would be defined in this study as being locally perceived to be "best practice." Students of adjunct instructors identified the practices from the literature that they "strongly agreed" to be important to student achievement and satisfaction.

While a number of the practices defined by educational associations as "guidelines," "principles," "guiding principles," or "standards" were defined as best practices by Phipps and Merisotis (2000), many others were not. In addition, throughout the literature other professionals have reported on research or provided anecdotal accounts of additional instructional methods and strategies that they recommended for successful Internet-based instruction. Some of those practices were included in Phipps and Merisotis' list of best practices while many of these were not. The practices suggested by these other groups and authors but not identified by Phipps and Merisotis' as best practice might be practices that fit the these authors' description of practices which "contribute to and support the teaching/learning process," but are not judged to be "necessary or required to ensure quality" (p. 12). For the purposes of this study, best practice pedagogies are combined with the additional practices advocated by other groups or individuals and are defined here to be "recommended practices." These recommended practices, though not all judged essential to quality, are proposed in the literature as appropriate for successful Internet-based teaching and learning. The fourth research question for this study sought to identify from the literature not only best practices, but also other recommended pedagogical practices. Recommended pedagogies were identified from the literature and then included in the

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questionnaires to which Central Florida community college adjunct instructors and their students responded. Adjuncts and full-time instructors, as well as Internet-based staff, could utilize this listing of practices as a compilation of recommended pedagogies through which to view their own instruction.

The fifth Research Question for this study was designed to determine the reported "professional development needs in pedagogical practices for Internet-based teaching and learning" that "adjunct instructors in the community college virtual environment" would identify. Internet-based campus administrators at the Central Florida community college participating in this study believed that their adjunct instructors would recognize a need for and be interested in participating in professional development for recommended pedagogies. The literature confirms the importance of professional development for appropriate pedagogical strategies and methods for educators at all levels of Internet-based higher education. On the questionnaires developed for this study unidentified adjuncts were asked to indicate the level of their interest in professional development for each listed recommended pedagogy. To answer Research Question 3, discussed earlier, learner questionnaires had also asked unidentified students to indicate whether listed recommended practices had been utilized in the course that they were describing. Student response to these questions could provide additional insight into needs for professional development in specific pedagogies.

Ideally, professional development to share information about recommended pedagogy should simply bridge the gap between instructors' background knowledge of pedagogy appropriate for the traditional classroom and a refocused pedagogy appropriate for the Internet-based program. Unfortunately, for many instructors in higher education, full-time or adjunct, this will not be the case. Many adjuncts face a double-challenge as they focus on the new pedagogy

for the Internet-based environment. Traditionally, the study of pedagogy with its emphasis on appropriate instructional strategies and methods has not been a part of the advanced degree curriculum for most graduate programs. As a result, many instructors teaching in higher education today have little training in pedagogical practices of any kind, for any sort of delivery system, not even for the traditional face-to-face experience (Lyons, Kysilka, & Pawlas, 1999). Instructors in higher education "typically move from the undergraduate degree, to the Master's degree, to the Ph.D.–and then into the classroom to teach! They are never taught pedagogical practices in their undergraduate courses or in their graduate program" (P. Mozzani, personal communication, November 9, 2002; see also Boehler, 1999). Now, as many instructors in higher education shift their attention to planning for and teaching in the unfamiliar distance environment, they remain untrained in instructional practices, but now untrained in the refocused pedagogy for the Internet-based environment, as well.

With community college retention rates commonly reaching only 50%, or even lower, and graduation rates possibly even lower than that (Kahler, 2002), it is critical for community college adjuncts to understand and utilize the pedagogies "that work" (Mikropoulos, Kossivaki, Katsikis, & Savranides, 1994). It is critical for Internet-based adjunct instructors to be trained in effective Internet-based pedagogy. Identification of, faculty training in, and implementation of best and recommended practice strategies could help improve student retention and success in Internet-based courses taken by community college students (Kahler, 2002).

Professional development in pedagogy for the Internet-based instructor, full-time or adjunct, has often been neglected because of and complicated by limited resources, time constraints, and lack of common agreement about appropriate Internet-based pedagogy. However, the literature suggests that even when professional development is provided, in many

institutions of higher education the adjunct instructor is often unlikely to have the same

opportunity for attendance as the full-time instructor (Gappa & Leslie, 1993; Leslie, 1998;

Lyons, Kysilka, & Pawlas, 1999; Wyles, 1998).

Professional development in these recommended practices would support instructors and

would be an important step toward insuring greater student achievement and satisfaction in

Internet-based courses. Finding ways to provide adjunct instructors with greater understanding of

appropriate Internet-based pedagogy is a critical next step toward a quality educational program.

Even without the benefit of research-based agreement on "what works," adjuncts will best serve

their learners by preparing and facilitating courses utilizing currently available recommended

pedagogies as they are reported in the literature today. Understanding of the findings of these

evolving studies is important to adjuncts as they build, edit, revise, or facilitate their courses.

Adjunct response to the fifth question of the study could provide evidence of need for adjunct

professional development in Internet-based pedagogy.

The sixth question of this study was designed to determine whether there is a relationship

between student achievement and the use of best practice and recommended practice pedagogy

for Internet-based teaching and learning. Today, without definitive agreement on what

characterizes appropriate pedagogy for the Internet-based environment, the new challenge for

professionals is to define, through research and study, just which pedagogies are most suited for

this new educational environment (Valenta, 2000) and to discover their impact on student

learning. Boehler (1999) suggests that since practitioners in Internet-based learning programs

have had little time to fully confirm most assumptions with research, every institution should be

evaluating its courses to help provide the field with better understanding of recommended

practice. Each institution should study student outcomes and attitudes to document learning

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success; each should attempt to discover whether "targeted improvements [would] result in tangible benefits such as grade improvement [or] more rapid content mastery" (p. 209). Answers to these questions, Boehler suggests, could be sought through computer-based surveys at the local level. Local campuses are encouraged to survey instructors and students to discover which practices successfully support their learning in the Internet-based experience. The sixth question of this study parallels Boehler's directives. Gathering data through computer-based surveys at the local level, the study investigated students' perceptions of the relationship between the utilization of recommended pedagogical practices and student learning.

The seventh question of the study was designed to determine whether there was a "relationship between student satisfaction and the use of best practice and recommended practice pedagogy for Internet-based teaching and learning." Boehler suggested that local campuses survey instructors and students to discover which practices successfully support student satisfaction with the Internet-based experience. The seventh question for this study also paralleled Boehler's directives. Gathering data through computer-based surveys at the local level, the study investigated students' perceptions of the relationship between recommended pedagogical practices and student satisfaction.

The eighth question for this study sought to determine whether there was a difference between student achievement in traditional courses and in Internet-based courses with a high degree of best practice and recommended practice pedagogy. Instructors highly recommended for their use of appropriate pedagogical practices in Internet-based courses were interviewed to determine their perceptions of the differences in student achievement between traditional and Internet-based delivery systems. Content analysis of these adjuncts' responses to open-ended questions revealed additional perceptions about the utilization of recommended practices.

In conclusion, with the demonstrated need for better understanding of pedagogy in the Internet-based environment, many educators have determined that it is time to re-group, to look carefully at Internet-based instruction, strategies, and methods, and through research to identify the pedagogical practices that best "make it work" (Lynch, M., 2002). The challenge for higher education is to discover the most effective ways to "integrate the best of what the Internet and the personal computer...can [together] bring to the new design of curriculum" (Boehler, 1999, p. 6). Ultimately, time and study are needed to sort out the best uses of these new technologies and the pedagogies that are appropriate to them (Farrington, 1999; Holland, 2000). In this continuing effort to provide more definitive guidance to practitioners, experts are studying the capabilities of the technology, linking those capabilities with traditional learning theory, studying course activities and outcomes, evaluating anecdotal reports, and observing and questioning instructors and learners. Though preliminary because of the need for more resources, additional time, and continued investigation, these current research studies and anecdotal reports provide early guidance for educators designing and teaching in an Internet-based setting, and they lead toward research-based answers.

Identification of appropriate Internet-based pedagogy, local community college adjunct instructors' professional development needs, and the relationship of pedagogy to student achievement and satisfaction could help community colleges improve the utilization of best practice and recommended practice pedagogy in their courses and improve service to students. Results from this study could also provide a local perspective on this question to inform the larger Internet-based community.

Purpose of the Study

The purpose of this study was to identify the reported importance to adjunct community college instructors and their students of specific Internet-based best practice pedagogical methods and strategies and to determine the relationship between the use of these best practices and student achievement and satisfaction.

Research Questions

The following questions were investigated with a focus on the adjunct instructor in the community college environment.

1. What pedagogical practices for Internet-based teaching and learning do adjunct instructors in the community college Internet-based environment identify as best practice and recommended practice?

2. What pedagogical practices for Internet-based teaching and learning do students of adjunct instructors in the community college perceive would, if successfully applied, improve student learning and satisfaction?

3. What pedagogical practices for Internet-based teaching and learning do students of adjunct instructors in the community college perceive as present in the classes of adjunct instructors?

4. What pedagogical practices for Internet-based teaching and learning are identified as best practice and recommended practice in the professional literature?

5. What professional development needs in pedagogical practices for Internet-based teaching and learning do adjunct instructors in the community college Internet-based environment identify?

6. Is there a relationship between student achievement and the sum of all recommended practice ratings for a described course as rated by students?

7. Is there a relationship between student satisfaction and the sum of all recommended practice ratings for a described course as rated by students?

8. Is there a difference between student academic achievement in traditional "face-to face" courses and in comparable Internet-based courses with a high degree of best practice and recommended practice pedagogy?

Definition of Terms

For the purpose of this study, the following definitions will be utilized.

Active Learning–Instructional approach that matches instruction to the learner's interests, understanding, and developmental level with an emphasis on a hands-on approach, high degree of interaction among and between students, instructors, and content, and authentic activities (Rowan, 2003).

Adjunct or Adjunct Instructor –An individual appointed to teach higher education courses but who is not employed with a full-time contract.

Adult–Refers, in this context, to all students enrolled in higher education, undergraduate level and above; specifically, this study deals with students enrolled in a community college Internet-based program.

Andragogy—Term associated with instructional pedagogy emphasizing the special needs of adult learners; course design provides instructor-planned, self-directed, active learning with life-centered, task-centered, problem-centered instructional experiences.

Asynchronous Learning Network –An Internet-based community of learners utilizing the World Wide Web who, by having access to a computer network, could communicate with each other and access learning resources at any time and from any location. Most learning activities do not occur in real-time and can therefore be undertaken at a time convenient to each student and the instructor.

Authentic Learning–The utilization of pedagogical practices that reorganize the curriculum into activities and assessments that more closely parallel everyday real life experiences.

Best practice–General guidelines that identify exemplary methods and strategies for developing and delivering instruction; often utilized as indicators of course or program quality and as standards for evaluating them (Center on Disability & Community Inclusion, n.d.). The term is interpreted in many different ways in the literature, with a high degree of inconsistency in its use (Peters & Heron, 1993). In the literature instructional practices may be described as essential elements of a quality program; at other times may be used more loosely, suggesting methods and strategies that are recommended as pedagogical options for instructor consideration. In the context of this study best practices will be practices considered essential to ensure quality in a course or program, "in contrast to those benchmarks that contribute to and support the teaching/learning process, but are not necessary or required to ensure quality." Those "benchmarks that are mandatory [best practice] are those for which *the absence of the benchmark would detract from quality* (Phipps & Merisotis, 2000, p. 2).

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Benchmark–A specific standard against which a program or course can be measured or judged. It can be used to ensure quality for instructors and students who teach in or learn from the course or program.

Collaborate–To work cooperatively with other students in a learning experience.

Course Management System–Software that manages an Internet-based course. It provides a classroom environment for the delivery of Internet-based courses (Buckley, 2003, p. 11). It allows the instructor to instruct and to monitor the Internet-based participation, achievement, etc., of the learner. Utilizing consistent instructor support, these programs typically have collaboration capabilities, password security, and Internet-based testing ability (Belanger & Jordan, 2000). It also allows instructors to create text and lectures, publish Internet-based articles, facilitate asynchronous threaded discussions, host synchronous chat rooms, maintain an Internet-based grade book, and manage student enrollment (Buckley, 2003).

Distance Education–In the context of this study Distance Education relates only to Internet-based educational experiences.

E-Learning–Learning experienced through the Internet-based environment.

Education–For this discussion, community college, four-year institution, and graduate level through lifelong learning; implies theoretical and application-based content (Porter, 1997, p. xv).

Forum–(See "threaded discussion.)

Good Practice–Appropriate instructional practice that is not necessarily essential to quality in an Internet-based course, but that enhances student achievement or satisfaction.

Instructional Design–Systematic Internet-based course development, expected to be based on research and instructional theory to help students learn. It involves the analysis of

student learning needs and objectives and the creation of a delivery system utilizing appropriate methods and strategies to meet those needs and objectives.

Instructional Designer–The individual who creates the instructional design for a course.

Instructional technology–Individual elements of the Course Management System for an Internet-based course, along with any other technical hardware or software utilized by an Internet-based course.

Internet–A worldwide computer network that includes many thousands of computers sharing and communicating in a system accessible through special access subscriptions (Boehler, 1999).

Internet-Based Education– General term for an instructional program designed to convey academic content or training to learners through an electronic delivery system. The World Wide Web links learners who are "geographically dispersed or separated by physical distance" to each other and to the instructor (Belanger & Jordan, 2000, pp. 7-8). Resources customarily provided in the traditional campus setting are "unbundled" and provided to the learner across a distance (Dasher-Alston & Patton, 1998, p. 12).

Internet-based Learning–Acquisition of academic content or training through an Internet-based Course Management System utilizing the World Wide Web. Learning takes place within an institutional setting, even though learners are separated physically from their instructor and from other students, allowing them to study and learn at their own pace and at a time appropriate to them through the week (Belanger & Jordan, 2000). Internet-based learning is closely linked to Internet-based teaching or instruction, but learning may not occur if barriers emerge to interfere with the learning: technical problems, lack of communication with the instructor, confusing

course design, etc., create such barriers (Belanger & Jordan, 2000). It involves both education and training, depending on the type of course being offered (Porter, 1997).

Internet-Based Instruction/Teaching–The action, practice, or profession of teaching through an Internet-based Course Management System utilizing the World Wide Web.

Learner-Content Interaction–Process in which learners build knowledge as they "examine, consider, and process" content presented during the educational experience (Buckley, 2003, p. 13).

Learning Community—Atmosphere of group-cohesiveness found in an Internet-based course, in which learners feel a commitment to the group and to the learning experience, taking part in group discussion and group activities with a high level of positive interaction

Learning Objective–For the purpose of this study, the terms "Learning Objective" and "Learning Outcome" will be used interchangeably.

Learning Outcome–For the purpose of this study, the terms "Learner Objective" and "Learner Outcome" will be used interchangeably.

Netiquette—Short for "Network Etiquette," this collection of suggested behaviors is designed to effect courteous and considerate online relationships

Online Education/Learning/Instruction/Teaching–(See Internet-based education/learning/instruction/teaching.)

Pedagogy–Term denoting appropriate instructional methods and strategies chosen to teach effectively specific content as the needs of students are met

Perceived Learning/Satisfaction–Student perception of the degree of success attained in the achievement of a learning goal and the degree of satisfaction attained in the educational experience.

Quality Assurance–Examination of course design to ensure that methods and strategies that lead to "high performance and academic rigor" are present. The processes that produce quality instruction include "best practices and policies that lead to the continuous improvement of teaching and learning" (EduTools, 2003).

Recommended Practice–Internet-based instructional strategy or method that is defined in the literature as "best practice" or that is consistently recommended in the literature as having the potential to appropriately enhance the achievement or satisfaction of learners.

Technology–Electronic components of the Course Management System designed for student learning, as well as other current forms of hardware, software, and electronic tools and equipment utilized in Internet-based educational programs.

Theory–Belief "proposed or followed as the basis of action"; "a plausible or scientifically acceptable general principle or body of principles offered to explain phenomena" (*Merriam-Webster Online*, 2003).

Threaded Discussion–Course Management System generated interaction in which participants may not be on line simultaneously. Students or the instructor post messages and other students or the instructor can read and respond to them at a later time (Buckley, 2003).

Training–"Skill development and knowledge geared toward practical applications" (Porter, 1997, p. xv).

Virtual Campus/Classroom –Centralized Internet-based learning program with administrative, pedagogical, and service functions; there is a lack of uniformity in existing programs (Brogden & Couros, 2002).

Web–The World Wide Web, or "that aspect of the Internet which features an easy-to-use graphical interface" for "data acquisition and transfer to computers hooked to the Internet" (Boehler, 1999, p. 19).

Web Course–Course provided via a Course Management System through the World Wide Web, providing capability for synchronous and asynchronous collaboration and interactivity; accessible to anyone around the world with computer access and course authorization; includes multimedia capabilities.

Assumptions

Assumptions for this study include the following.

1. A comprehensive discussion of recommended best practice and recommended practice pedagogical methods and strategies for the Internet-based higher education environment would be available in the professional literature.

2. Adjunct instructors teaching in the Internet-based community college environment would be able and willing to provide, based on their personal understanding and experience, meaningful assumptions about the appropriateness of suggested pedagogical methods and strategies for the Internet-based environment.

3. Adjunct instructors teaching in the Internet-based community college environment would have needs for training in appropriate pedagogy, would recognize those needs, and would be willing to request training for recommended pedagogical methods and strategies.

4. Students enrolled in Internet-based community college courses would be able to determine if a listed pedagogical practice had been utilized in the selected course about which they responded.

5. Students enrolled in Internet-based community college courses would provide sincere and objective responses to questions about the importance of and use of pedagogy in the selected course about which they responded.

6. Instructors and students willing to complete detailed and extensive questionnaires such as those developed for this study would likely be individuals who 1) had thought about the issues of appropriate instruction for the Internet-based environment, 2) were concerned about course quality, and 3) would share their thoughts in an attempt to improve future course offerings.

Limitations

Several limitations are recognized in the planning for this study.

1. It is possible that adjunct instructors would hesitate to request training in recommended pedagogies for the field in which they are already teaching, even though their responses were understood to be anonymous to the researcher.

2. It is possible that adjunct instructors would hesitate to request training in recommended pedagogies because of the time that such training would involve.

3. It is possible that different instructors would give different meaning to the terms "Essential Practice," "Good Practice," and "Acceptable Practice."

4. Both questionnaires were detailed and extensive, and at the end of the semester many students and instructors would be very busy, limiting the pool of willing participants: for this reason, respondents might not be representative of the total population.

Methodology

Design of the Study

This study was a descriptive, correlational study designed to identify the relationship between the use of appropriate pedagogy and student achievement and satisfaction in the Internet-based classrooms of Central Florida community college adjunct instructors.

Population

Two sample populations were surveyed in this research. The first sample consisted of 16 of 55 adjunct instructors teaching for the Internet-based campus of a Central Florida community college during the Fall 2003 semester.

The second sample consisted of 89 students of 2,064 enrolled in Internet-based campus courses at this Central Florida community college during the Fall 2003 semester.

Time Frame

During the second week in November 2003 the Internet-based campus staff sent out a regular newsletter to Internet-based adjunct instructors and their students. An article in this newsletter informed the Internet-based campus adjunct community that the surveys for this study would be available and invited interested adjunct instructors and their students to participate in the study. Following publication of the newsletter, on November 18, 2003, an introductory letter from the researcher was emailed to Internet-based adjunct instructors. This letter (as seen in Appendix B) included details of the study and informed consent information. On November 19, 2003, a corresponding letter (as seen in Appendix B) was emailed to the students of these

adjuncts. A link to the survey was included in each of these mailings. The survey was available on the professional Zoomerang survey software Web site from November 18, 2003, through December 19, 2003. Results were available to the researcher in January 2004.

Data Collection

Data were collected from November 18, 2003, through December 19, 2003. Two researcher-designed survey instruments were utilized; the first was available electronically to adjunct instructors teaching Internet-based campus courses during that Fall 2003 term and the second was available electronically to students enrolled in courses taught by these adjunct instructors during that same semester. The two surveys were delivered to adjuncts and students through the Internet-based campus facilities of the Central Florida community college and managed technically by Zoomerang survey software as a function of Zoomerang's professional Internet-based contract with the community college.

Because of college requirements, a college staff member was required to download survey results from the Zoomerang Web page. That staff member provided both print and electronic results to the researcher.

Data Analysis

Appropriate recommended Internet-based pedagogical practices were identified through content analysis of the professional literature. Student and adjunct instructor perceptions of, uses of, and/or experiences with these recommended practices were described and classified in this descriptive, correlational study. Correlations were calculated between courses utilizing

appropriate Internet-based pedagogical practices and student achievement and student

satisfaction.

CHAPTER TWO
LITERATURE REVIEW

Background

The recent revolution in technology destined to generate today's Internet-based instruction for a new generation of learners has produced an educational environment in which "diverse and dispersed" (Holt, 2000, p. 32) learners can follow their educational goals in ways unimaginable a few short years ago.

In just over a century distance learning has developed from its early roots. This distance delivery format had its origins in Europe and the United States in the 1890s with truly "diverse and dispersed" students: correspondence study in those days required months for mail delivery of educational materials (Belanger & Jordan, 2000). That early opportunity for education at a distance can be traced forward through the first educational radio programming, then on through the educational television programming of the mid-twentieth century. In 1968 a group from Duke, Harvard, State Universities of New York, and the Universities of California, Illinois, Michigan, Pittsburgh, and Virginia met to found an organization dedicated to the idea that digital computers offered opportunities for sharing among institutions of higher education (Heterick, 1998). Throughout much of the 1980s, the use of technology was merely an experiment, and instructional software was primitive. Initially some campuses, including Dartmouth, Drexel, Stanford, and the University of North Carolina at Chapel Hill, invested in faculty development, providing instructors with the support of staff who knew something about pedagogy, screen design, and technical aspects of programming (Hawkins, 1999). Finally, after a hundred years of

development, since 1997 and in less than a decade, the development of the computer, the Internet, and the Course Management System has revolutionized distance education.

Today, Internet-based learning, this newcomer in the history of distance educational programs, is broadly seen as a major innovation in educational services to learners and is considered by some to be the "teaching medium of the future" (Brace-Govan, & Clulow, 2000, p.118). Offering educational institutions great promise for future advantage, Internet-based learning is "gaining considerable popularity [not only with students but] in academic…communities" as well across the nation (Belanger & Jordan, 2000, p. 70). Its phenomenal growth, created by the ever increasing power of personal computers, expanding telecommunications bandwidth capacity, and constantly developing software delivery (Phipps & Merisotis, 2000) offers corresponding growth and innovative opportunities for participating institutions.

"People sometimes think of [Internet-based] distance education as technology, but it's not that at all. Technology just drives it. Distance education is a different paradigm of teaching and learning. It's about teacher-learner relationships and learner-to-learner relationships," writes M. Moore. "It's about opening opportunity to people who otherwise would not have opportunity" (Pennsylvania State University College of Education, n.d.).

Internet-Based Opportunity for Learning

Internet-based higher education serves the needs of adult learners who cannot attend traditional classes on a traditional campus–or those who choose not to do so. Many people who juggle the responsibilities of full time employment, family or community commitment, travel, or schedule conflicts find that Internet-based programs allow them to register for learning

experiences that might otherwise have been denied to them. Those who live in remote locations, or have had unpleasant experiences with earlier traditional classroom experience, or have a preferred learning style that matches expectations for the Internet-based experience might have been able to enter higher education in no other way. For these learners, Internet-based programs can open up new options for education (Eastmond, 1995; Hiltz, 1990). Thus, in a field that is incredibly young (Oakley, 2000; Paul, 1990), "local 'school' no longer has a monopoly on the provision of education" (Welburn, 1999, p. 38). American education now can take courses to traditionally underserved populations throughout the country and even the world and do so without lowering the quality of the course (Dasher-Alston, & Patton, 1998).

Students report that they appreciate their university's acknowledgement of their need for Internet-based opportunity and that they appreciate its support in offering courses that fit their needs (Hartman, Dziuban, & Moskal, 2000). These classes provide instruction at "convenient, if sometimes untraditional" (Porter, 1997, p. 85) times and places and support the learner's lifestyle or personal needs. The Internet-based course is fast proving itself to be a "unique alternative to a unique set of societal problems" (Thompson, L., 2000, p. 139) and students are responding with their registration dollars.

In many institutions, options for Internet-based courses have become a learner "mandate" (Guvenoz, 2002, p. 26). Today, Internet-based programs across the nation are growing at a steadily increasing pace (Sloan Consortium, 2004a) and the challenge for educators is to provide a quality educational experience for participating students. Without that quality experience, learners will not continue to register (Farrington, 1999; Oakley, 2000). Utilization of appropriate pedagogy is a significant element in the Internet-based course, ensuring greater likelihood for a quality learning experience for students. This study investigates the relationship

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of appropriate pedagogy to student achievement and satisfaction in the adjunct community college instructor's classroom.

Internet-Based Instruction: Promise for Institutional Growth

In an era when colleges and universities are beginning to compete for students, "Internet-based distance education is quickly becoming the predominant technology in distance education" (Phipps & Merisotis, 2000, p. 6), providing new avenues of enrollment for both traditional students and hereto untapped non-traditional learners. Internet-based programs are adding significant numbers of courses and students as each year passes (Lynch, M. 2002; Sloan Consortium, 2004a). Growth of this magnitude allows institutions to expand enrollments and programs as well as serve students in new ways. "If distance learning continues to evolve at its current pace, it will become a dominant form of instructional delivery for adult learners and an important alternative for others who are attracted by its flexibility and convenience" (Dasher-Alston & Patton, 1998, p.16; see also Brace-Govan & Clulow, 2000). This phenomenal growth, created by the ever increasing power of personal computers, expanding telecommunications bandwidth capacity, and constantly developing software delivery (Phipps & Merisotis, 2000) offers corresponding growth and innovative opportunities for the participating institution. Ensuring quality in Internet-based courses is essential to continuing the vitality of this growth and to developing institutional leadership in the growing field of Internet-based learning. "Traditional institutions can be leaders or spectators. The smart ones will choose to be the former" (Farrington, 1999).

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Internet-Based Instruction: Success Breeds Competition

As the new technologies are necessitating major decisions and commitments in educational institutions worldwide (Holt, 2000; Welburn, 1999), more and more traditional institutions are choosing to develop Internet-based programs. New competitors from non-traditional educational entities with "alternatives to the rigid schedule, fixed location" are also anxious to offer their own version of higher education to the public (Brewer, 2001, p. 12; see also Lyons, Kysilka, & Pawlas, 1999). "New providers, often lacking traditional institutional hallmarks, are emerging" to compete for students traditionally taken for granted by conventional educational institutions (Regional Accrediting Commissions, 2000). If colleges and universities don't recognize the coming advantages and opportunities for Internet-based programs and prepare to implement these programs, those other organizations, already offering continuing and vocational courses, will. This would result in "further erosion of the student population on which colleges and universities draw" (Turoff, 1990, p. xi).

As one consequence of this growing challenge for dollars and students that is emerging from both traditional and non-traditional educational programs, conventional providers of teaching and learning are finding funding increasingly difficult to secure. As a result, traditional institutions are cutting financial corners by hiring more and more adjunct instructors to teach their classes in four year institutions (Lyons, Kysilka, & Pawlas, 1999) as well as in community colleges (Wyles, 1998). At a time when improved quality of instruction is increasingly becoming a critical issue for Internet-based higher education, these adjunct instructors are providing instruction for large numbers of learners in both four-year and community colleges throughout the US.

Internet-Based Instruction: Quality Is Needed To Be Competitive

Ensuring quality in Internet-based courses is critical to the success of an institution's Internet-based program. However, for a decade the pressure to quickly produce Internet-based courses has been intense and the resulting national rush to join the fraternity of "'e-institutions' often results in…significant aspects of the online learning paradigm being overlooked" (Gibbons & Wentworth, 2002; see also Lynch, M., 2002). In this short decade "the traditional and luxurious time frame within which academics" have conventionally operated has been forced to shrink, "largely because of the impact of the relentless and rapid evolution of information and communication technologies" (Hart & Mason, 1999, p. 148). Results of research studies as well as anecdotal evidence show that in the Internet-based community at large the "storm of development" in Internet-based learning has often been "undertaken in haste, without expert preparation or knowledge" (Lynch, M., 2002, p. 1; see also Thompson, L., 2000). According to Lynch, the approach in many institutions has been "'We need online courses *now*. I expect there to be a percent of courses [online] by the end of the year. Oh, and by the way, there is little to no extra money to make this happen'" (p. 1). This challenge of "shrinking" time frames (and often limited funding) and the pressure to rapidly produce Internet-based courses has created widespread hurdles for quality course design and instruction in this new era of education. This urgency has caused institutions to take shortcuts with pedagogy that have resulted in shortchanged quality.

In the rush to "get online" there has been little time for research to learn "what really works" in the new Internet-based environment; because of this, educators can't yet, with authority, declare an appropriate and definitive pedagogy. Without knowledge of "what works," educators don't know "why it works" and are left without the clear vision that theory can

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provide. To improve understanding of effective Internet-based pedagogy and to eventually develop theoretical models, educators must continue to work to develop new and authoritative pedagogical design for quality Internet-based teaching and learning (Dasher-Alston & Patton, 1998). Until research-based models for appropriate pedagogy are available, however, practitioners, including adjunct instructors, can rely on recommendations found in the current professional literature as they plan and teach their courses.

Today, when quality is key to the success of students, Internet-based programs, and institutional growth, the consequences of the past decade's pressure to publish–and to publish without the benefit of pedagogical expertise–are becoming evident. Reports from student evaluations make it clear that "student online academic experiences, like most traditional higher education learning experiences, were connected to decisions instructors made about how to design [and teach] the course" (Brewer, 2001, p. 74). When courses were designed in haste and taught with too little understanding of appropriate pedagogy by adjunct and full-time instructor alike, this often negatively impacted student academic experiences. Yet while quality assurance in Internet-based learning may be a prerequisite for success, higher education continues to launch new Internet-based programs, often without the necessary experience to guide their success (EduTools, 2003). Many administrators feel that their institution's ability to change will determine its success in this emerging Internet-based learning scene (Boehler, 1999, p. 6), and they often feel that it is no longer possible to "wait and see" about these new developments in educational informational and communications technologies. They suspect that those who wait may well be left behind (Hart & Mason, 1999). The rush to publish without prerequisite expertise continues.

Boshier et al. (1997) discovered that, perhaps as a consequence of this rush to publish on the World Wide Web, many evaluated courses did not live up to criteria set for an appropriate, quality Internet-based course. Authors of the study determined that, among other things, standard quality course design requires a fully completed course with attractive and appropriate design, credible content, "'alluring links,'" threaded discussions, and a more constructivist focus. They discovered that large numbers of courses surveyed did not meet these standards. In an attempt to understand the lack of quality, they theorized that the course designer may have been working in haste to get "something up and running on the web…because everyone else is" (p. 337). Even so, they suggest, students deserve better.

While quality instruction should be a consistent goal, Farrington (1999) suggests that few, if any, Internet-based classes are actually designed by first questioning how students might best *learn* this specific content. With little or no pedagogical evidence to guide them in the very early years of Internet-based course development, one pioneer noted that as challenges had developed, those challenges had, of necessity, been met with "'seat of the pants' directness, and resolved on the fly" (Tomer & Alman, 2002). Today, years later into the era of the Internet-based program, other educators seem still to be taking that approach. History shows that many Internet-based courses have been unplanned with regard to appropriate pedagogy and technology (Thompson, L., 2000). While there are many success stories in Internet-based instruction, there are disappointments as well. Researchers are today seeing the "consequences of the absence of strategic planning" for relevant pedagogy in the Internet-based environment (Lynch, M., 2002, p. 2). Critics point to "minimal student/teacher contact," "lack of research elements," "student isolation," "slow feedback," and "high dropout rates" (Boehler, 1999, p. 5). Students in an Internet-based class shared with researchers their frustration with unsatisfactory pedagogical

practice: course instructions had been unclear, learners had not been prepared by the instructor

for the skills and technology needed for success, and the instructor had not provided timely

information and feedback (Hara & Kling, 1999).

In other recent studies the pedagogical design of evaluated courses was judged by one

researcher to be "limited" (Picciano, 2000, p. 100), and by another as simply made up of a stack

of electronic handouts and nothing more…and then called a "course" (Smith, J., 2000). The

research team of Boshier et al. (1997) examined selected Internet-based courses and proclaimed

them to be "an unmitigated bore…represent[ing] little more than lecture notes posted on the

Web" (p. 327). In one course, designers were discovered to have used every technological

feature that the Course Management System provided, but with no clear pedagogical reason for

this use, no recognizable pedagogical plan (Brewer, 2002). Dunning, Cunningham, Kaur, and

Vidalli (2003) warn that an instructor should not simply "put enough STUFF on the Internet and

call it education." Hiltz, Coppola, Rotter, Toroff, and Benbunan-Fich (2000) report succinctly

that "the shortest summary of our findings about what makes for quality on-line courses is 'It's

the pedagogy, stupid!'" (p. 117).

Quality Requires Appropriate Pedagogy: How Do We Get It?

The effectiveness of the Internet-based classroom is conditional upon the instructor's

choice of strategies and methods that fit the medium of the technology, the content of the course,

and the attributes of the students themselves (Hiltz, 1994). In response to their disappointing

findings, the authors of one of the above studies suggested that new Internet-based pedagogies

should be developed to help instructors design quality courses in the Internet-based environment

(Hara & Kling, 1999). Educators should step back and look again at education, recognizing that

we can't simply "slap technology on to an existing system and make it work" (Lynch, M., 2002, p. 2). Farrington (1999) proposed that time and research would be needed before the best uses of these new technologies in education are identified. "What is clear, however," he stated, "is that change will happen–and at a rate not seen in education for a long time." He suggested that in most colleges and universities "innovation has traditionally been a term associated with research and scholarship, not teaching methods." Today, "the new digital technologies…make bold and creative educational experimentation possible, and some colleges and universities will take advantage of the opportunities to innovate and become more attractive for students as a result" (Farrington, 1999).

In their attempts to identify the newly focused pedagogies needed for the Internet-based setting, educators question whether instructors should simply "morph" existing structures or, instead, create new forms (Hawkins, 1999). One characteristic of such "first-generation experiments is that they are mostly variations on the traditional model of teaching, which assumes that faculty deliver information to students through the medium of the lecture and that students and faculty interact mostly in the formal classroom" style (Farrington, 1999). "Ultimately, the *principles* of good practice in the traditional campus are the same in the virtual campus environment" (Brogden & Couros, 2002, p. 25; see also American Distance Education Consortium, 2002). It is the appropriate application of technology "that supports and enhances practice" (Brogden & Couros, 2002, p. 25). Because of the differences in delivery, instructional methods and strategies in Internet-based courses will be different from those traditionally used in face-to-face instruction (Farrington, 1999; Hara & Kling, 1999; Holland, 2000; Kurtz & Sagee, 2002; Moore, M., 2001; Phipps & Merisotis, 2000). Effective and platform-appropriate

pedagogy is a valuable component in course design and implementation (Fredericksen, Pickett, Shea, Pelz, & Swan, 2000a).

Quality Requires Appropriate Pedagogy: What Are the Learner's Needs?

Jerome Bruner (1996) emphasized the educator's need for "a surer sense of what to teach to whom and how to go about" teaching it (p. 118). Ensuring that instructors and course designers have that "surer sense" is an important goal for Internet-based programs, especially so in this new environment of refocused pedagogy. Since adult learners are a conventional audience for Internet-based higher education (Smith, E., 2001), community college adjunct instructors' understandings of the characteristics of this adult learner "to whom they will teach" can help to define "how to go about" choosing appropriate pedagogical methods and strategies (Bruner, 1996, p. 118). If Internet-based instructors are "perplexed about how to make an imaginative Web-course…nested in a dynamic ideology of adult education" (Boshier, et al., 1997, p. 337), they should consider the characteristics of adult learners and the Internet-based pedagogy appropriate for those characteristics. Understanding of the learner coupled with knowledge of the pedagogy is key (Bruner, 1996).

Examination of the special characteristics of adult learners can inform Internet-based pedagogical choices (Burge, 1998), and pedagogies effective for an Internet-based platform can be shown to be appropriate for the needs of adult learners. According to Knowles (1990), adult learners tend to be life-centered. Fredericksen, Pickett, Shea, Pelz, and Swan (2000b) suggest that Internet-based experiences are by nature both life-centered and learner centered. Because of the geographical distance between instructor and student and between students as well, a sense of varied "place" is inherent in the Internet-based educational experience. Course content in the

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Internet-based environment should be made relevant to the personal needs and goals of learners as they take advantage of Internet-based educational opportunities while taking part in the daily experience of their own geographical "place" (Egerton & Posey, 2002). Such recommended student-centered strategy is appropriate for the adult learner's life-centered learning needs and fits the focus of Internet-based learning as well.

Providing students with authentic learning activities related to their real lives is an important strategy recommended for Internet-based learners studying in their own communities and at a distance from the physical campus (Dewal, 1984; Guvenoz, 2002; Moore, G., Winograd, & Lange, 2001). This strategy is also appropriate for the life-centered adult learner. The Internet-based Course Management System provides access to course materials and resources at times and places convenient to the learner, supporting adult learners' life-centered and learner-centered needs. In support of adult learners' lifestyles, Internet-based instructors can schedule office hours for nontraditional times that would be impossible in a conventional setting (Higher Education Program and Policy Council of the American Federation of Teachers, 2000). Internet-based adult learners can schedule interaction with instructors and other students, as well as access instructor feedback, at times suitable to their own needs.

Adult learners prefer to have a personal reason for learning and they achieve readiness to learn when they have a "need to know"; their orientation to learning tends to be task-centered and problem-centered (Knowles, 1990). With the traditional lecture format of the face-to-face classroom discouraged for the Internet-based setting, a Constructivist, active learning emphasis is encouraged. Recommended Internet-based pedagogy suggests that, whenever possible, real world problem solving activities that mirror the experiences of learners' lives should be included

in course activities (Egerton & Posey, 2002; Moore, G., Winograd, & Lange, 2001), paralleling appropriate adult learning educational focus.

Adult learners bring many varied experiences to the classroom (Knowles, 1990). Because many Internet-based students are committed to careers, family responsibilities, and life-styles that limit student access to traditional education, they have often developed a rich experience base to share with other learners and their instructors. Recommended Internet-based pedagogy takes advantage of this rich background and provides for course activities that parallel the real life or professional experiences of enrolled students (Taplin, 2000). Recommended practice also provides that instructors facilitate the adult student's learning with formal activities designed to encourage students to enrich their classrooms as they share relevant knowledge gained from life experiences (Lynch, M., 2002).

In their academic experiences, adults often prefer to be self-directed (Knowles, 1990). Recommended Internet-based pedagogy suggests that students be allowed to make decisions about the content, the learning process, and the pace of the learning whenever possible. With Internet-based activities organized in weekly modules, learners can choose for themselves the times of night or day or the days of the week to interact with course content (Lynch, M., 2002).

In a unique twist, "an andragogic situation for the [Internet-based] course involves one adult using authority in particular ways…to help another adult toward 'a more refined, enriched adulthood'" (Burge, 1998).

The capabilities of the technology as well as the pedagogical practices recommended as effective for that technological delivery system prove to be a remarkable match for the needs of adult learners. "Methods may change," as instruction is transferred from the traditional to the Internet-based setting, "but standards of quality endure; the important issues are not technical but

curriculum-driven and pedagogical" (American Distance Education Consortium, 2002; see also Regional Accrediting Commissions, 2000). Quality education demands that appropriate pedagogy be determined by the content to be taught and by the characteristics of the learner. This study investigates the relationship of the use of those appropriate pedagogical practices to the achievement and satisfaction of adult learners of all ages who are enrolled in the community college Internet-based program.

Best Practice Pedagogy: Quality Assurance

"In little more than a decade, online learning has become a major growth industry" (Moore, J., 2002, p.5) and "quality assurance in e-learning has been a paramount concern for institutions nationwide" (EduTools, 2003). With this explosive growth in the use of instructional technology, knowledge of how to best apply it in design and delivery of educational programs and in facilitating learner-instructor and learner-learner interactions lags far behind (Moore, M., 2001). As indicated earlier in this chapter, "technological advances have led to the exponential rise in distance offerings [at a time when] many institutions are launching new distance programs often without the necessary experience to guide their success" (EduTools, 2003). To help ensure quality in this developing field, educational associations and individual researchers have developed guidelines for assuring quality (Moore, J., 2002). These principles of good practice are provided to clarify best practice and to create ways to attain quality assurance (Dasher-Alston & Patton, 1998). Quality assurance standards can help guide new programs and provide evaluation tools for current offerings (EduTools, 2003). These recommended principles of good practice help educators clarify appropriate practice and create ways to attain quality assurance. Internet-based programs should find it useful to adopt a set of standards of good practice and

then periodically review and assess their course offerings in light of those standards; this process

would indicate that an institution is working toward excellence (Dasher-Alston & Patton, 1998).

Clearly enumerating these best practices (as well as other successful methods and strategies for

Internet-based classrooms) is an essential first step as institutions work to develop or improve

Internet-based instruction. If best practices can be shown to contribute to the achievement and

satisfaction of learners, and if instructors can be provided with the skills to utilize these best

practices in their Internet-based classes, the quality of their courses should be enhanced.

Best Practice Pedagogy: Recommending Associations and Researchers

Several educational associations and individual researchers have served the Internet-

based educational community by identifying for practitioners pedagogical practices appropriate

for use in quality Internet-based instruction. Purposes, levels of measurement, terminology, and

included recommended practices vary from listing to listing.

Best Practice Pedagogy: What Is the Purpose?

The most specific and narrow purpose for the use of "best practices" was described in

Quality on the Line: Benchmarks for Success in Internet-Based Distance Education, prepared by

Phipps and Merisotis (2000) for The Institute for Higher Education Policy. Practices

recommended by Phipps and Merisotis were designed to serve as standards by which any

Internet-based program could be judged.

Other national, international, and regional educational associations have also provided

listings of "recommended practices." The usual purpose for these listings is to provide standards

by which Internet-based courses in their jurisdictions could be evaluated to assure consistent quality course design. These associations include Global Alliance for Transnational Education (2000); Foundation for Quality of the Electronic Campus of the Southern Regional Education Board (2003); North Central Association Commission on Institutions of Higher Education Guidelines (2000); and Regional Accrediting Commissions (2000).

Still other educational associations have developed guidelines and principles meant to identify for practitioners the characteristics of a desired Internet-based learning environment. These associations include American Council on Education (1996, 2000); American Distance Education Consortium (2002); Higher Education Program and Policy Council of the American Federation of Teachers (2000); and Innovations in Distance Education (2002). These guidelines and principles were not necessarily designed to evaluate Internet-based program, course, or module quality, although it is possible that they could be used for that purpose.

Best Practice Pedagogy: What Do Practices Measure?

Peters and Heron (1993) found that best practices generated for the larger educational community were often defined in broad general terms or set up as abstract principles; this is the case in some listings of Internet-based "best practices" and recommended practices as well. Internet-based educators have expressed concern that many standards developed by educational associations are set in broad generalizations, lacking specificity to describe clearly the pedagogies needed for actually accomplishing the recommended goals. Greater specificity could add high-quality pedagogy to Internet-based courses. Many standards, however, prescribe generalities of "what to do" but provide no support for "how to do it" (Twigg, 2003). Best practice benchmarks designated by Phipps and Merisotis (2000) for The Institute for Higher

Education Policy, for example, direct that students should interact with instructors and with other students to ensure quality Internet-based experiences. Phipps and Merisotis (2000) published results of the research but provide no specificity for the levels or kinds of interaction that would be appropriate to ensure desired quality, although the authors do include helpful comments about each practice from instructors who participated in the study. Among the comments related to this benchmark, one faculty respondent suggested that students should interact "almost on a daily basis, and not just once a week." Another indicated that promotion of interaction through email, voice mail, and threaded discussion conferencing was very important. Several students responded that success in classes had been facilitated by communication between student and instructor and among students (Phipps & Merisotis, 2000).

Some associations also offer generalized listings of recommended practices but then also provide specific "how to do it" options for each. The American Distance Education Consortium (2003), for example, recommends the principle that "Learning experiences should support interaction and the development of communities of interest." Specific suggestions enhance the principle: "Learning is social and sensitive to context. Learning experiences based on interaction and collaboration support learning communities while building a support network to enhance learning outcomes. Multiple interactions, group collaboration, and cooperative learning may provide increased levels of interaction."

Peters and Heron (1993) note that other listings of best practices detail within the listed practice more narrow and specific instructional methods and strategies. In some listings of Internet-based recommended practices this is the case, as well. For one example, Innovations in Distance Education (2002) provides five principles prescribing recommended interaction in the Internet-based environment. Three of those principles parallel the above directive ("Learning

experiences should support interaction and the development of communities of interest") by The American Distance Education Consortium (2003), but in more narrow and definitive terms:

1. "Effective learning environments should provide frequent and meaningful interactions among learners, between learners and instructional materials, and between learners and the instructor."

2. "The use of electronic communications technologies should be considered as a tool for creating and maintaining learning communities for learners at a distance."

3. Social interactions between and among learners enrich the learning community and should be encouraged and supported in the instructional design and the delivery of educational programs.

A wide variety of practices at different levels of generality and concreteness are utilized in different listings of recommendations, creating a lack of uniformity in specificity of recommendations.

Recommendations may also be organized for a different focus, with some associations suggesting practices that should be utilized at the institutional level (see Council for Higher Education Accreditation, 2002) while others focus on design and instruction at the individual course level (see American Distance Education Consortium, 2002). Still others include recommendations that offer guidance at both institutional and course levels as in Phipps & Merisotis (2000). These varying purposes and emphases are additional inconsistencies among the varied listings of recommended Internet-based practice.

Best Practice Pedagogy: What Does the Terminology Mean?

In addition to the varying purposes and levels of measurement of different listings of Internet-based recommended practice, terminology is also inconsistent among listings. Use of the term "best practice" is prevalent throughout the larger educational community, though the term is often used interchangeably with other similar phrases (Peters & Heron, 1993). Phipps and Merisotis (2000) utilized this term in its most narrow and specific form for best practice benchmarks listed in *Quality on the Line: Benchmarks for Success in Internet-Based Distance Education*. As discussed earlier, for Phipps and Merisotis' study, recommended practices were determined to be "best practice" when they were judged *essential* to a quality Internet-based course. They were defined best practice "in contrast to those benchmarks that contribute to and support the teaching/learning process, but are not necessary or required to ensure quality…. Benchmarks that are mandatory, according to Phipps and Merisotis, are those for which *the absence of the benchmark would detract from quality"* (p. 2).

Other associations have chosen other similar phrases (Peters & Heron, 1993) to describe the recommended practices of their listings: "guiding principle" (see Innovations in Distance Education, 2002), "principle" (see Foundation for Quality of the Electronic Campus of the Southern Regional Education Board, 2003), and "guideline" (see North Central Association Commission on Institutions of Higher Education Guidelines, 2000).

Peters and Heron (1993) noted that the term "best practice" was also utilized for many levels of significance, from "essential," to "superior," to effective (p. 1). In a continuing parallel to Peters and Heron's 1993 findings, in 2004 articles, texts, and web sites continue to provide pedagogies designated as "best practice" at each of these same levels. Internet-based strategies that are determined by experts as "clearly superior," exemplary, or simply effective are all

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designated "best practice." In contrast, other authors publish similar studies and experiences and merely designate practices to be suggestions for good practice. To add further confusion to the terminology, some individual programs provide listings of detailed and specific practices and procedures important for functioning within the localized environment and they too are termed "best practice" (E. McCulloch, personal communication, February 10, 2004; see also Bonhomme, 2002). Because of the many inconsistencies in purpose, level of measurement, and terminology, it is difficult to determine clear agreement of what the Internet-based community as a whole understands by the term "best practice."

<center>Best Practice Pedagogy: Which Practices Are "Best Practice"?</center>

Diverse purposes, levels of measurement, and choice of terminology could impact the choice of pedagogies included in individual listings of recommended practice. In addition, although some individual pedagogical elements are consistently found in the various listings (learning objectives are most uniformly required, for example), each association emphasizes varied elements as well. Even though some listings have come from a common original source, no two are exactly alike and several are significantly different in practices recommended.

It is likely that the great variation in recommended practice exists because the field is so young and because it is growing at such a rapid rate. In this short time, practitioners have rushed to keep up with demand for courses as technologies have constantly changed and upgraded; they have had little time to plan studies, complete research, and describe findings. Practitioners have, instead, learned technology skills, created courses, developed programs, and taught, with limited opportunity for carefully structured professional collaboration or final authority in the development and description of their language and programs. Thus each one has made the words

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and the recommendations fit the Internet-based practices and needs that the institution or the organization or the most recent study has developed, resulting in major inconsistencies (Belanger & Jordan, 2000; Brogden & Couros, 2002).

Because the term "best practice" has no "measurable criteria" that is "systematically applied," Peters and Heron (1993) suggest that the term in its current form, though commonly used throughout the field, is misleading (p. 1). They suggest that educators need to aim toward a single, standard, measurable definition of "best practice" that is grounded in theory and that can be applied to any Internet-based practice to determine if it is "best." Since 1993 when these authors first published their concerns related to the use of the term "best practice," the associations and individuals discussed above have published their varied listings of best practices (utilizing, at times, other terms similar to and perhaps interchangeable with the term "best practices"). Because of the lack of consistency in these listings of standards, Peters and Heron's concerns seem to remain issues for current reflection in 2004. They would be expected to see standardization of terminology and of standards as a helpful goal.

However, no matter what the purpose, how broadly or narrowly practices are defined, or what they are called, pedagogies included in these kinds of listings will be "always the best choices," the "most promising practices," and the practices recommended by experts. They will be the clearly desirable pedagogical strategies and methods, the practices that are considered "most exemplary," "most innovative," and "emergent" (Bonhomme, 2002; see also EduTools, 2003; Peters & Heron, 1993). These associations and individuals may have developed listings of recommended practices for different purposes, but such recommended practices can be utilized by any educator seeking to improve quality in Internet-based instruction (Bonhomme, 2002; EduTools, 2003; Peters & Heron, 1993).

Recommended Practice from the Professional Literature

When Phipps and Merisotis (2000) identified the best practices for their study, many potential benchmarks that were recommended by other studies and in the professional literature were not included. Although they were judged "not essential" to a quality course, it is often those recommended (but not "best") practice instructional methods and strategies "that give a course greater meaning and depth" (Twigg, 2003), providing higher quality course design and instruction for student learning and satisfaction. Often these practices offer more learner-centered focus for the course and provide it with proven and effective pedagogy; "these practices are certainly good practice, if not essential." These "proven and effective practices are left out of the restrictive list of best practices because consensus has not been reached on their "essential" nature (Twigg, 2003). Three benchmarks determined by other studies but dropped from the final list of best practice benchmarks set up by Phipps and Merisotis (2000) are paraphrased below.

1. Student learning styles are considered when the course is being developed.

2. Courses are set up in consistent forms that are easily discerned by students of every learning style.

3. Courses and course materials are designed to utilize collaboration in problem solving learning activities.

However, with best practices (along with principles, guiding principles, guidelines, and standards) identified in various formats and by differing associations, many potential benchmarks that are recommended in the professional literature as successful for Internet-based learning will still not be included in the listings. Even less restrictive listings could not include all worthy practices. The many good practices that are excluded from the listings are also

important options for quality instruction. These additional practices are referenced and discussed extensively in the literature and serve as additional valuable options for instructors.

Best Practice Pedagogy Utilized for this Study

Since there is no consensus for best or recommended practice among the various associations and individual researchers endorsing exemplary Internet-based pedagogy, it is difficult to define with any certainty the practices that the Internet-based community would consider to be "best practice." This lack of consensus impacted the planning for this study. Without a clearly defined, agreed upon listing of best practices it was necessary to determine *which* pedagogical practices to include in this evaluation of "best practices" as they relate to instructor behavior and student achievement and satisfaction. For the purposes of this study, "best practices" were defined as Phipps and Merisotis (2000) defined them, essential to quality in an Internet-based course. Only Phipps and Merisotis identified best practices utilizing that definition, so each best practice pedagogy utilized for this research is taken from their study. Some value judgements were required by the researcher in determining the listing of best practice pedagogies based on Phipps and Merisotis' study. Because many of their benchmarks focused on practices most appropriately handled at the institutional level it was necessary to judge whether or not the recommended benchmark was subject to action by the larger institution or by the course designer or instructor. The final enumeration of Phipps and Merisotis' pedagogical practices that were appropriately the responsibility of the course designer or the instructor could be evaluated differently by another researcher. For example, a practice identified for the purposes of this study to be appropriate for action by the course designer or instructor could be judged instead to be a responsibility for the larger institution.

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In addition to the listing of best practice pedagogies proposed by Phipps and Merisotis, educational associations, individual researchers and practitioners, and authors from the literature proposed many additional practices that have been combined with best practices to create for this study a second, broader listing of "recommended practices."

Best Practice Pedagogy: Questions from the Study

Developing an appropriate, comprehensive listing of best practice and recommended practice pedagogies for Internet-based courses was an important element of this research because investigation for each of the eight Research Questions required utilization of this listing. Adjunct instructors and their students at a Central Florida community college were asked to identify from the listings the perceived importance of each practice to student achievement and satisfaction, and instructors were asked to indicate from the listing any professional development needs for these pedagogies that they might recognize. Students of adjunct instructors responded to survey questions indicating the best practice and recommended practice pedagogies they perceived present in the courses that they were evaluating. A pattern of student response indicating reported strengths and weaknesses in the use of these practices in the Internet-based courses of this Central Florida community college could also indicate the need for professional development for adjunct instructors. The listing of recommended practices was also central as students indicated perceived relationships between the use of best practice and recommended practice pedagogies and learner achievement and satisfaction. Finally, student achievement in Internet-based courses with reported high levels of these best practice and recommended practice pedagogies was contrasted with reported student achievement in traditional courses.

The inconsistencies of purpose, level of measurement, terminology, and included practices of the various listings prepared by recommending associations and researchers impact the development of a consistent, comprehensive compilation of best practices for this new field of education. Peters and Heron (1993) suggest that educators need to aim toward a single, standard, measurable definition of "best practice" that is grounded in theory and that can be applied to any Internet-based practice to determine if it is "best." They suggest that educators should work to develop among practitioners a general agreement on the meaning of the term. Such an agreement could develop as more and more studies provide results that are then replicated to provide additional evidence. The more replications, the more likely educators can move toward consensus. Peters and Heron encourage studies at every level in an attempt to obtain as quickly as possible answers for questions about best practice. Other researchers also support studies at every level to develop consistently agreed upon best practices for the re-focused pedagogy needed for Internet-based teaching and learning (Boehler, 1999; Farrington, 1999; Holland, 2000). Peters and Heron encourage researchers to conduct studies and they suggest that evaluating planned and expected outcomes that are consistently met is essential to identifying a practice as "best." Peters and Heron (1993) and Boehler (1999) stress that more studies must be underway to add additional data to the general fund of knowledge about how pedagogy affects student achievement and satisfaction in an Internet-based environment. Educators must ask community college students and instructors this question: "Which strategies worked well and which did not?" (Kahler, 2002). This research study was developed in response to the need for additional documentation of "what pedagogies work" in this new Internet-based environment.

Adjunct Instructors in the Community College Internet-Based Environment

This study focuses on the adjunct instructor in the community college Internet-based program. More than 250,000 adjunct instructors are teaching in higher education throughout the nation, with that number growing larger every year (Lyons, Kysilka, & Pawlas, 1999), including at the community college level. Adjuncts at the community college level share much in common with those part-time instructors from other institutions nationwide. "Although these adjunct professors [nationwide] commonly posses a significant knowledge base in their area of expertise, they often lack formal training in teaching skills" (Lyons, Kysilka, & Pawlas, 1999, p. xiii; see also Greive, 1984). "Most colleges and universities have so far done little to develop formalized programs for preparing their adjunct faculty members to enter the classroom" prepared to provide a high quality course for their students' learning (Lyons, Kysilka, & Pawlas, 1999, p. xiii).

Professional Development in the Community College Internet-Based Environment

Institutions of higher education typically fail to provide adjunct instructors with a connection to the larger community of teachers and learners (Wyles, 1998) and these adjunct instructors are often left without the support provided by their institution to full-time faculty. Professional development opportunities that are available for full-time staff are typically unavailable to the adjunct instructor (Greive, 1984, p. i; E. McCulloch, personal communication, January 21, 2004) yet it is these professional development opportunities that provide the framework for "competent and successful teaching" (Leslie, 1998, p. 99).

For most institutions the high cost of professional training for a large number of faculty members may seem prohibitive (Greive, 1984). However, Gappa and Leslie (1993) suggest that it is one of several "'false economies' of part-time faculty employment" to assume that "the part-timers can teach as well as full-time faculty without the same level of support that full-time faculty enjoy" (p. 13). "Part-time faculty clearly cannot be expected to develop their skills and their expertise unless institutions make serious investments" in that growth (Leslie, 1998, p. 99). When adjunct instructors do not have "the proper tools to do their jobs, and we found that they often do not have any support at all, it is usually because the institution has failed in some significant way to provide what is needed" (Gappa & Leslie, 1993, p. 13). Involving adjuncts in professional development opportunities that would prepare them for effectively teaching students would be a significant step toward greater quality instruction for the instructor, for students, and for the institution (Wyles, 1998). Since evidence indicates that these adjunct instructors continue to serve the students and the programs of higher education for extended periods of time, colleges and universities across the nation should invest in training for them to assure a quality educational environment (Leslie, 1998).

Just as in other areas of higher education, large numbers of community college adjunct faculty are teaching in every area of Internet-based content and in this Central Florida community college that number is increasing every year. Though adjunct instructors in higher education typically teach a pre-developed course (Lyons, Kysilka, & Pawlas, 1999), they are likely to have the latitude to enrich and enhance the basic format. This is the case at this Central Florida community college as well. Less often, adjunct instructors, nationally and at this Central Florida community college, design a new course in an area of their personal expertise. In either case, however, it is important that adjunct instructors understand course design and appropriate

instructional practices because their understanding and related behaviors directly affect student

achievement and satisfaction (Lyons, Kysilka, & Pawlas, 1999). This research focuses on the

relationship of the use of best and recommended practice pedagogy by these community college

adjunct instructors to student achievement and satisfaction. It also considers the need for

professional development of the adjunct instructor in the Internet-based community college

setting.

When originally developing a program for Internet-based teaching and learning,

Fredericksen, et al. (2000 b) "quickly learned that faculty needed guidance and help

understanding the options and limitations of this new type of classroom" (p. 10). They learned

that effective instruction for the Internet-based course has pedagogical issues "that are not

necessarily intuitive or analogous to the traditional classroom" (p. 10). For this reason training

became an important part of their developing program. Brewer (2001), citing study results that

recommend professional development in Internet-based pedagogy for faculty, indicates that

inservice experience resulted in more positive teaching/learning experiences as well as

communicating to faculty a shared vision about the appropriate use of pedagogy. Professional

development, Brewer suggests, would demonstrate for instructors that Internet-based pedagogy

could be enhanced through the use of the innovative features of the Course Management System.

Farrington (1999) suggests that utilizing the capabilities of the Course Management System to

improve education in such an unprecedented way is not a simple matter. He believes that faculty

would need substantial help and support to accomplish their mission of quality education.

Typically, many instructors in traditional higher education programs focus on the content and

their presentation is through lecture. As they transition to Internet-based classes they often have

no training in Internet-based strategies and in the needs of adult learners and they continue to

base their instruction on a lecture format (Smith, E., 2001). Faculty will need support through professional development and will now "have to pay far more attention to innovation in teaching than has been common in the past" (Farrington, 1999). The adjunct instructor in the community college Internet-based program faces the same challenges as do other Internet-based instructors throughout the nation. Professional development in appropriate refocused pedagogy for the medium through which they teach is a critical need.

Professional development can provide adjunct instructors opportunities and skills to utilize evidence from student course evaluations to improve course design and instruction. Learners can provide educators with greater understanding of course effectiveness through course evaluations, and the instructor's own recognition of what has worked and what has not is also critically important (American Council on Education, 2000 b; Foundation for Quality of the Electronic Campus of the Southern Regional Education Board, 2003; Global Alliance for Transnational Education, 2000; Innovations in Distance Education, 2002; Moore, G., Winograd, & Lange, 2001). To improve Internet-based teaching, instructors should regularly re-examine curriculum design, course design, course development, course production, and course evaluations (Dhanarajan & Guiton, 1993). Professional development opportunities can help this review process to occur. One focus of this research is to determine the professional development needs of the adjunct community college Internet-based instructor.

Emerging Theory for the Internet-based Environment

Educators are concerned that, because the Internet-based environment is still so very young, not only are appropriate Internet-based pedagogies, including best practices and recommended practices, still "under construction," but appropriate theory for Internet-based

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instruction is still under debate as well. Because of this lack of grounding in theory for Internet-delivered education, practitioners are hoping for the rapid development of an Internet-based pedagogy based on research and the resultant influence of research on development of theory (E. McCulloch, personal communication, March 28, 2002). In this way "the general quality of research and practice in this field will be advanced" (Pennsylvania State University College of Education, 2001; see also Feyten & Nutta, 1999).

Internet-based learning brings a new and unique set of realities to the field of education: the concept of learner distance from the educational institutions from which learning is disseminated. "Distance education theory, like the theory of any other field of educational study, has as its focus what is characteristic of the field" and Internet-based education "brings a new set of problems to the field of education": this concept of distance. Since most educational experiences for the past 2000 years have been "face-to-face," little research has been developed on the student who stays at home to learn. This lack of prior understanding makes it difficult to ground Internet-based learning in developed scientific theory. "In this era of university degrees being granted by Distance Education, development of an appropriate theory is urgent" (Harry, John, & Keegan, 1993, p. 7). Utilizing appropriate theory in course development provides instructors with a clear, advance vision that helps instructors avoid inadvertent "bad choices" in design and later in implementation and instruction. Many educators have taught a course, never making a philosophical decision and never "articulating their philosophy at a conscious level" (Welburn, 1999, p. 52). Often instructors may simply teach the way they were taught. Others may teach "the way they were taught to teach, which might also be inappropriate for the current environment" (p. 45). Understanding of the learner, coupled with knowledge of the pedagogy and a clear vision grounded in theory is key to successful teaching and greater student learning

(Bruner, 1996). Understanding the theory and the vision helps the educator to better know which pedagogies will accomplish the kind of learning the instructor desires.

As educators attempt to determine how best to help students learn utilizing Internet-based education, three theoretical models are often discussed.

1. Traditional Objectivist: In this model knowledge is transferred from a subject matter expert directly to the learner. This model works best with delivery to a mass audience (Belanger & Jordan, 2000).

2. Constructivist: In this model the instructor serves as a facilitator as students create or recreate knowledge, with learners taking charge of their own learning. This model is appropriate for the Internet-based environment of the adult distance learner. It works well with the communication capabilities of interactive instructional technologies as they provide feedback, interaction, and sharing. The Course Management System allows self-paced study, enabling learners to take control as they make individual decisions for their learning (Belanger & Jordan, 2000).

3. Cooperative Learning: In this model interaction among learners advances and strengthens the learning experience. This model is appropriate for use with Internet-based learning because the Course Management System allows collaboration on forums, conferencing, email, and whiteboards (Belanger & Jordan, 2000).

The capabilities of the Course Management System can be utilized to provide instruction within each of these theories of learning.

In the Internet-based courses evaluated by Boshier et al. (1997), those taught in the traditional Objectivist model were clearly developed differently from those taught using a Constructivist format. When browsing the Objectivist courses where knowledge is typically

"transmitted" from expert to learner, the evaluator could clearly recognize in the format of the

course that the learner was seen as the traditionalist's "empty vessel," waiting to be filled. These

courses often had long e-lecture notes with few links to take the learner out to other pages or

sites. In contrast, courses utilizing a Constructivist approach were found to provide advance

organizers along with many activities for utilizing links into the Web in a search for answers

(Boshier et al., 1997). Few courses utilizing a Collaborative Learning approach were discovered

by Boshier et al., even though the Course Management System provides effective interactive

support for activities appropriate to this theoretical model. Most courses provided no

opportunities for students to take part in collaborative learning activities.

Constructivism and its promise for effective instruction with Internet-based learning are

both widely discussed in the literature. New research on "learning processes" indicates that

Constructivism is effective and at the "heart of the learning process" (Feyten & Nutta, 1999, p.

3). With the Constructivist approach in Internet-based education, learners build a knowledge

base through personal experience in a learner-centered atmosphere (Welburn, 1999); knowledge

is "discovered, constructed, practiced, and validated" by the learner. With this approach, course

design would emphasize learning by both problem-based and knowledge-based assignments.

Problem-based learning utilizes higher order thinking processes, including analysis, synthesis,

and evaluation. Knowledge-based learning utilizes recall, comprehension, and application

(American Distance Education Consortium, 2002; Feyten & Nutta, 1999). Pedagogical strategies

include collaborative learning and should "enable learners to engage in active exploration and

collaboration" (Hiltz, Coppola, Rotter, Toroff, Benbunan-Fich, 2000). Pedagogy for this theory

rejects the "sage on the stage" and supports a more "non-instructional" facilitative role for the

instructor (Lynch, M., 2002, p. 71). In the Constructivist environment, students serve as a

primary learning resource as instructors help students "to develop and determine goals within the setting of the content to be learned" (Egerton & Posey, 2002). Collaboration is encouraged as groups of learners work together in the learning process (Welburn, 1999; Wilson & Ryder, 1998). Communication technologies support this concept easily (Wilson, & Ryder, 1998) as learner control for time, location, and pace are increased as much as possible (American Council on Education, 1996). The Constructivist model is considered an appropriate model for the Internet-based learning experience (Shea, Fredericksen, Pickett, Pelz, & Swan, 2000). Many interrelationships are evident in an evaluation of Constructivist pedagogies, the capabilities of the Course Management System, and the needs of adult learners as discussed above.

Collaborative Learning for Internet-based learning is a "distinctly adult mode of inquiry" (Eastmond, 1995, p. 90), appropriate for learners in higher education. To obtain collaboration, the approach must be "explicitly fostered in course design, materials development, and instructor preparation" (p. 200). Activities that require teamwork and task completion through shared involvement must be built into the course. The instructors' teaching style is that of a facilitator. Studies show that both small group projects and appropriate collaborative experiences are valued by participants (Fredericksen et al., 2000a). The Internet-based environment effectively provides "many to many communication" for learner centered focus. The technology allows each learner to serve as an active participant at a time and place convenient to each, allowing for all members of the group self-pacing and self-directed learning (Harasim, 1990, p. 44). Because of the typical attributes of the Internet-based classroom, less time is spent on lecture, leaving more time for students to take part in collaborative learning activities (Kashy, Thoennessen, Albertelli, & Tsai, 2000). Real world problems or scenarios are especially appropriate in collaborative learning activities (McAlpine, 2000). For the solitary learner, isolated from the college or university,

these projects are collegial and interactive, lessening the individual's isolation from the rest of the learning community (Smith, L. J., 2003). Such communications among learners are increasingly understood to be as important to the learning process as communications between student and instructor (Turoff, 1990).

Welburn (1999) suggests that each of these theoretical models can be appropriate within the Internet-based environment and that the educator must decide in advance which theory would be most appropriate for the learning objectives formulated and the delivery system to be utilized. The capabilities of the technology in the Internet-based course will not determine the answer; the technology can be used in many ways and it will support all three theories. The instructor's choice about how it will be used is key to gaining the "potential benefits" the technology offers (p. 52). Both technological and pedagogical practices chosen should work together effectively within the theoretical model to help students achieve stated course objectives (American Council on Education, 1996; Global Alliance for Transnational Education, 2000; Innovations in Distance Education, 2002; Phipps and Merisotis, 2000).

Summary

Dasher-Alston and Patton (1998) suggest that practitioners in the field of Internet-based learning should ask themselves two questions:

1. How has technology affected teaching and learning, and

2. How has technology caused us to rethink basic assumptions about the role of teachers and of students and the responsibilities of each?

These are the questions that are being asked today; researchers are attempting to answer them through studies and anecdotal reports. This study is designed to consider those questions

for the adjunct faculty and their students of one Internet-based Central Florida community college environment. It is designed to identify the Internet-based pedagogical practices recommended in the literature, by local adjunct instructors, and by their students that should be considered as instructors design instruction. The study identifies for instructors and for administrators the areas of Internet-based pedagogy in which adjunct instructors may need professional development. Finally, this study considers the relationship between student achievement and satisfaction and recommended pedagogical practices.

CHAPTER THREE
METHODOLOGY

Design of the Study

This study was a descriptive correlational research study designed to identify the relationship between the use of appropriate pedagogy and student achievement and satisfaction in the Internet-based classrooms of adjunct instructors teaching for a Central Florida community college.

Population

Adjunct Instructor Population

The total population of 55 adjunct instructors teaching in a Central Florida community college program in Fall, 2003, received an announcement inviting instructors to participate in this study. Of that number 16 instructors, or 29%, responded.

Student Population

The total population of 2,064 students enrolled in a Central Florida community college Internet-based program in Fall 2003 and taught by an adjunct instructor received an announcement inviting students to participate in this study. Of that number 89 students, or 4%, responded.

Instruments

Two researcher-developed survey instruments were used. These surveys were designed to be self-administered. One survey was developed for community college Internet-based adjunct instructors and the other for students of those instructors. The surveys were developed with a similar format to include Likert scale statements, nominal variable measurement, and open-ended questions.

Survey statements included in the first four categories of the instructors' instrument listed pedagogical practices appropriate for the Internet-based environment. Survey statements included in categories two through five of the students' instrument listed parallel pedagogical practices appropriate for the Internet-based environment. These pedagogical practices had been identified through content analysis of the professional literature and were either defined as "best practice" or were consistently recommended for Internet-based course design and instruction in the literature.

Faculty surveys were divided into five categories: "The Orientation" including sections #1 and #2, "The Course Page Design" including sections #3 and #4, "Student Learning" including sections #5 and #6, "Assessment of Student Learning" including sections #7 and #8, and "Demographics" including sections #9 through #15. Each of the first four categories focused on pedagogical practices and was divided into two sections. The first section of each category listed statements of best practice and other recommended Internet-based pedagogical practices related to the section's topic and asked instructors to indicate their perception of the importance of those practices for student academic achievement or student satisfaction. The second section of each of the first four categories repeated the list of practices and asked instructors to identify any practices for which they would be interested in professional development. The final question

of each category was open-ended and invited the instructor to provide additional qualitative response related to the topic of the section. The fifth category for demographics was not divided. A final question invited instructors to share an Internet-based instructional practice or suggestion that had been helpful in Internet-based teaching or that should be initiated in the community college's Internet-based program. The instructor survey was extensive, including 107 statements.

Student surveys were divided into six categories; the first category provided a listing of Internet-based courses where students identified the coded name and number for the course that they were describing for this survey. This first category was made up of sections #1 through #16. The following four categories focused on pedagogical practices: "The Course" including sections #17 and #18, "The Course Page Design" including sections #19 and #20, "Student Learning" including sections #21 and #22, and "Assessment of Student Learning" including sections #23 through #25. Each of these pedagogical categories was divided into two sections. The first section of each pedagogical category listed best practice and other recommended Internet-based pedagogical practices related to the section's topic and asked students to indicate whether those practices had been utilized in the Internet-based course that they were currently evaluating. The second section of each pedagogical category repeated the list of practices and asked students to indicate whether they agreed that utilization of the practice would improve either student learning or student satisfaction if successfully applied to all Internet-based courses. The sixth category, sections #26 through #29 on demographics, was not divided; a final question, section #30, invited students to share an Internet-based instructional practice that had been helpful for learning. The student survey was also extensive and included 108 questions.

The lists of pedagogical practices on the two surveys were similar; only when a statement for one population was not considered applicable to the other was there a variation between the

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two. Practices included in the adjunct surveys but not included in the student surveys are paraphrased briefly below.

1. Clear learning outcomes were published (the term "learning outcome" was not expected to be meaningful to students)

2. Orientation pages include clearly stated assignment due dates to show agreement between instructor and learners (another similar statement related to the assignment calendar had already been included in the survey)

3. Higher level thinking skills were required (the term "higher level thinking skills" was not expected to be meaningful to students)

Faculty members were not identified on the surveys in any way. . Students defined the subject area of the course that they were evaluating and provided a coded number to represent the course, but they were not identified in any way.

A staff member for this Central Florida community college "uploaded" the two survey instruments onto a professional "Zoomerang" survey site contracted by the college to support all local institutional surveys. Faculty and students were emailed an informational letter and approval statement informing them of the surveys and inviting them to participate by clicking on an included link to the Zoomerang Web page site. The Internet-based Campus endorsed the surveys and will utilize results for later professional development opportunities; instructors and students were informed that one purpose of the surveys was to improve future instruction. An email reminder was sent several weeks later.

Validity of Instruments

Content of adjunct instructor and student instruments measured current adjunct and student personal experience in Internet-based education. The content was comprehensive, developed from an extensive content analysis of the professional literature, and it included over 40 of the most often recommended Internet-based pedagogical practices for adjunct and student evaluation. Practices included in the surveys varied from highly recommended best practice pedagogies to practices that might be considered good options for instructor consideration.

Electronic delivery of survey instruments was appropriate for instructors and students who interact regularly through their Internet-based courses. Format for the instruments was pre-determined by the survey template as provided by the college's professional contract with Zoomerang online survey research software. This format should have been familiar to most participating students following experience with other local institutional surveys. Both surveys were developed in a consistent format throughout, with consistent directions and response options for each similar section. Language for each survey item and for instructions for each section was originally developed by the researcher and then was finalized as the researcher worked with the Zoomerang coordinator for the college. Suggestions about content from the college Zoomerang coordinator and requirements of the Zoomerang format impacted the final language of the two surveys.

Three experts in the field of instruction and/or survey research reviewed both instruments for content validity prior to collection of data.

Reliability of Instruments

Participants were questioned only about areas relevant to their experience and on which they would be expected to have personal knowledge and opinion, supporting instrument reliability. All participants received surveys in the same manner, electronically, and received from the computer screen identical instructions for each survey. For instrument reliability, scoring was electronic, utilizing Zoomerang online research software and therefore eliminating subjectivity in evaluation of final results. Content analysis for Research Questions 4 and 8 utilized specific criteria of selection for information gathered, providing greater reliability for data collection for these two questions.

Using Cronbach's Alpha to identify reliability coefficients of the two instruments, student Likert scale responses (1 = strongly agree, 4 = strongly disagree) for all summated practices were analyzed to determine the average inter-correlation among items. Reliability statistics results: number of items of practice = 44, number of students responding = 87, Cronbach's Alpha = .963, indicating high reliability. Student survey statements are shown to be measuring the same underlying construct and are appropriate for use in a common scale. The same practices measured above for the student surveys were, with minor variations related to the differing purposes of the surveys, utilized in the instructor surveys as well.

Time Frame

During the second week of November 2003 the Internet-based staff of this Central Florida community college sent out a regular newsletter to Internet-based faculty and students. An article in this newsletter informed the Internet-based community that the survey would be

available. Following publication of the newsletter, on November 18, 2002, an introductory letter including informed consent information was emailed to Internet-based faculty and on November 19, 2003, a corresponding letter was emailed to students of these adjuncts. Instructors and students were informed that responding to the survey would imply consent. The first page of both surveys restated the purpose for the survey and indicated again that response to the survey would confirm consent to participate. Student surveys restated the fact that students must be at least 18 years old to participate. Surveys were available on the Zoomerang Web page from November 18, 2003, through December 19, 2003.

The listing of pedagogical practices included in each survey is comprehensive and results from an extensive search of the professional literature. The format of the instrument was determined by Zoomerang's professionally designed template; language and directions were carefully developed. A small portion of the language of the surveys was influenced by constraints of the Zoomerang template or by the uploading process.

Because participants of the study included adjunct instructors and their students who regularly utilize Internet-based software as part of their course environment, an Internet-based delivery was chosen for the survey instruments. Zoomerang online survey research software was utilized for this survey at the request of the Institutional Planning department at this Central Florida community college. The college staff member responsible for institutional surveys uploaded the surveys into the Zoomerang software program. That staff member later downloaded the results. Only college staff members were allowed to utilize this software.

Data Collection

The staff of the Internet-based campus provided electronic files and textual printouts of results from the Zoomerang site; results included a summary of responses from the surveys as well as individual responses for all participants.

Frequency counts, percentages, and measures of central tendency were utilized to describe results for Research Questions 1, 2, 3, and 5. Both Pearson's Correlation Coefficient and Chi Square Test of Independence were utilized to answer Research Question 6. Chi Square Test of Independence was utilized to answer Research Question 7.

Content analysis for Research Questions 4 and 8 utilized specific criteria of selection for information gathered. In a purposive sampling of the literature utilizing journals, text materials, Internet sites, and conference materials, pedagogies from the literature were defined and documented as best practice whenever appropriate. The specific definition of the term "best practice" and the purpose for the practice's listing were determined. Practices recommended by other educational associations were documented and the purpose for each listing was determined. Other practices recommended through research-based studies or anecdotal reports were identified. These recommended practices were classified, categorized, and counted to quantify the emphasis for and focus on each practice in the literature.

Summary

This chapter describes the methodology utilized in this descriptive, correlational study designed to identify the relationship between the use of appropriate pedagogy and student achievement and satisfaction in the Internet-based environment.

CHAPTER FOUR
ANALYSIS OF DATA

Introduction

This research examined the instructor- and student-reported importance and use of

Internet-based best practice and recommended practice pedagogy in adjunct instructor

community college classrooms and the relationship between that reported importance and use

and student achievement and satisfaction. Eight questions were addressed in this research. To

answer Research Questions 1, 2, 3, 5, 6, and 7, adjunct instructor and student survey responses

were analyzed using the SPSS statistical software package for Windows. Descriptive frequency

distributions, percentages, and measures of central tendency were utilized for analysis in

Research Questions 1, 2, 3, and 5. For all statistics that utilize the calculated mean in these

analyses, mean of 1 is low and 4 is high. Pearson's Correlation Coefficient statistical procedures

were utilized for analysis of interval data for Research Question 6 with an alpha level of .05. Chi

Square Test of Independence statistical procedures were utilized for Research Questions 6 and 7,

each with an alpha level of .05. Content analysis techniques were utilized for questions 2 and 8.

Findings are discussed in Chapter 5.

Research Question 1

What pedagogical practices for Internet-based teaching and learning do adjunct
instructors in the community college Internet-based environment identify as best
practice and recommended practice?

To answer Research Question 1, adjunct instructor responses to survey statements in sections #1, #3, #5, and #7 were analyzed to determine the pedagogical practices reported by adjunct instructors as important for student achievement and satisfaction. Frequency counts, percentages, and measures of central tendency defined adjunct perceptions of the level of importance of each practice to student achievement and satisfaction. Selected pedagogical statements from these sections of the adjunct survey and findings associated with those statements are reported below.

Given adjunct participants' response (as seen in Appendix E Table 54) to statements in adjunct survey section #1, "Orientation Pages for the Online Course," four pedagogical practices were listed by 50% or more instructors as being essential for an Internet-based course. "Orientation provides student training in basic software, hardware, and technology skills required for the course," was rated by 75% of adjunct participants as "essential practice." "Orientation pages include clear instructions for access to the Internet-based campus Blackboard technical support," was rated by 56% as "essential practice." For the statement "Orientation pages include detailed instructions for contact (instructor to student/student to instructor) in the event of technology failure," 75% rated this practice "essential practice." For the statement "Orientation pages include clear procedures for keeping the course moving forward academically in the event of technology failure," 50% of adjuncts rated this practice "essential practice."

None of the pedagogical practices listed in section #3, "Course Page Design," were listed by adjuncts as "essential practice." Statement 11, "The site is carefully edited to avoid errors and inconsistencies," was rated highest for "essential practice" with 47% of adjuncts rating it essential. "Course pages design includes generous white space and avoids excessive text" was rated by 27% of adjuncts as "good practice," 40% rated it "acceptable practice," and 20% rated it

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"unacceptable practice." "Clear instructions are posted on every page to help students navigate easily to important pages as well as forward and backward through the course" was rated by 33% of adjuncts as "essential practice," 47% rated it "good practice," and 7% rated it "unacceptable." "Course utilizes color, pictures, animation, movement, humor, sound, voice, and/or video," was rated by 36% as "good practice," 21% rated it "acceptable practice," and 21% rated it "unacceptable practice." For the statement "Visuals are included to enhance concepts to be studied," 40% rated it "good practice" and 7% rated it "unacceptable." For the statement "A consistent opening and a consistent instructional organization are utilized in each section or learning unit," 53% rated it "good practice" and 7% rated it "unacceptable."

For survey section 5, "Student Learning," six practices were rated by 50% or more adjuncts as "essential practice." "Course content matches stated course objectives," was rated by 53% of adjuncts as "essential practice." For the statement "Course is well organized," 67% rated this practice "essential practice," 13% rated it "good practice," and 20% rated it "acceptable practice." For the statement "Instructor responds to questions and assignments in a timely manner," 80% rated this practice "essential practice." For the statement "Instructor response and feedback are provided in a constructive, non-threatening manner," 79% rated this practice "essential practice" and 53% rated "Activities and assignments require learners to utilize high-level thinking skills (analysis, synthesis, and evaluation)," as "essential practice." For the statement "Course design requires students to 'learn by doing' (through research, essays, projects, debates, etc.) and not simply by reading assigned materials," 67% rated this practice "essential practice."

For the statement "Course design requires multiple interactions among learners (email, chatroom, or forum/threaded discussion, etc.)," 60% rated it "good practice" and 13% rated it

"unacceptable." For the statement "Course design requires multiple interactions between instructor and each student (email, chatroom, or forum/threaded discussion, etc.)," 43% rated this practice "essential practice," 43% rated it "good practice," and 7% rated it "unacceptable practice." For the statement "Course design requires student collaboration (solve problems, complete group project, comment on or edit work of other learners, etc.)," 40% rated it "good practice," and 7% rated it "unacceptable." For the statement "'Electronic lecture' content is provided in concise form," 40% rated it "good practice" and 7% rated it "unacceptable." "Concise 'electronic lecture' content is further developed through student-centered activities (research, discussion, projects, etc.)," was rated by 27% as "essential practice," 33% rated it "good practice," 20% rated it "acceptable practice," and 7% rated it "unacceptable."

No statements in section 7, "Assessment of Student Learning," were rated "essential practice" by 50% or more adjunct participants.

Practices with the highest mean for adjunct reported importance (as seen in Table 1) recommended that instructors provide timely response (3.73 out of 4) and that the response be constructive and non-threatening (3.71). Instructors felt that including technical training activities in course design was important (3.69) as was that students "learn by doing" (3.64). Planning for and posting details about student/instructor contact in the event of technology failure (3.56) and ensuring access to technical support (3.5) were also seen as important. Providing students with a well-organized course (3.47) free of errors (3.4) was also seen as important to student achievement and satisfaction.

Practices with the lowest mean for adjunct reported importance and the highest rating (by three adjunct instructors for each) for "Unacceptable Practice" were providing "generous white space and minimized amounts of text" (2.3 out of 4) and including in course design "color,

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pictures, humor, animation, sound, or movement" (2.4). Two adjunct instructors reported

minimizing "excessive scrolling" (2.8) and "multiple student/student interaction" (2.9) to be

unacceptable practice. The following practices were each rated by one instructor to be

unacceptable practice.

1. Assignment calendar with easy access from many pages published on course site

2. FAQ page published on course site

3. Navigation instructions visible on every page

4. Visuals utilized to enhance course content

5. Course design includes consistent organization

6. Multiple student/ instructor interaction designed into course activities

7. Student collaboration required in course activities

8. Concise E-lecture provided

9. Student activities extend E-lecture content

10. Virtual library and resources provided if required for course activities

11. Training with virtual resources provided if research required for course activities

12. Instructions repeated for EACH assigned use of technology

Table 1

Pedagogical Practices Listed in Order of Adjunct-Reported Importance to Student Achievement and Satisfaction

Survey Statement Practice "Essential"	% of Adjuncts Rating	Mean
1. Instructor response timely	12 (80%)	3.73
2. Response constructive and non-threatening	11 (79%)	3.71
3. Technical training activities included	12 (75%)	3.69
4. Students learn by doing	10 (67%)	3.64
5. Policy for contact in event of technology failure published	12 (75%)	3.56
6. Technical support access clear and published	9 (56%)	3.50
7. Course well organized	10 (67%)	3.47
8. Site edited to avoid errors or inconsistencies	7 (47%)	3.40
9. Policy for learning in technology failure published	8 (50%)	3.38
10. Content matches objectives	8 (53%)	3.33
11. Higher level thinking skills required	8 (53%)	3.33
12. Strategies varied and appropriate for Internet-based instruction	5 (39%)	3.31
13. Clear due dates published and accessible from many pages	2 (13%)	3.27
14. Sequential steps build on prior knowledge	7 (47%)	3.27
15. Variety of assessment techniques utilized	6 (40%)	3.27
16. Clear behavioral objectives published	7 (44%)	3.25
17. Multiple student/instructor interactions	6 (43%)	3.21
18. Assessment based on stated objectives	5 (33%)	3.20
19. Clear learning outcomes published	6 (38%)	3.19
20. Content labeled with headings on every page	6 (40%)	3.13
21. Downloads checked for suitability	5 (33%)	3.13
22. Concise E-lecture provided	4(27%)	3.08
23. Instructions repeated for EACH academic task	3 (21%)	3.08
24. Navigation instructions visible on each page	5 (33%)	3.07
25. Office hours for unconventional times published	5 (31%)	3.00
26. Timely feedback policy published	2 (13%)	3.00
27. Content made relevant to student experience	5 (33%)	3.00
28. Course content clearly written	5 (33%)	2.93
29. Scrolling minimized by linked information	2 (13%)	2.93
30. Instructions repeated for EACH use of technology	3 (20%)	2.92
31. Student activities extend E-lecture learning	4 (27%)	2.92
32. Design includes consistent organization	3 (20%)	2.87
33. Multiple student/student interaction	3 (20%)	2.87
34. Excessive scrolling minimized	3 (20%)	2.80
35. Expectations for behavior published	5 (36%)	2.80
36. Expected time commitment published	2 (13%)	2.80
37. Traditional and/or Internet-based resources provided	4 (29%)	2.77
38. Student collaboration required	2 (13%)	2.75
39. Visuals enhance content	4 (27%)	2.73
40. Easy access to assignment calendar published	3 (20%)	2.67
41. FAQ page published	3 (20%)	2.67
42. Training with Internet-based resources provided	2 (14%)	2.67
43. Design includes color, pictures, humor, etc.	3 (21%)	2.40
44. Generous white space and minimized text	2 (13%)	2.33

Research Question 2

What pedagogical practices for Internet-based teaching and learning do students of adjunct instructors in the community college perceive would, if successfully applied, improve student learning and satisfaction?

To answer Research Question 2, responses from students of adjunct instructors to statements in student survey sections #18, #20, #22, and #24 were analyzed to determine the pedagogical practices that students reported as important for improving student achievement and satisfaction in Internet-based courses. Frequency counts, percentages, and measures of central tendency described learner perceptions of the level of importance of each practice to student achievement and satisfaction. Selected pedagogical statements from these sections of the student survey and findings associated with those statements are reported below.

Given participants' response to statements in student survey section #18, "The Course" (as seen in Appendix E, Table 55), at least 50% of student respondents strongly agreed that eight listed pedagogical practices would improve either student learning or student satisfaction if successfully applied to all online courses. For the statement "Course learning objectives clearly stated in the syllabus," 67% of participating students strongly agreed that, if successfully applied, this practice would improve student achievement or satisfaction. For "A calendar with assignment due dates, test dates, etc., accessed easily from many course pages," 64% strongly agreed. For "Clear instructions provided for contact (instructor to student/student to instructor) in the event of technology failure," 62% strongly agreed. "'Office hours' (by email, forum/threaded discussion, online chat, or live on-campus) posted for days and times that fit the needs of students" was endorsed by 60% who strongly agreed. "Clear procedures posted for keeping the course moving forward academically in the event of technology failure" was rated "strongly

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agree" by 55% of students. A "Policy posted for 'timely' feedback for student assignments" was endorsed by 57% who strongly agreed. For the statements "Information provided to clarify the expected amount of time this online course would require" and "A 'Frequently Asked Questions' (FAQ) page provided for student reference," 52% of students strongly agreed for both.

Participant response to statements in student survey section #20, "The Course Pages Design," shows that at least 50% of student respondents strongly agreed that utilization of 9 of the 11 recommended statements would improve student achievement and satisfaction if successfully applied to all Internet-based courses. With a 73% "strongly agree" rate, students recommend that the "Course site [should be] free of errors in information and of mistakes in assignments and dates," and with a 72% "strongly agree" response they recommend "Courses that download quickly and that work well on any computer." "All sections of the course [were] organized in a similar format for ease of use" was rated "strongly agree" by 65% of respondents. "Clearly written course content utilizing common vocabulary, straightforward sentences, and short paragraphs," was rated "strongly agree" by 61%. "Virtual pages of text that are short and do not require extensive scrolling" and "Pages kept short by electronically linking related information to the original page" were both rated "strongly agree" by 60% of respondents. "Every page includes self-explanatory titles, headings, and descriptions to identify content" was rated "strongly agree" by 62% and 57% of students rated "Pages appear uncluttered, have plenty of white space, and do not have an excessive amount of text" to be "strongly agree." "Clear instructions posted on every page to help students navigate easily" was rated "strongly agree" by 55%.

Participant response to statements in student survey section #22, "Student Learning," showed that at least 50% of student respondents strongly agreed that utilization of 10 of the 18

recommended statements would improve student achievement and satisfaction if successfully applied to all Internet-based courses. More than 50% of students rated the following statements of practice "strongly agree." "Instructors that respond to questions and assignments in a timely manner" was rated "strongly agree" by 75%. "Courses that are well organized" was rated "strongly agree" by 74%. "Course content that matches the course objectives" was rated "strongly agree" by 72%. For "Instructors that provide constructive, non-threatening feedback," 71% "strongly agreed." "Course developed in sequential steps, building on students' prior knowledge and earlier training," was rated "strongly agree" by 70%. "Course design that requires students to 'learn by doing' rather than simply by reading assigned materials" was rated by "strongly agree" by 65%. "Content taught through a variety of methods and strategies appropriate for online learning" was rated "strongly agree" by 63%. "Course design that requires multiple interactions between student and instructor" was rated "strongly agree" by 56%. "Instructor's 'electronic lectures' that are relatively brief" was rated by 52% "strongly agree." "Traditional and/or virtual learning resources provided for any required research projects" was rated by 51% of students "strongly agree."

Participant response to statements in student survey section #24, "Assessment of Student Learning," shows that over 50% of student respondents strongly agreed that utilization of all recommended practices would improve either student learning or student satisfaction in Internet-based courses. They "strongly agree" to the importance of being evaluated on mastery of course objectives (61%) through a variety of methods (71%) and through Internet-based assessment instruments (72%).

Practices with the highest mean for student reported importance (as seen in Table 2) were that the course was well organized (3.72 out of 4) and that content match course objectives

(3.67). Instructor response that is constructive and non-threatening (3.66) as well as timely (3.65) was important to students. Courses that are checked for suitable downloading (3.60) and course design that develops student learning "by doing" (3.6) are important to students.

Courses with the lowest mean for student reported importance included course required projects requiring peer collaboration (2.62 out of 4) and course design including color, pictures, humor, sound, or animation (2.95).

Table 2

Pedagogical Practices Listed in Order of Student-Reported Importance to Student Achievement and Satisfaction

Survey Statement	# and % of Students Strongly Agreeing Practice Is Important	Mean
1. Course well organized	61 (74%)	3.72
2. Content matches objectives	60 (72%)	3.67
3. Response constructive and non-threatening	58 (71%)	3.66
4. Instructor response timely	61 (75%)	3.65
5. Downloads checked for suitability	54 (72%)	3.60
6. Students Learn By Doing	51 (65%)	3.60
7. Design includes consistent organization	51 (65%)	3.59
8. Site edited to avoid errors or inconsistencies	56 (73%)	3.58
9. Clear objectives published	58 (67%)	3.57
10. Sequential steps build on prior knowledge	55 (68%)	3.56
11. Course content clearly written	46 (61%)	3.54
12. Strategies varied and appropriate for Internet-based instruction	52 (63%)	3.54
13. Content labeled with headings on every page	48 (62%)	3.53
14. Excessive scrolling minimized	44 (60%)	3.52
15. Scrolling minimized by linked information	45 (60%)	3.51
16. Easy access to assignment calendar published	55 (64%)	3.49
17. Office hours for unconventional times published	49 (60%)	3.49
18. Policy for contact in the event of technology failure published	53 (62%)	3.48
19. Generous white space and minimized text	43 (57%)	3.47
20. Navigation instructions visible on each page	43 (55%)	3.45
21. Multiple student/instructor interaction	45 (56%)	3.41
22. Internet-based library and resources provided	37 (51%)	3.39
23. Timely feedback policy published	48 (57%)	3.37
24. Policy for learning in technology failure published	46 (55%)	3.36
25. Concise E-lecture provided	35(56%)	3.34
26. Training provided for Internet-based resources	36 (49%)	3.34
27. Technical support access clear and published	39 (46%)	3.31
28. Student activities extend E-lecture learning	32 (49%)	3.30
29. FAQ page published	44 (52%)	3.29
30. Visuals enhance content	35 (48%)	3.29
31. Expectations for behavior published	36 (46%)	3.28
32. Expected time commitment published	43 (52%)	3.23
33. Technical training activities included	31 (44%)	3.21
34. Instructions repeated for EACH academic task	31 (41%)	3.19
35. Content made relevant to student experience	34 (42%)	3.17
36. Instructions repeated for EACH assigned use of technology	28 (39%)	3.14
37. Multiple student/student interaction	30 (40%)	3.09
38. Design includes color, pictures, humor, etc.	27 (36%)	2.95
39. Student Collaboration Required	23 (32%)	2.62
40. Clear due dates published	N/A	N/A
41. Clear learning outcomes published	N/A	N/A
42. Higher Level Thinking Skills Required	N/A	N/A

Research Question 3

What pedagogical practices for Internet-based teaching and learning do students of adjunct instructors in the community college perceive as present in the classes of adjunct instructors?

To answer Research Question 3, responses from students of adjunct instructors to statements in survey sections #17, #19, #21, and #23 were analyzed to determine pedagogical practices that students reported as present in the described Internet-based course. Frequency counts and percentages described learner perceptions of the presence of each practice. Selected results from these sections of the student survey are reported below.

The practices with the student-reported highest level of presence in adjunct instructed courses were the following (as seen in Table 3). Clear learning objectives and concise Electronic-lectures were reported present in 94% of described courses. Course pages were clearly labeled with headings for page content in 92% of courses. Content of course matched stated objectives and consistent organization of course design was reported present in 90% of courses described. Assessment was based on the stated course objectives, courses were technically prepared for appropriate download to student computers, and student access to technical support was published and clear in 89% of courses. Students reported that courses were designed to help students "learn by doing" (88%) and course content was clearly written (87%).

Table 3

Student-Reported Presence of Pedagogical Practices in Community College Adjunct Courses

Survey Statement	Total n Responding	n & % Courses with Practice Present
1. Clear learning objectives published	88	83 (94%)
2. Content labeled with headings on every page	82	75 (94%)
3. Content matches objectives	82	74 (90%)
4. Clear due dates published and accessible from many pages	86	74 (86%)
5. Students learn by doing	81	71 (88%)
6. Course content clearly written	82	71 (87%)
7. Generous white space and minimized text	82	70 (85%)
8. Policy for contact in event of technology failure published	85	70 (82%)
9. Downloads checked for suitability	78	69 (89%)
10. Technical support access clear and published	78	69 (89%)
11. Response constructive and non-threatening	81	69 (85%)
12. Design includes consistent organization	76	68 (90%)
13. Navigation instructions visible on each page	80	67 (84%)
14. Excessive scrolling minimized	80	66 (83%)
15. Office hours for unconventional times published	81	66 (82%)
16. Expectations for behavior published	82	66 (81%)
17. Instructor response timely	83	66 (80%)
18. Course well organized	80	65 (81%)
19. Multiple student/instructor interactions	82	64 (78%)
20. Sequential steps build on prior knowledge	80	63 (79%)
21. Site edited to avoid errors or inconsistencies	81	63 (78%)
22. Assessment based on stated objectives	70	62 (89%)
23. Scrolling minimized by linked information	74	60 (81%)
24. Strategies varied and appropriate for Internet-based instruction	80	59 (74%)
25. Timely feedback policy published	81	57 (70%)
26. Multiple student/student interaction	83	57 (69%)
27. Variety of assessment techniques utilized	72	55 (76%)
28. Content made relevant to student experience	75	51 (68%)
29. FAQ page published	76	51 (67%)
30. Expected time commitment published	83	50 (60%)
31. Instructions repeated for EACH academic task	72	47 (65%)
32. Concise E-lecture provided	47	44 (94%)
33. Technical training activities included	62	42 (68%)
34. Policy for learning in technology failure published	80	42 (53%)
35. Traditional and/or Internet-based resources provided	53	41 (77%)
36. Design includes color, pictures, humor, etc.	72	37 (51%)
37. Instructions repeated for EACH use of technology	65	36 (55%)
38. Training with Internet-based resources provided	56	34 (61%)
39. Visuals enhance content	65	32 (49%)
40. Student activities extend E-lecture learning	43	31 (72%)
41. Student collaboration required	74	23 (31%)
42. Clear learning outcomes published		NA
43. Easy access to assignment calendar published		NA
44. Higher level thinking skills required		NA

Practices with the student-reported lowest level of presence included student activities that required collaboration, with a reported presence in 31% of described courses. Visuals included on the course pages to enhance understanding of content were reported present in 49% of courses. At least one of the elements of color, pictures, animation, movement, humor, sound, or video were present in 51% of courses. A plan for continuing learning in the event of technology failure was present in 53% of courses and technical instructions for each assigned use of technology were present in 55%.

Research Question 4

What pedagogical practices for Internet-based teaching and learning are identified as best practice and recommended practice in the professional literature?

To answer Research Question 4, objective content analysis techniques were employed to identify from the professional literature a comprehensive listing of best practice and other recommended pedagogies for the Internet-based educational environment. A content analysis references listing was developed (as noted in References). Through evaluation of practices discussed and recommended in these144 professional sources focused on Internet-based pedagogy, 37 separate categories emerged; practices were organized into the appropriate categories.

To identify from the larger compilation of pedagogies those practices appropriate for characterization as "best practice" it was first necessary to analyze the use of the term "best practice" in the literature and then to define it for the purposes of this study. The term "best practice" was utilized in many different ways in the literature, indicating a great deal of

inconsistency in understanding of the term. Phipps and Merisotis (2000) were the only authors found to provide a clear definition for their use of the term.

In Phipps and Merisotis' study "Quality on the Line," prepared by the Institute for Higher Education Policy, "best practice" was defined as practice considered essential to the quality of the course, those practices for which "the absence of the benchmark would detract from quality" (p. 2). For the purposes of this study, definition of "best practice" follows the definition utilized by Phipps and Merisotis.

Practices recommended in Phipps and Merisotis' study were the only practices found in the literature to be identified as "essential" and, thus "best practice." Therefore, practices recommended by Phipps and Merisotis were the only practices fitting the definition of best practice as defined for this study. In addition, Phipps and Merisotis' study was research-based rather than anecdotal. Much of the published literature in this young field was based on the knowledge and understanding that develops through experience, but the research base of this study provided additional credibility for the practices identified and defined by Phipps and Merisotis as best practice.

Fifteen best pedagogical practices, those recommended by Phipps and Merisotis, were classified into seven pedagogical categories corresponding with seven categories identified in the larger analysis of the professional literature: (1) objectives and outcomes,   (2) interaction, (3) resources and research, (4) expectations, (5) feedback, (6) higher level thinking, and (7) technology issues. Identification of these best practice pedagogies (as seen in Table 4) answers the first part of the question posed in Research Question 4: "What pedagogical practices for Internet-based teaching and learning are identified as best practice…in the professional literature?"

Table 4

Pedagogical Practices Defined as Best Practice by Phipps and Merisotis (2000)

Pedagogical Category	n & % of Best Practices	Teaching and Learning Best Practices
Objectives and Outcomes	4 (27%)	1. "Students are provided with supplemental course information that outlines course objectives, concepts, and ideas" (p. 26). 2. "Learning outcomes for each course are summarized in a clearly written, straightforward statement" (p. 26). 3. "Learning outcomes–not the availability of existing technology– determine the technology being used to deliver course content" (p.25). 4. "Intended learning outcomes are reviewed regularly to ensure clarity, utility, and appropriateness" (p. 26).
Resources and Research	3 (20%)	1. "Students have access to sufficient library resources that may include a 'virtual library' accessible through the World Wide Web" (p. 26). 2. "Students are instructed in the proper methods of effective research, including assessment of the validity of resources" (p. 26). 3. "Students are provided with hands-on training and information to aid them in securing material through electronic databases, interlibrary loans, government archives, news services, and other sources" (p. 26).
Interaction	2 (13%)	1. "Student Interaction with faculty…is an essential characteristic and is facilitated through a variety of ways, including voice-mail and/or email" (26). 2. "Student Interaction with…other students is an essential characteristic and is facilitated through a variety of ways, including voice-mail and/or email" (26).
Feedback	2 (13%) `	1. "Feedback to student assignments and questions is constructive and provided in a timely manner" (p. 26). 2. "Faculty and students agree upon expectations regarding times for… faculty response" (p. 26).
Technology Issues	2 (13%)	1. "Throughout the duration of the course…students have access to technical assistance, including detailed instructions regarding the electronic media used…" (p. 26). 2. "Throughout the duration of the course…students have convenient access to technical support staff" (p. 26).
Expectations	1 (6%)	"Faculty and students agree upon expectations regarding times for student assignment completion…" (p. 26).
Higher Level Thinking	1 (6%)	"Courses are designed to require students to engage themselves in analysis, synthesis, and evaluation as part of their course…requirements" (p. 26).

The second part of the question posed in Research Question 4 is a broader question: "What pedagogical practices for Internet-based teaching and learning are identified as…recommended practice in the professional literature?" In essence, all practices included in categories that emerged through analysis of the literature were "recommended" practices. However, some recommendations carried more authority than did others. Educational associations developed listings of recommended practices that carried the authority of the group that developed the listing. Some educational listings emphasized practices that were responsibilities of the larger institution in their recommendations, while others emphasized practices to be utilized for individual course development; some focused on both. While the emphases of practices developed by professional educational associations were varied, all listings focused on a limited number of practices believed to be important for quality assurance in the Internet-based environment. For the purposes of this research, only recommendations from educational associations that focused on pedagogical practices for course design and instruction were utilized (as seen in Appendix E Table 56). To indicate the importance that associations placed on these practices, they were termed guidelines, guiding principles, principles, or standards, as well as, for Phipps and Merisotis (2000), best practice. Practices recommended by educational associations were identified, evaluated through content analysis, and categorized (as seen in Appendix E Table 57).

Practices recommended by educational associations were organized into 10 categories (as seen in Table 5). Educational associations recommended 17 practices related to objectives and outcomes for the Internet-based course.

Table 5

Pedagogical Practices Recommended by Educational Associations Categorized by Frequency of Recommendation

Category	n & % Practices Recommended in Each Category
1. Objectives/Outcomes	17 (24%)
2. Technology Issues	12 (17%)
3. Assessment of student learning	10 (14%)
4. Interaction instructor/student, student/student, student/content	8 (11%)
5. Resources and reference skills needed for course activities	8 (11%)
6. Learner centered activities	6 (9%)
7. Content development	3 (4%)
8. Developing learning communities	2 (3%)
9. Feedback to questions and student assignments	2 (3%)
10. Student and Instructor Expectations	2 (3%)

Educational associations recommended 12 practices related to technology issues and 10 related to assessment of student learning. Interaction was emphasized in 8 recommendations with 8 recommendations focused on resources and reference skills.Learner centered practices were defined in 6 recommendations. Identification of these pedagogies recommended by educational associations provides initial data to answer the second part of the question posed in Research

Question 4: "What pedagogical practices for Internet-based teaching and learning are identified as…recommended practice in the professional literature?"

To provide additional data to answer this second part of the question posed in Research Question 4, pedagogical practices recommended in the literature through research-based studies or anecdotal reports were also identified and categorized. The resulting consolidated compilation of pedagogies included clearly defined best practices, practices recommended by educational associations, and practices recommended in the literature through research-based studies and anecdotal reports. Collected recommended pedagogies were categorized and counted to reflect the larger pedagogical trends within the field. A count of the practices included in each category suggests the level of professional discussion, emphasis, and concern for each Internet-based practice (as seen in Table 6). Interaction was the pedagogical category discussed most often in the literature. A general discussion of the importance of interaction and of suggestions for effective interactive activities was found in 39 sources. In addition, discussion of interaction between instructor and student was counted in 23 sources, and interaction among students in 16 sources. Discussion of interaction utilizing forum or threaded discussion was counted 34 times, email 13 times, and electronic chat 5 times. Total count for discussion of student interaction in all of its various forms was 130. Issues related to technology were discussed at the next highest level for a count of 36 and assessment of student learning for 35. The role of the instructor as facilitator and the redesign of traditional courses to fit an Internet-based environment were discussed for a count of 32 each. Pedagogical practices described in this combined listing of best practice and recommended practice pedagogies provided the basis for pedagogical statements that made up the content of the two survey instruments.

Table 6

Categories for Pedagogical Practices Recommended in the Professional Literature Listed by Frequency of Practices Included in Each Category

Categories	n & % Practices Discussed in the Literature
(Interaction in all forms)	130 (23%)
General discussion of and recommendations for Interaction	39 (7%)
Technology issues	36 (6%)
Assessment of student learning	35 (6%)
Interaction utilizing forum/threaded discussion	34 (6%)
Role of instructor as facilitator	32 (6%)
Redesign from traditional course format to Internet-based format	32 (6%)
Objectives/Outcomes	28 (5%)
Organization of course	28 (5%)
Orientation to course	26 (5%)
Feedback to questions and student assignments	23 (4%)
Interaction between instructor and each student	23 (4%)
Collaborative learning activities	21 (4%)
Course page design	20 (4%)
Student evaluation of course	19 (3%)
Resources needed for course activities	18 (3%)
Interaction among students	16 (3%)
Active learning activities	13 (2%)
Student expectations and instructor expectations	13 (2%)
Andragogy and strategies appropriate for adult learning experiences	12 (2%)
Student learning styles	12 (2%)
Authentic learning	10 (2%)
Critical thinking	9 (2%)
Developing learning communities	9 (2%)
Navigation through the course site	7 (1%)
Content development	6 (1%)
Cues missing in printed text, netiquette	6 (1%)
Interaction through electronic chat	5 (1%)
Office hours scheduled	5 (1%)
Learner centered activities	4 (1%)
Consistency in various aspects of the course	3 (1%)
E-Portfolio development	3 (1%)
Academic instructions developed	1 (0%)
E-Lecture provided	1 (0%)

Research Question 5

What professional development needs in pedagogical practices for Internet-based teaching and learning do adjunct instructors in the community college Internet-based environment identify?

To answer Research Question 5, adjunct instructor responses to survey statements in sections #2, #4, #6, and #8 were analyzed. Frequency counts and percentages described adjunct-reported professional development interests (as seen in Appendix E Table 58). Eight of the 16 adjuncts indicated an interest in professional development for designing course pages utilizing color, images, animation, movement, humor, sound, voice, and/or video, and six indicated interest in planning for academic procedures in the event of technology failure. Six adjuncts were interested in learning more about providing visuals to enhance content and five in designing a course where students "learn by doing." Five indicated interest in learning how to better utilize a variety of strategies appropriate to Internet-based teaching.

Research Question 6

Is there a relationship between student achievement and the sum of all recommended practice ratings for a described course as rated by students?

Statistics were run to consider Research Question 6 in two different ways.

Research Question 6, Inquiry 1

For the first inquiry, through analysis of described courses a new variable was developed that provided for each course a summed count of student-reported presence of listed recommended practices. This variable was developed from student responses to survey sections

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#17, #19, #21, and # 23. (Statement 3 of section #23 was excluded from the count: "All quizzes and exams for this course were taken as online activities." This variable was included in the survey to provide information about how testing was handled by adjuncts and was not a recommended practice collected from the literature.)

Analysis to determine presence of recommended practices in each described course revealed that two student participants did not identify the described course and four students listed more than one course, making it impossible to determine that only one specific course had been described. Courses described by these six students were eliminated from total course pedagogical practice presence count.

A total of 33 course sections had multiple respondents; thus thirteen individual courses received multiple ratings (as seen in Table 7). Of the 33 courses with multiple respondents, 4 summed student-reported course presence scores had a difference of 10 points or greater, while 29 presence scores were enumerated more closely with differences of 9 or fewer points.

Table 7

Student-Reported Presence of Recommended Practices in Courses with Multiple Descriptions

Course	Presence Ratings for Multiple Descriptions of Course			
	Student 1	Student 2	Student 3	Student 4
1. Behavioral/social science (1)	38	38	38	38
2. Behavioral/social science (2)	25	32		
3. Behavioral/social science (3)	29	29	35	
4. Business (1)	26	26		
5. Business (2)	23	26		
6. Business (3)*	19*	33	35*	
7. Criminal Justice (1)*	30*	43*		
8. Computer (1)	33	37		
9. English (1)*	16*	33*		
10. Humanities (1)*	10*	42*		
11. Math (1)	38	41		
12. Psychology (1)*	30*	38	43*	
13. Religion (1)	34	38		
14. Paralegal (1)	32	33		

* = 10 point or greater difference between student rated score totals for multiple descriptions of a course

(Pearson r = .182, Standard error = .107, p = >.05). Sample size was 81 cases matched with scores.

As indicated above, to develop this new variable describing presence of recommenced

practices in each described course student survey sections #17, #19, #21, and # 23 were

analyzed,. Responses for all evaluated statements in these sections were "Yes," "No," and "Not Applicable/No Opinion." "Yes" responses were valued at 1, "No" responses at 0, and "Not Applicable/No Opinion" responses were set at "User Missing" status and eliminated from the count. No attempt was made to evaluate level of use or effectiveness of recommended practices reported as present. Responses were summed through SPSS frequencies procedures. Total "yes" responses for each described course provided a summed total presence of individual recommended practices in each course (as seen in Appendix E Table 59).

To answer Research Question 6, "Is there a relationship between student achievement and the sum of all recommended practice ratings for a described course as rated by students?" Pearson's Correlation Coefficient statistical procedure was utilized to determine whether there was a relationship between the "reported course presence" variable developed above and average course scores for all students enrolled in a described class during Fall 2003. Analysis utilized an alpha level of .05.

There is no statistically significant relationship between the distribution of average course-wide final scores and student-described counts of pedagogical practice.

Research Question 6, Inquiry 2

For the second inquiry designed to answer Research Question 6, Chi Square Test of Independence was utilized to determine if there is a relationship between student rating of course presence of recommended practice and student response to the survey statement "Possibilities for academic achievement were strengthened by instructional practices included in this course."

Interval data student reported presence scores for each described course, as developed for Inquiry 1 above, were categorized to develop a new categorical data variable for student reported

course presence of practices. Presence scores 0–14 were set to the value of 1; 15–24 to 2; 25–34 to 3; 35–44 to 4.

Chi Square Test of Independence was utilized to test the relationship of data from this new categorical presence variable to Likert data from student responses to the survey statement, "Possibilities for academic achievement were strengthened by instructional practices included in this course."

Results (as seen in Appendix E Table 60) indicate that there is a statistically significant relationship between reported presence of recommended practices in a described course and reported strengthened possibilities for academic achievement ($x^2 = 51.107$, d.f. = 9, sig. = .000). Thirteen students strongly agreed that instructional practices designed into a course with a presence score of 35 to 44, the highest category for presence of recommended practices, strengthened possibilities learning, when 7.4 students would have been expected. No students disagreed or strongly disagreed that instructional practices designed into a course with that level of presence, 35 to 44, strengthened possibilities for academic success when 3.8 would have been expected. Seventeen students strongly agreed that instructional practices designed into a course with a presence score of 25 to 34, the second highest category for presence of recommended practices, strengthened possibilities for academic success when 15.2 would have been expected. Two students disagreed or strongly disagreed that instructional practices designed into a course with that same presence score, 25 to 34, strengthened possibilities for academic success when 7.8 students would have been expected. Six students disagreed or strongly disagreed that possibilities for academic success were strengthened in courses with a presence score of 0–14, the lowest presence category, when 1.8 would have been expected.

Research Question 7

Is there a relationship between student satisfaction and the sum of all recommended practice ratings for a described course as rated by students?

To answer Research Question 7, Chi Square Test of Independence was utilized to determine if there is a relationship between summed recommended practice ratings for a course and student response to the survey statement "Instructional practices designed into this course were satisfactory."

Interval student reported presence scores for each described course were categorized, as in Research Question 6 above, to develop a new categorical data variable for student reported presence of practices. For this variable, presence scores 0–14 were set to the values of 1; 15–24 to 2; 25–34 to 3; 35–44 to 4.

Chi Square Test of Independence related categorical data from this new presence variable to categorical Likert data from student survey statement "Instructional practices designed into this course were satisfactory" to determine if there was a relationship between the presence of recommended practice and student perceptions of satisfaction.

Results (as seen in Appendix E Table 61) indicate that there is a statistically significant relationship between student reported utilization of recommended practices in described courses and student responses to the statement "Instructional practices designed into this course were satisfactory." Results: $(x^2 = 46.740$, d.f. = 9, sig. = .000). Twelve students strongly agreed that instructional practices designed into a course with a presence score of 35 to 44, the highest category for presence of recommended practices, were satisfactory when 7.9 students would have been expected. Twenty-two students agreed that instructional practices designed into a course with a presence score of 25 to 34, the second highest category for presence of

recommended practices, were satisfactory when 16.4 would have been expected. No students disagreed or strongly disagreed that instructional practices designed into a course with a presence score of 35 to 44, the highest category for presence of recommended practices, were satisfactory when 3.5 students would have been expected. Two students disagreed or strongly disagreed that instructional practices designed into a course with a presence score of 25 to 34, the second highest category for presence of recommended practices, were satisfactory when 7.3 students would have been expected.

In contrast, 6 students disagreed or strongly disagreed that instructional practices designed into a course with a presence score of 0 to 14, the lowest category for presence of recommended practices, were satisfactory when 1.9 students would have been expected.

Research Question 8

> Is there a difference between student academic achievement in traditional "face-to-face" courses and in comparable Internet-based courses with a high degree of best practice and recommended practice pedagogy?

To answer Research Question 8, content analysis procedures were utilized in follow-up voice-mail and email interviews with six adjunct instructors. The researcher conducted telephone interviews (and one email correspondence) with these instructors from March 1 through March 21, 2004. These adjuncts were not asked whether they had participated in the Internet-based survey.

These six adjuncts were recommended by campus administrators because of their successful use of Internet-based pedagogical practices in Internet-based classes. They were asked to respond to the question "Do you see a difference in student achievement or satisfaction

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between the traditional and Internet-based environments and, if so, have you identified any instructional or course design elements that you perceived to be related to that difference?"

Five adjuncts made telephone appointments to discuss their experiences with both traditional and Internet-based teaching; the sixth asked to communicate through email. Telephone conversations lasted between 25 and 35 minutes and three email messages were received in response to Research Question 8. Two adjuncts have a doctorate's degree, two have a master' degree, and one has two a master's degrees. Educational experience for the sixth instructor is unknown. For traditional teaching experience, one has taught for 10 years, one 5-6 years, three 4 years, and one "several years." For Internet-based experience, two have taught online for 3 years, one for 2 1/2 years, two for 1 year, and one for "several years." Three created the Internet-based course they are now teaching and one teaches for both the Internet-based and face-to-face programs at this community college. Several are teaching face-to-face courses for other institutions.

During the interviews categories for pedagogical practices emerged during discussion of student achievement for traditional and Internet-based courses and pedagogical practices that may influence that achievement. Of the 41 pedagogical practices included on the student survey, 18 were mentioned (as seen in Table 8) during these brief unstructured discussions of student achievement in Internet-based courses. Individual adjunct responses for each practice were listed (as seen in Appendix E Table 62).

Table 8

Frequency of Recommended Practices Cited by Community College Adjunct Instructors in Follow-up Interviews

Statement	Number of Times Discussed
1. Multiple student/student, student/instructor interaction	13 (25%)
2. Collaboration required	4 (8%)
3. Expected time commitment published	4 (8%)
4. Guidelines for behavior published	4 (8%)
5. Internet-based library and resources provided	4 (8%)
6. Course content clearly written	3 (6%)
7. Timely feedback policy published	3 (6%)
8. Concise E-lecture provided	2 (4%)
9. Content made relevant to student experience	2 (4%)
10. Course well organized	2 (4%)
11. Site edited to avoid errors and inconsistencies	2 (4%)
12. Student activities extend E-lecture	2 (4%)
13. Technical training for course activities	2 (4%)
14. Design includes consistent organization	1 (2%)
15. FAQ page published	1 (2%)
16. Response constructive and non-threatening	1 (2%)
17. Technical support access published	1 (2%)
18. Unconventional office hours published	1 (2%)

Content analysis of these interviews showed that all five instructors who answered the question agreed that there is "little or no difference" in student achievement in the two platforms and that it is the student in each platform who bears responsibility for achievement, not the medium in which the course is presented. Responses included the following. (1) "I don't see much difference; they get out what they put in and that's the same across both models." (2) "Student success is no different." (3) "Students need 'Presence'; they need to 'be there' and participate…. But grades are the same, essay responses are the same either way." (4) "Success online is up to the student." (5) "There is no significant difference; there are the same number of As, etc." (6) The sixth instructor used this question to discuss the differences for the instructor in evaluating achievement.

Summary

For Research Question 1, adjunct instructors reported timely instructor response to student assignments and questions to be the practice with the highest importance to students success and satisfaction in the Internet-based community college environment. Constructive and non-threatening response was rated by instructors as the second most important and providing technical training activities was third.

For Research Question 2, students reported a well organized course to be most important to student achievement and satisfaction in the community college Internet-based environment. A course where the content matches course objectives was rated second in importance, and constructive and non-threatening instructor response was ranked third.

For Research Question 3, summed student-ranked practices in described courses indicated that providing clear learning objectives was the listed practice most often found in

described courses. Providing and publishing clear due dates for assignments, and making them accessible from many pages was ranked second. Ranked third was publishing a policy for contact to instructor and to student in the event of technology failure.

For Research Question 4, practices related to interaction between instructor and student and among students had the greatest number of discussions in the professional literature. Technology issues were discussed next most often, and assessment issues were ranked third in discussion.

For Research Question 5, adjunct instructors at this Central Florida community college indicated their greatest pedagogical interest for professional development to be learning to use color, pictures, animation, movement, humor, sound, etc., in their course pages. The next most requested practice for professional development was help with planning for academic procedures in the event of technology failure, and third most requested was learning to utilize visuals to enhance learning in Internet-based courses.

For Research Question 6, no significant difference was identified between the sum of reported presence for all pedagogical practices and final average course scores. However, when testing to determine whether there was a relationship between summed reported presence of practices in a described course and student perception that possibilities for academic achievement would be strengthened by including these instructional practices, there was a statistically significant relationship between summed practices and perceived student academic achievement.

For Research Question 7, there was a statistically significant relationship between summed reported course presence of individual recommended practice and student reported satisfaction with the course.

For Research Question 8, five of six community college adjunct instructors reported that there is little or no difference between student achievement in the traditional and Internet-based courses that they teach. The sixth instructor did not respond to the question.

CHAPTER FIVE

DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

Discussion

This study was designed to examine the use of best practice and recommended practice pedagogy in the Internet-based classroom of the community college adjunct instructor. Research Questions sought to identify recommended refocused pedagogical practices for the Internet-based educational environment, to determine the extent to which those refocused pedagogies were utilized and valued in the adjunct-instructed community college classroom, and to better understand the results of that use for student achievement and satisfaction.

Because of the unique challenges this new platform presents, pedagogical practices traditionally utilized for the face-to-face classroom environment often have been determined inappropriate in their original form for this new teaching environment. Educational leaders are attempting to sort out what pedagogy "works" in this still "under construction" (Brace-Govan & Clulow, 2000, p. 118) Internet-based educational experience. Large numbers of studies and anecdotal reports are available in texts and journals, both on- and off-line, but little synthesis of available information on appropriate practices is available for many local practitioners. This research has attempted to bring together in one place information about recommended practices from the larger professional literature and information about local experience relating to those practices. This study focuses on the importance of these recommended pedagogical practices to community college adjunct instructors and their students and the manner in which many elements of the internet-based experience interrelate with one another. The study attempts to develop for local community college educational programs a greater understanding about which

pedagogies "work" to create quality Internet-based teaching and learning and to discover how

those pedagogies impact adjunct instructors and their students at the local level.

Discussion: Research Question 1

What pedagogical practices for Internet-based teaching and learning do adjunct
instructors in the community college Internet-based environment identify as best
practice and recommended practice?

In an attempt to discover the Internet-based pedagogical practices that "work" at the local

level, this research study surveyed Internet-based adjunct instructors at a Central Florida

community college to determine their perceptions of the importance of 43 pedagogical practices

to student achievement and satisfaction. Instructors rated six recommended practices "essential

practice," and therefore, as defined by this study, "best practice" pedagogical methods and

strategies. The highest "essential" rating affirmed instructors' perceptions of the importance of

timely instructor response to student questions and assignments. This practice is also defined as

best practice by Phipps and Merisotis (2000) in their study "Quality on the Line," developed for

the Institute for Higher Education Policy. The practice with the next highest "essential" rating

also dealt with appropriate instructor response to student questions and assignments,

emphasizing the importance of constructive, non-threatening feedback to student questions and

assignments. This practice, too, is defined best practice by Phipps and Merisotis. The third

practice rated "essential" and therefore best practice by adjuncts recommended that course

design include training for students in course-required hardware, software, and technology skills.

A fourth practice rated "essential," and therefore best practice, specified that students should

"learn by doing" through the utilization of student-centered strategies such as research

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assignments, compositions, special projects, debates, and other active learning activities. The

final two pedagogical practices that adjuncts viewed as "essential" and therefore best practice

were related to technology. Adjuncts affirmed the importance of a developed and published

policy for contact between the instructor and students in the event of a technology failure and the

importance of a clear and published statement to provide easy access to institutional technology

support in the event of technical problems.

Of the six "essential" best practices as rated by adjunct instructors, two were defined best

practice by Phipps and Merisotis in their 2000 study. Three others were recommended practices

from educational associations, and the sixth was recommended by researchers from the broader

professional literature. Two practices focused on support for students and their questions and

assignments, one focused on student-centered activities to help students learn, and the final three

were related to the technology that makes Internet-based teaching and learning unique. One half

of the practices rated "essential" and best practice were concerned with maintaining the

effectiveness of the technology upon which this new environment depends. This emphasis on

maintaining a solid and secure technical capability for the course shows adjunct recognition of

the critical nature of the technology that allows the course to function for student learning.

Discussion: Research Question 2

What pedagogical practices for Internet-based teaching and learning do students
of adjunct instructors in the community college perceive would, if successfully
applied, improve student learning and satisfaction?

While instructors rated five recommenced practices with the highest rating of "essential,"

students "strongly agreed" that 15 practices, if successfully implemented in Internet-based

courses, would be important to student achievement and satisfaction in the Internet-based environment. The practice with the highest "strongly agree" rating affirmed the importance of well organized course design. Emphasizing the point with their highest ratings, students indicate that they want order instead of the confusion and frustration created by lack of organization in course design. Students clearly indicate that they want stability that they can count on in course design and instruction. They "strongly agree" that they expect the content of the course to match the published objectives so they can be confident about where their learning is headed and what learning will be expected of them. They "strongly agree" that they want to know what those objectives are and that they want the objectives to be clear and easily accessed. They "strongly agree" that they want consistency in course design, in organization of units, in openings and closings of course content. They "strongly agree" that they want to be able to trust that the course will download correctly on their computers and that the course site will be free of errors and inconsistencies. They "strongly agree" that they want the security of navigation through the course that accompanies effective headings clearly labeling the content of pages and units and activities. Students indicate through their responses that they prefer structure and security that will minimize external frustrations and allow them freedom to concentrate on the demands of mastering the content of the course.

Students also showed through their ratings that they "strongly agree" that possibilities for success and satisfaction are enhanced when the course includes high readability text to express content, with that text positioned on course pages that minimize extensive scrolling for screen after screen. Links are "strongly agreed" to be appropriate Internet-based tools that provide access to many chunks of information that would be overwhelming were they all positioned in a long sequence of screen after screen filled with text.

Students strongly agreed that they preferred to learn through sequential steps based on prior knowledge or previous learning. They strongly affirmed the importance of course activities that allowed them to "learn by doing" rather than simply reading assigned materials and texts. They strongly agreed that they preferred course activities that were both varied and appropriate for the Internet-based platform.

And, finally, students "strongly agreed" on the importance of a relationship with the instructor in which response to their questions and assignments was timely, constructive, and non-threatening.

In a comparison of adjunct and student perceptions about the most important practices for Internet-based courses, only three of the six practices chosen as most important by adjuncts were chosen as most important by students: timely instructor response; constructive and non-threatening response, and active "learning by doing." Of the other three instructor choices related to technology, none were included in students' 15 reported most important practices. This lowered concern about the technical aspects of the course suggests that students have faced few problems with required technology. Significant problems with the technology would have created major frustration for students, and results of the student survey show no evidence for these kinds of frustrations. The evidence suggests instead that both instructors and the institution have handled technology issues so as to have instilled confidence in students relating to the stability of technical elements of the course.

Of these 15 practices about which students strongly agreed as important to student achievement and satisfaction, three were defined as best practice by Phipps and Merisotis (2000). Two were recommended by educational associations. The remaining 10 practices were recommended by individual authors writing in the professional literature about anecdotal

experiences and research studies. This may be a significant point for educators to note. Had this study been simply about best practices, or even had it included, as well, practices recommended by educational associations, 10 of the 15 practices reported as most important to students would have been overlooked.

Discussion: Research Question 3

What pedagogical practices for Internet-based teaching and learning do students of adjunct instructors in the community college perceive as present in the classes of adjunct instructors?

Of all of the recommended practices identified from the literature, students reported that the practice with the highest level of presence in the courses of their adjunct instructors was the practice that required clear learning objectives published for student understanding and planning. This would be an expected response because the college requires that all course sites list course learning objectives.

Students reported that the practice with the next highest presence in described courses was clearly labeled course pages that allowed students to more easily find their way around on the site. For another practice reported present in the greatest number of courses, content on those pages matched published objectives. Clear assignment due dates were published and available from many course pages, and activities listed on those assignment pages required students to "learn by doing." Course content was clearly expressed on course pages, with generous white space and minimized lines of text. Policies were published for contact in the event of technology failure, downloads appeared to have been checked for suitability for student computers, and

access to technical support was clearly published. Instructor contact was characterized as constructive and non-threatening.

Practices reported by students to be least evident in adjunct instructed courses included assigned collaborative activities, student-centered activities to extend the learning beyond the basic content of the e-lectures, and visuals included on course pages to enhance learning.

Discussion: Research Question 4

What pedagogical practices for Internet-based teaching and learning are identified as best practice and recommended practice in the professional literature?

Eleven best practice pedagogical practices were identified from the professional literature; all were defined and recommended as best practice by Phipps and Merisotis (2000). These best practices informed Internet-based teaching in six categories: objectives and outcomes, interaction, resources and research, feedback, expectations, and evaluation. Educational associations (including the Institute for Higher Education Policy, represented by Phipps and Merisotis, 2000) recommended a total of 70 overlapping practices adding categories for technology issues, assessment, learner-centered activities, content development, and learning communities.

Content analysis of the total 144 professional pedagogical sources evaluated from the literature extended the number of categories into which recommended practices were divided by 23, for a total of 34 categories for all recommended pedagogical practices. A total of 562 references related to recommended practices was identified and categorized. The surveys for this research study were developed from practices identified and collected into those categories.

What professional development needs in pedagogical practices for Internet-based teaching and learning do adjunct instructors in the community college Internet-based environment identify?

Because the field of Internet-based learning is so young, because this is a time of tight budgets in higher education, and because Internet-based programs are growing at such a phenomenal rate, many institutions have had little time and little funding available for professional development for instructors. Instructor training often provides only the basic skills needed to get courses up and running. Not only is clear understanding of the pedagogy for the Internet-based environment still uncertain in the field, in many cases across the nation what is known is not being shared with instructors to inform improved instruction. Typically, many instructors in face-to-face higher education programs focus on subject matter content and their presentation is through lecture. Professional development in the refocused pedagogy for the Internet-based environment is needed to provide these instructors with appropriate pedagogical alternatives. Large numbers of instructors are moving from the traditional higher education classroom to Internet-based experiences, often with no training in online strategies and no training in the needs of adult learners. They may know little about active learning, Constructivist techniques, or Cooperative Learning activities. While pioneering institutions have extensive programs of professional development for their Internet-based instructors, in many other institutions both full-time and adjunct instructors are unprepared for the refocused pedagogy of the platform through which they teach.

The adjunct instructor in the community college Internet-based program faces these challenges, as do other Internet-based instructors throughout the nation. Professional

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development in appropriate refocused pedagogy for the Internet-based environment is a critical need in those many institutions where there is little or no training available for faculty. However, when professional development opportunities are available, adjuncts often discover that training is offered for full-time staff only. Adjunct instructors are providing instruction for large numbers of learners in colleges and community colleges throughout the country and their institutions have done little to prepare them to provide the training that would ensure a high quality course for their students (Lyons, Kysilka, & Pawlas, 1999, p. xiii).

On the other hand, Internet-based adjuncts may have little time for taking part in any professional development opportunities that might be available. Like their students, they may, of necessity, interact with their courses at unconventional times. Like their students they may have careers beyond their Internet-based teaching commitment. Like their students, they may have pressing family commitments or they may travel regularly. In addition, Internet-based teaching is recognized for its intensive time commitment, with instructors in constant communication with students and their work at all hours of the day and night. To find a suitable time for professional development for instructors with such diverse schedules and so little available time is no easy task. However, providing professional development opportunities is important. Involving adjuncts in professional development opportunities that would prepare them for effectively teaching students would be a significant step toward greater quality course design and instruction for instructors, for students, and for the institution.

For the institution attempting to improve quality in its Internet-based programs by providing professional development for adjunct instructors …and perhaps for full-time instructors as well…what practices should be emphasized? Instructors themselves could indicate the practices that they would be interested in learning more about. However, since many

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instructors in higher education are competent in their subject matter but untrained in pedagogy, it is possible that they will not clearly recognize all that they don't know about pedagogical practices. For example, collaborative group work is ranked at the bottom of students' reported presence list for practices included in described courses, but it is highly recommended in the literature. Those who do not understand how it is implemented or what it could do for a learning community might likely not choose to learn more about this practice. Even so, asking instructors to indicate the pedagogies that they would be interested in receiving professional training for is a good place to start.

For this study, instructors indicated that they would most like training related to utilizing color, pictures, animation, movement, humor, sound, voice, and/or video in course page design. Professional development for adding visuals to content pages to enhance learning and for planning continued learning opportunities in the event of technology failure were the next highest adjunct priorities. Instructors also expressed interest in learning appropriate Internet-based strategies to enable them to add variety to their instruction.

A second way to determine practices for which professional development is needed would be to evaluate the presence…and lack of presence… of recommended practices in the institution's Internet-based courses. A recommended practice with a low level of student-reported presence might be a method or strategy that instructors could profit from learning more about. Student reported presence of practices indicates that the practice with the lowest level of presence is group collaborative work, noted in only 23 of the 89 course descriptions, with 74 students responding. The practice with the next lowest level of presence is student-centered activities that develop additional information to extend content of concise electronic lectures. Providing course pages that include visuals to enhance content is also rated among the four

practices with the lowest reported presence. Training in these practices, recommended in the professional literature, could provide instructors with strategies for instruction of which they are unaware.

Discussion: Research Question 6

Is there a relationship between student achievement and the sum of all recommended practice ratings for a described course as rated by students?

The relationship between student achievement and reported pedagogical practice was investigated in two ways.

First, student achievement in a course, as evidenced by final average course-wide scores, was related to the summed total of reported pedagogical practices for each course. No relationship was found between presence of recommended pedagogical practices in a course and final scores. This result is not unexpected because of the many extraneous variables involved in determining final course scores. Pedagogical practices included in a course are one of many factors influencing grades. Instructors may routinely utilize a curve for determining final scores for their students. Grades may be raised or lowered based on institution expectations or on the unique composition of a specific class. The instructor may teach a very difficult course, causing the grades to fall or to be raised artificially. There are differences among groups of students, with variations in achievement and attitude. Life experiences, educational background, and technical background will be different between students in courses and disciplines. Students could be highly motivated or completely uninterested. Student hardware or software could impact learning and make achievement more difficult. Pedagogical practices would be just one of many variables to influence the grades of a class.

But, while pedagogical practices may be just one of many variables to impact grades, those practices may strengthen…or not strengthen…student perceived possibilities for academic success. For the second analysis to determine whether there is a relationship between reported presence of pedagogical practices in a course and student achievement, student response to the statement "Possibilities for academic achievement were strengthened by instructional practices included in this course" were evaluated. Of a total of 82 student respondents, four strongly disagreed with this statement; 15 disagreed; 27 agreed; and 36 strongly agreed. Thus, of the 82 students, sixty-three either agreed or strongly agreed that the instructional practices designed into the described course strengthened possibilities for student academic achievement. Nineteen either disagreed or strongly disagreed. Student response to their academic experience in the Internet-based courses of this Central Florida community college indicates that 77% of students responding perceived that the instructional practices utilized in their courses positively impacted their learning.

For this second method of inquiry for Research Question 6, total reported pedagogy in a course was related to student response to the statement "Possibilities for academic achievement were strengthened by instructional practices included in this course." The relationship between student perception that academic achievement was strengthened and the level of pedagogy included in a course was statistically significant. Thus, students perceive, with a high degree of significance, that their learning is impacted by the presence…or lack of presence…of recommended pedagogical practices. Results of this statistical analysis indicate clearly that to ensure greater academic achievement for learners, institutions should make training in Internet-based pedagogy for both adjunct and full-time instructors an institutional priority. Learner

success and achievement builds programs, and growing programs positively impact the institution.

Discussion: Research Question 7

Is there a relationship between student satisfaction and the sum of all recommended practice ratings for a described course as rated by students?

To determine if there is a relationship between reported presence of practices in a course and student satisfaction, summed presence for each practice reported present in a course was related to student survey responses to the statement "Instructional practices designed into this course were satisfactory." Responses to this statement included 4 students who strongly disagreed; 14 who disagreed; 26 who agreed, and 39 who strongly agreed. Sixty-five students of the 83 respondents reported that the instructional practices utilized in the course were satisfactory. Eighteen, or 22%, did not agree. Student response to their experience in the Internet-based courses of this Central Florida community college indicates that 78% of students responding perceived that the instructional practices utilized in their courses positively impacted their satisfaction with the course experience.

There was a statistically significant relationship between total presence of practices in a course and student response of satisfaction…or lack of satisfaction…with the course. Thus, students perceive, with a high degree of significance, that presence… or lack of presence…of recommended pedagogical practices in a course impacts student satisfaction with the educational experience. Results of this statistical analysis indicate clearly that to ensure greater satisfaction in learners, institutions should make training in Internet-based pedagogy for both adjunct and full-

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time instructors an institutional priority. Learner satisfaction builds programs, and growing programs positively impact the institution.

Discussion: Research Question 8

Is there a difference between student academic achievement in traditional "face-to-face" courses and in comparable Internet-based courses with a high degree of best practice and recommended practice pedagogy?

Internet-based adjunct instructors, recommended by campus administrators for outstanding utilization of Internet-based pedagogies in their courses, perceive that there is "no significant difference" in student achievement between traditional and Internet-based learning platforms. Each of the six adjuncts interviewed had teaching experience in both platforms. They compared achievement in Internet-based courses with achievement in related courses taught for traditional programs.

Four of the five adjunct instructors who responded to the question of whether there was a difference in achievement between the two instructional platforms stated that there was "little or no difference." They stated "I don't see much difference"; "student success is no different"; "grades are the same, essay responses are the same either way"; and " there is no significant difference, there are the same number of As, etc." The fifth instructor stated that "success online is up to the student." Others agreed: "They get out what they put in and that's the same across both models"; "Students need 'Presence'; they need to 'be there' and participate."

Instructors reported that problems with technology could have an impact on student achievement in the Internet-based classroom. One stated that "problems come for some students when they are new at the technology required for the course. Students need some advance

computer background or the ability to take an online class and be comfortable. Otherwise they often withdraw in frustration." Another added, "When they get the technology going well they can handle the content." A third also commented, "Technical support from the Help desk is very important" for student achievement and satisfaction.

Conclusions

Lessons from the Literature, the Instructor, and the Student

"Quality assurance in e-learning has been a paramount concern for institutions nationwide…. Quality assurance policies can help guide" Internet-based teaching and learning (Edutools2003). A focused discussion on the value of each recommended pedagogical practice can provide a framework through which to inform quality assurance efforts and policies for individual instructors and local programs as they strive to develop quality Internet-based courses that utilize appropriate pedagogical practices. The Global Alliance for Transnational Education (2000) directs that "courses must be pedagogically sound with respect to the methods of teaching and the nature and needs of the participants." In 1997, Dasher-Alston and Patton stated that "much of the apprehension surrounding [Internet-based] distance learning stems from uncertainty regarding quality assurance" (p. 13). In 2004, seven years later and following phenomenal growth of Internet-based programs, the field still faces uncertainty in the development of quality Internet-based courses for this young educational platform. It is difficult for those busy "in the trenches" of Internet-based teaching to sort out the extensive and developing published research and anecdotal sources on Internet-based pedagogy. It is difficult for staff members, already fully committed to running the local Internet-based programs, to

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collect the findings from each publication, to determine the importance of the practices discussed, and to organize those practices into a format that can be easily accessed by those who need them the most…instructors busy in their virtual "classrooms." The following synthesis of recommended practices, adjunct perceptions and needs, and student perceptions, provides focus to assist local practitioners as they strive to make pedagogically sound decisions for Internet-based instruction.

To help practitioners clarify for themselves the value and importance of the 43 recommended Internet-based practices evaluated in this research study, conclusions for this research have been organized to focus evidence and analysis in one brief description and to allow synthesis between the two. The findings from this local study juxtaposed against national trends could provide additional perspective to the study of the refocused pedagogy for Internet-based teaching and learning. Conclusions related to individual pedagogical practices identified as best or recommended practice for the adjunct, as well as the full-time, instructor in the Internet-based environment are discussed individually below.

For each practice, discussion will first focus briefly on information collected to answer Research Question 4 "What pedagogical practices for Internet-based teaching and learning are identified as best practice and recommended practice in the professional literature?" Discussion is organized to provide a quick overview of the literature related to each specific pedagogical practice, allowing readers to determine the level of importance indicated in the literature for the use of that practice. Following this brief review of the literature, findings from Research Questions 1, 2, 3, and 5, perceptions about each practice from the point of view of adjunct instructors and their students, are summarized, allowing practitioners to consider the practice from four additional emphases.

Terminology utilized in the discussion below is related to survey responses provided by adjunct instructors and the students of adjunct instructors. "Adjunct-Reported Importance" rates the reported importance of the pedagogical practice to participating adjuncts. A mean of 0 to 1.4 indicates adjuncts rated this practice to be "unacceptable practice"; 1.5 to 2.4, "acceptable practice"; 2.5 to 3.4, "good practice"; 3.5 to 4.0, "essential practice" or " best practice."

"Student-Reported Importance" rates the reported importance of each pedagogical practice to participating students of adjunct instructors. Students rated their perceptions that use of the practice would improve student achievement or satisfaction in an Internet-based course. A mean of 0 to 1.4 indicates that the student "strongly disagrees" that use of the practice would improve achievement or satisfaction; 1.5 to 2.4 indicates "disagree"; 2.5 to 3.4 indicates "agree"; 5 to 4.0 indicates "strongly agree" or "very important" to student achievement and satisfaction.

Student-Reported Presence" is a summed count of student-perceptions of the presence of the practice in each described course. "Adjunct Interest in Professional Development" is a summed count of instructor interest in professional development for a specific practice.

Lessons from Adjunct Survey Section 1, Orientation, Statements 1 and 2

"Orientation includes clearly written behavioral course objectives," and
"Orientation includes a clearly written, straightforward summary of course learning outcomes."

Discussion in the Professional Literature: Best Practice

"Students are provided with supplemental course information that outlines course objectives, concepts, and ideas, and learning outcomes for each course are summarized in a clearly written, straightforward statement" (Phipps and Merisotis, 2000, p. 26).

Discussion in the Professional Literature: Recommendations from Educational Associations

1. "Distance learning programs organize learning around demonstrable learning outcomes" (American Council on Education, 2002) that are "described in observable, measurable, and achievable terms" (American Council on Education, 2003). "The learning experience must have a clear purpose with tightly focused outcomes and objectives" (American Distance Education Consortium, 2002).

2. Course "offerings must be guided by goals and objectives understood by students who enroll in" the courses (Global Alliance for Transnational Education, 2000).

3. "Learning goals should be defined as part of the instructional design plan…. Provide learners with a set of learning objectives at the beginning" of the term of study (Innovations in Distance Education, 2002).

Discussion in the Professional Literature: Recommendations from Researchers

1. "There is a direct relationship between the quality of the objectives and the qualiy of the course itself" (Moore, M., 2001, p. 2).

2. Learning objectives and outcomes must determine the methods, strategies, technologies, and learning experience designed into an Internet-based course (Belanger and Jordan, 2000).

3. Provide a clearly written, straightforward statement of course objectives and outcomes (Boehler, 1999; Dasher-Alston, & Patton, 1998; Dewal, 1984; Egerton & Posey, 2002; Guvenoz, 2002; Harrison, 1999; Hiltz, 1994; Moore, Winograd, & Lange, 2001: Ramachandran, 1984; Twigg, 2003).

Table 9

Results from this survey for the statement "Orientation includes a clearly written, straight forward summary of course learning outcomes"

Adjunct-Reported Importance (Low=1, High=4)	Student-Reported Importance (Low=1, High=4)	Student-Reported Presence Out Of 89 Described Cases	Adjunct Interest in Professional Development
Mean = 3.25 Good Practice	Mean = 3.57 Strongly Agree: Important	83	2 of 16 instructors 13%

This pedagogical practice is supported by the literature. It is defined as "best practice" by Phipps and Merisotis (2000) and is regularly cited by recommending educational agencies and by individual researchers for its importance to course design. Statements of learning objectives are required for every Internet-based course in this Central Florida community college, and results from the survey indicate that both adjunct and student participants value clear, straightforward learning objectives that guide content, activities, and assessment. Students perceive that these objectives are present in 83 of the described cases and adjunct interest in professional development (13%) suggests that there is little concern among instructors about deficits for this practice. Since basic course formats that include the statements of course objectives are often pre-prepared by full-time instructors, adjuncts may have little interest in rethinking or reestablishing course objectives. Because many instructors in higher education are untrained in educational pedagogy, however, the 13% who indicated interest may want to gain additional pedagogical knowledge or to improve the content or style for existing course

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objectives. With an instructor-reported mean of 3.25, these adjuncts would rate this practice "good practice" for a quality Internet-based course, a surprisingly low valuation for a practice so highly valued in educational circles. Students highly value this practice for a mean of 3.57, strongly agreeing that successful use of this practice would improve student achievement or satisfaction. The practice is defined as best practice by Phipps and Merisotis (2000).

Lessons learned from this study indicate that clearly written behavioral objectives are an important element of Internet-based course design. Once determined and posted they define and limit for the instructor the content that is to be taught and the learning that is to be assessed. They provide learners with a framework to structure expectations and to inform them when they have met the goals of the course. They are typically a required element of course design and they are highly valued by both educational professionals and, as evidenced by survey responses, students as well. Many experienced instructors in higher education have not been trained in developing behavioral objectives and professional development for writing behavioral learning objectives is an appropriate option for the community college adjunct instructor in the Internet-based campus.

Table 10

Results from the survey for the statement "Orientation includes a clearly written, straight forward summary of course learning outcomes"

Adjunct-Reported Importance (Low=1, High=4)	Student-Reported Importance (Low=1, High=4)	Student-Reported Presence Out Of 89 Described Cases	Adjunct Interest in Professional Development
Mean = 3.19 Good Practice	NA	NA	3 of 16 instructors 19%

Student surveys did not include a statement about learning outcomes because students would not be expected to be aware of the terminology or of any nuances in definition for the term. The terms "outcome" and "objective" are often used interchangeably in the literature and in practice, but some authors and agencies indicate that it is important to consider both in planning for student learning. Developing appropriate outcomes is slightly less important to adjunct participants than is developing appropriate objectives, but one additional instructor indicated an interest in leaning more about the use of outcomes in planning for Internet-based teaching. It is likely that many adjunct instructors surveyed use the terms "objective" and "outcome" interchangeably and training to utilize "outcomes" in course planning would be a good professional development option. With an adjunct-determined mean of 3.19, adjuncts would define this practice as "good practice" for a quality Internet-based course. It is defined "best practice" by Phipps and Merisotis.

Lessons learned from this study indicate that learning outcomes is a term that is used in different ways by different educators. In any inservice related to learning objectives the similarities and differences between objectives and outcomes could be discussed and clarified.

Lessons from Adjunct Survey Section 1, Orientation, Statement 3

"Orientation provides student training in basic software, hardware, and technology skills required for the course."

Discussion in the Professional Literature: Recommendations from Educational Association

1. A "learner's guide" provides clear, easy to apply instructions for utilizing relevant technology (American Council on Education, 1996).

2. To help reduce barriers to effective learning and establishing social relationships, participants should be afforded the opportunity to build confidence and competence with the distance education process and supporting technologies (Innovations in Distance Education, 2002).

3. Provide early training in required technology (Higher Education Program and Policy Council of the American Federation of Teachers, 2000).

Discussion in the Professional Literature: Recommendations from Researchers

1. Information about problems that can be anticipated in Web-based distance study, and how to avoid them, should be clarified for students in early training sessions (Instructional Technology Resource Center, 2001).

2. Instructors can support students by building early technology training experiences into the course (Chyung, 2001; Dios, 1994; Gunawardena & Duphorne, 2000; Hiltz, 1994; Meinke, 1994).

3. Students have indicated that they consider orientation to the course delivery system and related technical procedures to be important for student success (Tsay, Morgan, & Quick, 2000).

4. Begin the course with "warm-up" activities and assignments to introduce the web features utilized in the course (Fredericksen, Pickett, Shea, Pelz, & Swan, 2000).

5. To keep adult learners in the course have early-on training in the technical skills needed for the class (Chyung, 2001).

Table 11

Results from the survey statement "Orientation provides student training in basic software, hardware, and technology skills required for the course"

Adjunct-Reported Importance (Low=1, High=4)	Student-Reported Importance (Low=1, High=4)	Student-Reported Presence Out Of 89 Described Cases	Adjunct Interest in Professional Development
Mean = 3.69 Essential Practice	Mean = 3.21 Agree: Important	42	4 of 16 instructors 25%

Though not defined "best practice" by Phipps and Merisotis (2000) this pedagogical practice is supported by three recommending educational agencies and by individual researchers. In theory, judging by responses to this survey statement, adjuncts rate this practice highly, but in practice students report opportunities for training in the technology skills required for course activities to be available in less than 50% of their Internet-based courses. Formal activities provided to help students master required technology can help to avoid ineffective technology survival strategies where students learn only just enough "task specific" skills to "get by." This "self-directed" system of mastering course software and hardware can make it more difficult for students to acquire the crucial skills that would ultimately make them more comfortable in the course (Eastmond, 1995, p. 113). Once the course begins, students may be so concerned with learning course content that little time is left to focus on the technology. Without training, students may have little help in learning how to "use the online experience for successful completion of the course" (Eastmond, 1995, p. 103). Students in one study were discovered, after enrolling in an Internet-based class, to be lacking technical skills necessary for success. Students didn't have the skills to access the course, access or search the Internet, send email or

attachments, utilize word processing programs or the institution's Web software, or download and install software programs or plug-ins (Truman-Davis, Futch, Thompson, & Yonekura, 2000). Preparation for technical experiences through training has been shown to be a predictor for learner achievement and satisfaction in Internet-based course communication experiences (Gunawardena & Duphorne, 2000). Adjunct mean of 3.69 for reported importance level for technical training mirrors the importance of training expressed throughout the literature.

Lessons learned from this study indicate that the nationwide lack of training for technology required for Internet-based courses is verified locally by students' reported low 50% presence rating. For a student competent with technology, or experienced in Internet-based courses, this lack of training might not impact academic achievement, but for those who are technically inexperienced such training could be crucial to success and satisfaction in the course. Study results suggest that instructors do not ensure that the practice is included in their courses, even though they define it "essential" for a quality Internet-based course. Many younger students enter Internet-based higher education possessing advanced computer skills; these learners may not need the basic technical training that many older or less technically experienced learners require. Too, students experienced in Internet-based learning will not have the same need for training as an inexperienced learner. This may explain the lower level of concern ("agree" that it is important with a mean of 3.27) for training expressed by participating students. For those students who will struggle with the technical skills required for success in the course, however, training in the required technology might be the difference between frustration and success for those who need the support. Adjunct instructors might consider reserving the first class unit to provide experiences in the required technical elements of the Course Management System, saving content study for the next week. Those experiences could be related to course orientation

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goals and objectives. For example, students could introduce themselves to the class by posting to an appropriate threaded discussion; they could respond to another student's introduction by a technically correct reply; or they could provide their email address and other contact information in an email message to the instructor.

Lessons from Adjunct Survey Section 1, Orientation, Statement 4

"Orientation pages include clear instructions for access to Virtual Campus technical support."

Discussion in the Professional Literature: Recommendations from Educational Associations

1. "Students require reliable, extended time technical support throughout the course…. [It is important to] specify [for learners] the nature and extent of technical support" (American Federation of Teachers, 2000).

2. Learners should have easy access to needed technical support for immediate and accurate help when problems arise (Innovations in Distance Education, n.d.).

Discussion in the Professional Literature: Recommendations from Researchers

1. Timely and ongoing tech support should be available throughout the course (Chyung, 2001).

2. Students will need more contact and support in the beginning of a course so the instructor should ensure the student can access that help and support from the early days of the academic term (Instructional Technology Resource Center, 2001).

3. Learners should have easy access to needed technical support for immediate and accurate support when problems arise (Eastmond, 1995; Holland, 2000; Moore, G., Winograd, & Lange, 2001; Picciano, 2000).

Table 12

Results from the survey for the statement "Orientation pages include clear instructions for access to Virtual Campus technical support"

Adjunct-Reported Importance (Low=1, High=4)	Student-Reported Importance (Low=1, High=4)	Student-Reported Presence Out Of 89 Described Cases	Adjunct Interest in Professional Development
Mean = 3.50 Essential Practice	Mean = 3.31 Agree: Important	69	3 of 16 Instructors 19%

Adjunct responses indicate clear concern for providing students with support for course related technology problems, rating this practice "essential practice." Student perceptions of the importance of clear directions for access to technical support is in the high levels of "agree," indicating student recognition of the importance of technical support when it is needed, as well. Student reported presence is high.

Lessons learned from this study suggest that clear instructions for easy access to technical support should be displayed in a prominent and very visible location on course orientation pages. For any current course without clear directions for accessing technical support, editing course orientation pages to include this practice would be a simple process. For the student facing technical problems, quick and easy access to technology help could eliminate unnecessary

frustration as well as the loss of time that might have been spent interacting with course content and assigned activities.

Lessons from Adjunct Survey Section 1, Orientation, Statement 5

"Orientation pages include detailed instructions for contact (instructor to student/student to instructor) in the event of technology failure."

Discussion in the Professional Literature: Recommendations from Researchers

1. Have a backup plan for technology failure (Instructional Technology Resource Center, 2001).

2. Provide appropriate ways for those who may be having difficulty getting or staying connected to contact the instructor: offer a telephone or fax number or an email address (Hiltz, 1994; Lynch, M., 2002).

Table 13

Results from the survey for the statement "Orientation pages include detailed instructions for contact (instructor to student/student to instructor) in the event of technology failure"

Adjunct-Reported Importance (Low=1, High=4)	Student-Reported Importance (Low=1, High=4)	Student-Reported Presence Out Of 89 Described Cases	Adjunct Interest in Professional Development
Mean = 3.56 Essential Practice	Mean = 3.48 Agree: Important	70	4 of 16 instructors 25%

Adjunct rating for this practice, 3.56, is high, for essential practice, and is closely related to student rating, 3.48, for importance. With presence in 70 described cases, interest in professional development is 25% and seems at an appropriate level. An adjunct rating valued as "essential practice" suggests that instructors would consider this practice to be "best practice."

Lessons learned from this study suggest that it is wise for instructors to plan ahead to avoid problems that might arise in case of technology failure. An orientation page in an Internet-based course could be quickly edited to include contact information and a statement of policy to guide practice in case of technical problems. Adjunct valuation of the practice as essential would suggest that more than 70 cases out of 89 might be expected to post contact and policy information in case of unexpected technology failure.

Lessons from Adjunct Survey Section 1, Orientation, Statement 6

"Orientation pages include clear procedures for keeping the course moving forward academically in the event of technology failure."

Discussion in the Professional Literature: Recommendations from Educational Associations

"Contingency strategies should be planned to provide a quick recovery from technology-related interruptions when the instructional design model relies on electronic technology for delivery" (Innovations in Distance Education, n.d.).

Discussion in the Professional Literature: Recommendations from Researchers

1. To avoid technical problems, insist on backups of student work (Moore, Winograd, & Lange, 2001).

2. Determine a policy for legitimate technology problems that interrupt student work (Moore, Winograd, & Lange, 2001).

3. Have a backup plan for technology failure (Instructional Technology Resource Center, 2000).

Table 14

Results from the survey for the statement "Orientation pages include clear procedures for keeping the course moving forward academically in the event of technology failure"

Adjunct-Reported Importance (Low=1, High=4)	Student-Reported Importance (Low=1, High=4)	Student-Reported Presence Out Of 89 Described Cases	Adjunct Interest in Professional Development
Mean = 3.38 Good Practice	Mean = 3.36 Agree: Important	42	6 of 16 instructors 38%

Though reported importance of this practice is set at 3.38 and 3.36, relatively high in importance for both adjunct and student, presence in virtual courses is 42 cases out of 89, suggesting that instructors should consider including this information on their course site. Interest in professional development (38%) seems appropriately high when related to the low level of presence.

Lessons learned from this study indicate that a clear policy for academic recovery following technology failure could minimize the frustration and fear that can accompany problems with technology in an Internet-based course. Because Internet-based course activities depend to such a great extent on the software and hardware of the computers utilized by instructor and student, it is helpful for the instructor to develop a policy for academic procedures to be implemented in the event of technical problems. For the policy to be effective, it should be clearly stated in course pages. It would be a simple step to plan for and edit into the orientation pages of the course a statement to equip instructor and students with a strategy in case it should be needed. Planning ahead would eliminate the frustration that can arise when the unexpected occurs and an assignment is lost.

Lessons from Adjunct Survey Section 1, Orientation, Statement 7

"A calendar with assignment information is easy to access from many of the course pages."

Discussion in the Professional Literature: Recommendations from Educational Associations

1. A learner's guide to course content is developed with clear and easy to follow instructions (American Council on Education, 1996).
2. "The…course provides students with clear, complete and timely information on the…course…requirements" (Foundation for Quality of the Electronic Campus of the Southern Regional Education Board, 2003).
3. Have clear procedures set for giving good clear advance info on the course and its requirements to students so learners will be prepared for what they are about to undertake

(Higher Education Program and Policy Council of the American Federation of Teachers, 2000).

4. Clarify in writing or video or orientation all course requirements (Higher Education Program and Policy Council of the American Federation of Teachers, 2000).

5. Expectations for activities and participation are clearly expressed (American Council on Education, 2000).

Discussion in the Professional Literature: Recommendations from Researchers

1. List assignments; link the assignment listing to related pages; provide date and time that each assignment is due and full details about the required format; provide information on how the assignment is to be turned in (Moore, Winograd, & Lange, 2001).

2. Easily referenced, complete, unambiguous, well organized, and explicit syllabus pages are provided for student use (Anderson, 2001; Fredericksen, Pickett, Shea, Pelz, & Swan, 2000; Lynch, M., 2002).

Table 15

Results from the survey for the statement "A calendar with assignment information is easy to access from many of the course pages"

Adjunct-Reported Importance (Low=1, High=4)	Student-Reported Importance (Low=1, High=4)	Student-Reported Presence Out Of 89 Described Cases	Adjunct Interest in Professional Development
Mean = 2.67 Good Practice	Mean = 3.49 Agree: Important	74	3 of 16 instructors 19%

While adjuncts evaluate this practice at a low level of "good practice," only slightly above "acceptable practice," learners rate it high, only .01 of the mean below "strongly agree." Reported presence suggests that instructors in 74 of 89 cases do include an easily accessible assignment calendar on their course site.

Lessons learned from this study suggest that the easier the navigation through the course and to important pages, the more comfortable learners feel. It is possible that adjuncts do not feel a necessity for the calendar be easy to navigate to from many pages, but it is the students who must continually maneuver through the maze of pages on the course site to reach an important page that is needed often. Students who regularly navigate from page to page would be more likely to recognize the convenience of easy access to the assignment calendar and to details of each assignment than would instructors who do not move through course pages in the same way students do. Utilization of this practice is designed to avoid repeated time consuming searches for important pages regularly accessed.

Lessons from Adjunct Survey Section 1, Orientation, Statement 8

"'Office hours' (email, online chat, forum/threaded discussion, or live on-campus) are scheduled for both conventional and unconventional days and times to satisfy varied online learner needs"

Discussion in the Professional Literature: Recommendations from Educational Associations

Be available at non-traditional times for students (Higher Education Program and Policy Council of the American Federation of Teachers, 2000).

Discussion in the Professional Literature: Recommendations from Researchers

1. Office hours should include several options that are appropriate for the adjunct and for students: face-to-face on campus, chatroom, forum, telephone, or email (Moore, Winograd, & Lange, 2001).

2. Because online students work on online classes in non-traditional times, the instructor must focus faculty/student interaction and other communication times to meet their needs, showing respect for students and indicating concern for their needs (Lynch, M., 2002).

3. Provide students with a clear statement of when the instructor will be available and on what platform; if the instructor is consistent and is available at the times indicated it will eliminate much student frustration, disappointment, and confusion, thus increasing satisfaction (Fredericksen, Pickett, Shea, Pelz, & Swan, 2000).

4. Instructors should be reasonably accessible; providing their email address, phone number, and/or fax number in the welcoming activities suggests to students that the instructor is "open to communication." Students "will rarely call, but knowing they can helps the 'tone' of the class" (Instructional Technology Resources Center, 2001).

Table 16

Results from the survey for the statement "'Office hours' (email, online chat, forum/threaded discussion, or live on-campus) are scheduled for both conventional and unconventional days and times to satisfy varied online learner needs"

Adjunct-Reported Importance (Low=1, High=4)	Student-Reported Importance (Low=1, High=4)	Student-Reported Presence Out Of 89 Described Cases	Adjunct Interest in Professional Development
Mean = 2.67 Good Practice	Mean = 3.49 Agree: Important	66	1 of 16 instructors 6%

Based on results from the survey, adjuncts value this practice at a low level of "good practice," while students value it just .01 of the mean below "strongly agree" in importance. Students may recognize a greater need for instructor contact at unconventional times than do adjuncts. Presence of 66 out of 89 cases indicates that adjuncts might look closely at their scheduled times of availability for student support to ensure that they are meeting reasonable student needs.

Lessons learned from this study indicate that setting contact hours at times convenient to a variety of life styles is important and is supportive of student needs. It is also important that instructors set limits to ensure that they are not on call night and day, every night and every day. In addition, it is not necessary for an instructor to sit at a computer screen for an hour to provide Internet-based "office hours." Instead, instructors could make clear to students that they would be available by telephone for that scheduled hour and that they would check the computer at a specific day and time on a regular basis to deal with any messages waiting in the inbox. This

would allow students to send questions as they arose and then to know the approximate time to expect a response.

Lessons from Adjunct Survey Section 1, Orientation, Statement 9

"Orientation pages include detailed expectations for behavior to ensure respectful interactions among students and between student and instructor."

Discussion in the Professional Literature: Recommendations from Educational Associations

Expectations for learner behavior are clearly expressed (American Council on Education, 2000).

Discussion in the Professional Literature: Recommendations from Researchers

1. Intervene to keep adult learners in the course by giving many examples of appropriate and inappropriate online behaviors early in the class; this provides motivation, interest, relevancy, and confidence (Chyung, 2001).

2. Teach, use, and expect others to use "netiquette" expressions (Cavanaugh, 2002; Instructional Technology Resource Center, 2001).

3. Provide learners with specific information on expectations (Fredericksen, Pickett, Shea, Pelz, & Swan, 2000).

4. Set up clear, specific, and firm policies on conduct and performance and remain firm (Moore, Winograd, & Lange, 2001).

5. Clearly express policy and consequences for learner conduct in every situation related to the course (Innovations in Distance Education, n.d.).

6. Etiquette should be clearly understood for email and for electronic conferencing, ensuring appropriate messages or replies for the class (Barnes, 2000).

7. Codes of conduct, standards of academic honesty, and standards of behavior may be needed for online classes (Boehler, 1999).

8. Create a "safe environment" by setting standards and expectations for acceptable ways of communicating with each other (no flames for email messages or forums), expectations for netiquette, and conduct for taking turns in communicating in teleconference or videoconference. Show clear expectations that all members of the course learning community will treat others in a professional manner (Porter, 1997).

9. Success comes when the instructor models and demands of others respect for diversity and for different learning styles (Cavanaugh, 2002).

10. A study of student satisfaction with and learning in online classes determined that when instructors provided clear expectations about how to move though the course successfully, significant correlations with high satisfaction and high levels of reported learning were reported (Shea, Fredericksen, Pickett, Pelz, & Swan, 2000).

Table 17

Results from the Survey for the statement "Orientation pages include detailed expectations for behavior to ensure respectful interactions among students and between student and instructor"

Adjunct-Reported Importance (Low=1, High=4)	Student-Reported Importance (Low=1, High=4)	Student-Reported Presence Out Of 89 Described Cases	Adjunct Interest in Professional Development
Mean = 2.80 Good Practice	Mean = 3.28 Agree: Important	66	1 of 16 instructors 6%

Adjunct instructors rate this practice at a low level of "good practice," while students rate it at a higher level of importance. Instructors should determine in advance a policy for the student who consistently fails to post assignments on time, who doesn't get in touch with collaborative groups in time to get the project completed, who "flames" the instructor or other students, and who doesn't respond to instructor's emails (Moore, Winograd, & Lange, 2001). Many schools ask students in online classes to sign a "compliance" agreement; others post it on a school web site and provide an obvious link from the course site. Others offer a "standard short form disclaimer" that indicates that the student agrees to the code of conduct just by joining an Internet-based class (Boehler, 1999). Several court cases have challenged standards for speech in educational settings (Workman 1995). Usually educational institutions can regulate speech in specific places and times to avoid possible disruption in learning that can be caused by unrestrained speech. However, while some speech may be banned from the course web site, the institution would need to provide another place on campus where free speech would be acceptable, avoiding in this way disruption of class or class forum (Boehler, 1999).

Lessons learned from this study suggest that instructors and students face very different experiences as they interact with a common course, and differences between instructor and student valuation of this practice may be caused by these two separate but parallel experiences. Instructors may not be aware of the times when students, sitting alone at home with their computers, feel discomfort because of the comments or behavior of another student. Instructors should strive to be aware the tone of student postings and of student sensitivity to other students' comments about their work or contributions. Instructors can model suitable postings and email messages, and should decide in advance what to do about inappropriate behavior. Setting up advance expectations for student behavior, developing definite consequences, and communicating both clearly could minimize potential negative feelings that come from discourteous comments, whether intentional or unintentional. In addition, instructors could encourage the use of visual symbols in the text to indicate the emotions that would be seen in faces or heard in voices in traditional classrooms. Netiquette cues can substitute for the visual and verbal cues of face-to-face interaction by indicating that an Internet-based message is meant with a smile.

Lessons from Adjunct Survey Section 1, Orientation, Statement 10

"Orientation pages include a clear explanation of the expected amount of time that is required for this online course."

Discussion in the Professional Literature: Recommendations from Educational Associations

Clarify in writing or video or orientation the expected weekly time requirement (Higher Education Program and Policy Council of the American Federation of Teachers, 2000).

Discussion in the Professional Literature: Recommendations from Researchers

1. Clarify in the introduction to the course the expected weekly time requirement (Eastmond, 1995; Instructional Technology Resource Center, 2001)

2. In the beginning of the course students should be clearly informed about the pacing of the course: will it be self-paced or will students have common schedules and deadlines? The schedule required should be immediately provided so that students can plan for their efforts in the course (Smith, 2000).

3. Students should be provided expectations on how much time each activity or assignment should take (Anderson, 2001).

4. With Internet-based courses that often allow students to work at their own speed within certain limitations, students may procrastinate; students need to know that those who procrastinate may have difficulties with online classes (Instructional Technology Resource Center, 2001).

Table 18

Results from the survey for the statement "Orientation pages include a clear explanation of the expected amount of time that is required for this online course"

Adjunct-Reported Importance (Low=1, High=4)	Student-Reported Importance (Low=1, High=4)	Student-Reported Presence Out Of 89 Described Cases	Adjunct Interest in Professional Development
Mean = 2.80 Good Practice	Mean = 3.23 Agree: Important	50	4 of 16 instructors 25%

Students rate this practice in which the instructor provides a clear explanation of the expected amount of time required for the course or for specific course activities at a relatively high "agree" level, while instructors rate it relatively low in the "good practice" level. In addition, presence in described courses is rated at only 50 of 89 cases.

Lessons learned from this survey suggest that that adjuncts and course designers may be committed to and take for granted the equivalency of the academic rigor and necessary time commitments of their course design with traditional course design. Students, however, may enter the Internet-based experience without clear understanding of what to expect. Adjunct instructors should consider providing explicit clarification of expectations for academic- and time-commitment in the earliest orientation activities for their Internet-based classes. Many students enter Internet-based courses with lowered expectations for academic effort and for time required to complete assignments using their home computers. It is important that students understand from the beginning that the instructor has high expectations for student leaning and achievement and that the objectives and activities of the course are comparable to those of similar traditional courses. Students should clearly understand that they must plan at least as much time for an online class as for a traditional course. Instructors could help students plan their time by clarifying for them the time commitment required for the course and by clarifying instructor's expectations.

Lessons from Adjunct Survey Section 1, Orientation, Statement 11

"Orientation pages include clearly stated assignment due dates to show agreement between instructor and learners."

Discussion in the Professional Literature: Best Practice

"Faculty and students [should] agree upon expectations regarding times for student assignment completion…" (Phipps & Merisotis, 2000).

Discussion in the Professional Literature: Recommendations from Researchers

1. Student comfort is enhanced when course requirement information is clear and easy to understand (Cavanaugh, 2002).

2. A course calendar, printable for students, should include due dates and details on readings, discussions, quizzes, etc. (Lynch, M., 2002; Moore, Winograd, & Lange, 2001).

3. Clear and published assignment due dates allows clear agreement between instructor and learners on expectations for student assignment deadlines (Instructional Technology Resource Center, 2001).

Table 19

Results from the survey statement "Orientation pages include clearly stated assignment due dates to show agreement between instructor and learners"

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Adjunct-Reported Importance (Low=1, High=4)	Student-Reported Importance (Low=1, High=4)	Student-Reported Presence Out Of 89 Described Cases	Adjunct Interest in Professional Development
Mean = 3.27 Good Practice	NA	N/A	0 of 16 instructors 0%

_____

This statement was not included on the student survey because an earlier statement was very similar; the emphasis on this statement is more closely related to instructor behavior. An adjunct-reported mean of 3.27 is a relatively high level for "good practice," indicating that adjuncts value providing clear assignment due dates that students can focus on and confirm. This practice is rated best practice by Phipps and Merisotis.

Lessons learned from this survey indicate that clearly understood expectations for assignment due dates are helpful to students, provide a feeling of security with the course as it develops, and provides a framework around which students can schedule their academic activities.

Lessons from Adjunct Survey Section 1, Orientation, Statement 12

"Orientation pages include a policy statement for 'timely' instructor feedback for questions, assignments, and grades."

Discussion in the Professional Literature: Recommendations from Researchers

1. Grade and give feedback in a reasonable amount of time; let students know when the feedback and scores can be expected (Instructional Technology Resource Center, 2001).

2. Consider mentioning in the syllabus what the feedback policy is (Thurmond, Wambach, Connors, & Frey, 2002).

3. Instructors and students should have a "'contract'" about the "nature, amount, and regularity of contact and feedback" (Moore, G., Winograd, & Lange, 2001).

Table 20

Results from the survey for the statement "Orientation pages include a policy statement for 'timely' instructor feedback for questions, assignments, and grades"

Adjunct-Reported Importance (Low=1, High=4)	Student-Reported Importance (Low=1, High=4)	Student-Reported Presence Out Of 89 Described Cases	Adjunct Interest in Professional Development
Mean = 3.0 Good Practice	Mean = 3.37 Agree: Important	57	1 of 16 instructors 6%

Students perceive that a policy for "timely" instructor feedback is included in 57 of 89 described cases. Adjunct instructors indicate that inclusion of a policy statement for 'timely' instructor feedback for questions, assignments, and grades is "good practice." Students rate this practice at 3.37 and "agree" that it is important, but the rating is only .13 from "strongly agree," suggesting that students highly value this instructor behavior in their Internet-based courses. This practice is defined "best practice" by Phipps and Merisotis.

Lessons learned from this study suggest that students appreciate structure in course design, and a stated policy for instructor feedback could allow students to know what to expect about instructor response to their work. A stated policy might also encourage instructors to live up to "timely feedback" expectations they had created and to respond to questions and assignments more quickly than they might have done without a public policy. On the other hand, some instructors could be uncomfortable specifying for students a feedback policy that they might be unable to fulfill.

Lessons from Adjunct Survey Section 1, Orientation, Statement 13

"Orientation pages include a 'Frequently Asked Questions' (FAQ) page for student reference."

Discussion in the Professional Literature: Recommendations from Researchers

1. Develop and communicate that there is a FAQ page (Instructional Technology Resource Center, 2001).

2. The more frequently a FAQ page was provided, the more positive the relationship was with final grades in a study of pedagogical practices (Kahler, 2002).

Table 21

Results from the survey for the statement "Orientation pages include a 'Frequently Asked Questions' (FAQ) page for student reference"

Adjunct-Reported Importance (Low=1, High=4)	Student-Reported Importance (Low=1, High=4)	Student-Reported Presence Out Of 89 Described Cases	Adjunct Interest in Professional Development
Mean = 2.67 Good Practice	Mean = 3.29 Agree: Important	51	1 of 16 instructors 6%

Students agree that a FAQ page on the course site would be important support for achievement and satisfaction and instructors rate this practice at a low level of good practice. Reported presence is low at 51 of 89 cases.

Experience suggests that FAQ pages can eliminate many email and voice-mail questions to instructors, lowering their communication time online or on the phone. The page could be added to the site as soon as the instructor provides a response to a student question that could be helpful for other students as well. Future questions could be responded to on the FAQ page with a general email to the class, alerting all students that additional information had been added. Instructors who have utilized this practice report that it significantly minimizes instructor time spent on responding to student questions and minimizes the need to repeatedly respond to the same question.

Lessons from Adjunct Survey Section #3, Course Page Design, Statement 1

"Standard course page content design is based on browser characteristics and screen resolution settings to minimize the length of pages and excessive scrolling."

Discussion in the Professional Literature: Recommendations from Researchers

1. Avoid a long list of items on the course Web page; students should not need to scroll up and down to choose a link or to find elements of the lesson (Anderson, 2001).

2. Break longer documents into shorter chunks; don't require students to scroll down more than four or five screens. With a longer document, inform students at the top of the page that printing this out might be a good option (Fredericksen, Pickett, Shea, Pelz, & Swan, 2000).

3. "Reading a screen is not as easy as reading hard copy." Tests have shown that readers will "skip over text that they consider nonessential." "They don't like to scroll. Often

students will scan a page, reading only the text of the hypertext links before they choose their next destination" (Lynch, M., 2002, p. 85).

4. Some students find scrolling from top to bottom or from left to right to be distracting, difficult for comprehension, and difficult for developing motivation to read the entire page. Some students may even find reading online distracting (Moore, Winograd, & Lange, 2001).

5. Make a course page no longer than 2 to 3 screens the size of 640x 480. That is about 2 to 3 double-spaced typed screens in the word processor (Lynch, M., 2002).

Table 22

Results from the survey for the statement "Standard course page content design is based on browser characteristics and screen resolution settings to minimize the length of pages and excessive scrolling"

Adjunct-Reported Importance (Low=1, High=4)	Student-Reported Importance (Low=1, High=4)	Student-Reported Presence Out Of 89 Described Cases	Adjunct Interest in Professional Development
Mean = 2.80 Good Practice	Mean = 3.52 Strongly Agree: Important	66	4 of 16 instructors 25%

Adjunct response is in the lower level of "good practice" for this pedagogical practice, while students rate it "strongly agree" for importance. Presence of 66 out of 89 may be reasonably appropriate for instructor emphasis but is low when compared with student concern.

Lessons learned from this study suggest again that the Internet-based course that instructors experience may not be the same course that students encounter because of the differing roles for instructors and students. While students must regularly negotiate multiple pages of course content, instructors may not focus on excessive scrolling on the course site because they may not utilize the pages on a regular basis as students do. Students, however, report through survey responses that they see this pedagogical issue as important to their experience with the course. Large blocks of text on the computer screen have been determined to create frustration as well as eyestrain for the reader. Distractions of excessive scrolling can be lessened through "chunking" text into smaller related units of content that are set on separate pages and linked to the original.

Lessons from Adjunct Survey Section #3, Course Page Design, Statement 2

"Course page length and excessive scrolling are minimized by electronically linking related information to the original page."

Discussion in the Professional Literature: Recommendations from Researchers

1. Use straightforward section headings that can be linked to directly from other pages, thus minimizing page length and scrolling (Course Development & Web Services, University of Central Florida, n.d).

2. Links to other sites within the course or out on the Web can provide information, shortening the text required for each page (Lynch, M., 2002).

3. Break up a longer section into separate "chunks" that can be linked to by a word or phrase from the original page. Chunking helps with eye strain on the computer screen,

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avoids too much scrolling, and allows more rigorous content than long screen after screen

would allow for sustained reading (Moore, Winograd, & Lange, 2001).

Table 23

Results from the survey for the statement "Course page length and excessive scrolling are
minimized by electronically linking related information to the original page

Adjunct-Reported Importance (Low=1, High=4)	Student-Reported Importance (Low=1, High=4)	Student-Reported Presence Out Of 89 Described Cases	Adjunct Interest in Professional Development
Mean = 2.93 Good Practice	Mean = 3.51 Strongly Agree: Important	60	3 of 16 instructors 19%

Adjuncts rated this practice in the lower range of "good practice." Students "strongly

agreed" that the practice is important to student achievement and satisfaction. Presence is

relatively low at 60.

Lessons learned from this study suggest that students' regular ongoing experiences with

the content pages of an Internet-based site impact their comfort level with the course. They

report that minimizing excessive scrolling for a page is helpful and that linked information can

decrease scrolling and provide information in smaller chunks of text. However, experience

indicates that encountering too many links on a single page can also be frustrating and

distracting. Bouncing from the master document to linked chunked material time after time can

create a disjointed flow for comprehension and add a different form of frustration for the reader.

Pages linked from the master document that contain new links to additional material can lead the

reader far from the location and the concepts of the original document and create for the reader one more layer of confusion. Moderation in page length and in number of links per page is a good rule.

Lessons from Adjunct Survey Section #3, Course Page Design, Statement 3

"Course pages design includes generous white space and avoids excessive text."

Discussion in the Professional Literature: Recommendations from Researchers

1. Include "generous white space" (Course Development & Web Services, University of Central Florida, n.d.).

2. Appropriate white space can result in an active atmosphere for the page (Harrison, 1999).

3. Include plenty of white space on pages: double space between paragraphs; have ample margins (Instructional Technology Resource Center, 2001).

Table 24

Results from the survey for the statement "Course pages design includes generous white space and avoids excessive text"

Adjunct-Reported Importance (Low=1, High=4)	Student-Reported Importance (Low=1, High=4)	Student-Reported Presence Out Of 89 Described Cases	Adjunct Interest in Professional Development
Mean = 2.33 Acceptable Practice	Mean = 3.47 Agree: Important	70	2 of 16 instructors 13%

Even though 70 of 89 students report that their described course utilized ample white space on course pages, adjuncts should be aware that students consider this practice important to their achievement and satisfaction in a course. Adjunct instructors rate this practice a high level of "acceptable practice," while students rate its importance at a mean .03 below "strongly agree."

Lessons learned from this study suggest again that student experience with the physical design of Internet-based course pages influences their learning and satisfaction in ways that instructors may not focus on. Long computer screen pages filled with row after row of tightly spaced lines of text without white space breaks can be difficult and/or unpleasant for students to read. Students, who must regularly read those screens for content, report concern about utilizing cramped text-filled pages. Generous white space frames and breaks up the text and makes it more attractive and easier on the eye. A balance is needed, however, between too much and too little white space. Too much white space on a page could cause the content to appear meager and insignificant or could require excessive numbers of links for the reader to access course content. The white space, the text, and the links on a course page need to be designed for effective balance.

Lessons from Adjunct Survey Section #3, Course Page Design, Statement 4

"Course content is clearly indicated on every page by self-explanatory titles, headings, and descriptions."

Discussion in the Professional Literature: Recommendations from Researchers

1. Put the title of the course on the title bar of the browser; the title should clearly define the page because students may bookmark it for easy retrieval or they may (Course Development & Web Services, University of Central Florida, n.d.).

2. Use straightforward section headings that can be linked to directly from other pages (Course Development & Web Services, University of Central Florida, n.d).

3. Titles and references to course pages, documents, and modules must be consistent with the titles and references in the calendar for them to be effective; title the learning activities for each module for easy student navigation (Fredericksen, Pickett, Shea, Pelz, & Swan, 2000).

4. Title each activity in a descriptive, unambiguous, short, to the point manner; consider putting due dates and type of task in the title; use consistent naming throughout the modules and activities (Fredericksen, Pickett, Shea, Pelz, & Swan, 2000).

5. Title each page; titles should be self-explanatory so that they describe clearly the content on that page; for readability of the course, use meaningful, active headings; include headings and subheadings to break up the text (Harrison, 1999).

6. Pages should have headings and descriptions to help orient the reader; text headings help students navigate a web page and topic headings help with navigation of the entire site (Moore, Winograd, & Lange, 2001).

Table 25

Results from the survey for the statement "Course content is clearly indicated on every page by self-explanatory titles, headings, and descriptions"

Adjunct-Reported Importance (Low=1, High=4)	Student-Reported Importance (Low=1, High=4)	Student-Reported Presence Out Of 89 Described Cases	Adjunct Interest in Professional Development
Mean = 3.13 Good Practice	Mean=3.53 Strongly Agree: Important	75	2 of 16 instructors 13%

Adjuncts recognize the value of this practice as evidenced by their "good practice" rating. Students, however, who must navigate the course pages, "strongly agree" to the importance of clear labels on every page. Students report that clear headings and titles were designed into 75 of the 89 described cases.

Lessons learned from this study suggest that explicit and consistent activity, page, module, and document titles provide clarity, organization, and easy navigation for course pages. While instructors indicate that they recognize the importance of these clear organizational signals, students, once again, show through their "strongly agree" response that clearly and carefully organized course sites are important to their Internet-based experience. Student navigation through a course can be complicated and with the inherent abstract nature of this Internet-based medium the more concrete cues to page content that students are provided with, the more grounded students will feel in the process. Editing the course to provide appropriate headings, descriptions, and titles would not be a small project but it would not involve major content editing. It is important, however, that headings, descriptions, and titles be consistent from

page to page and that they be consistent with assignment calendars and with instructions provided to students for completion of each assignment as well.

Lessons from Adjunct Survey Section #3, Course Page Design, Statement 5

"Clear instructions are posted on every page to help students navigate easily to important pages as well as forward and backward through the course."

Discussion in the Professional Literature: Recommendations from Researchers

1. Be consistent with all the navigational tools to make the site predictable for the learner. (Lynch, M., 2002).

2. Include local navigational links at top or bottom of page. When the page is larger than the window the learner is forced to keep in mind a large amount of navigational data that is no longer available on the screen (Lynch, M., 2002).

3. Plan for student navigation through the site; give clear instructions; pages should provide clear ways to get forward and back to specific pages; pages should have headings and descriptions to help orient the reader. (Moore, Winograd, & Lange, 2001).

4. The site should have clear navigation to avoid losing students in the navigational process; directories, tables of contents and listed links can help to ground the learner in movement within and outside of the course pages. Ensure that there is always a way back from linked pages (Porter, 1997).

5. Be consistent with the location of navigation links and in the order of navigation (Course Development & Web Services, University of Central Florida, n.d.).

6. Create consistent navigational instructions to tell students where to go next and what to
   do, using the same font, same location on the page, and consistent wording (Fredericksen,
   Pickett, Shea, Pelz, & Swan, 2000).

7. Give clear and consistent navigation information (Harrison, 1999).

Table 26

Results from the survey for the statement "Clear instructions are posted on every page to help
students navigate easily to important pages as well as forward and backward through the course"

_____

Adjunct-Reported Importance (Low=1, High=4)	Student-Reported Importance (Low=1, High=4)	Student-Reported Presence Out Of 89 Described Cases	Adjunct Interest in Professional Development
Mean = 3.07 Good Practice	Mean = 3.45 Agree: Important	67	3 of 16 instructors 18%

_____

Students who must navigate unfamiliar course pages rate this practice at a mean .05

below "strongly agree" to its importance, while adjuncts rate it at lower importance with a solid

"good practice" score. Students rate the presence of this practice at a relatively low 67 out of the

89 courses described.

Lessons learned from this study indicate that the navigational page (or index page) is an

important element of navigation for students, showing them the technical and content structure of

the course and providing links to each major section of the site. It may be an individual page or it

may be developed as a permanent frame that is always available to the learner. Another way to

provide simple navigation within the site would be to provide an easily accessed page or area

where all course links are listed with clear descriptive titles matched with calendar and page

titles for easy recognition and navigation. A link to this page could be included on every course

page.

Lessons from Adjunct Survey Section #3, Course Page Design, Statement 6

"Course utilizes color, pictures, animation, movement, humor, sound, voice, and/or

video."

Discussion in the Professional Literature: Recommendations from Researchers

1. Be cautious with using color, but it can be used effectively to show purpose, tasks,

    events, or to indicate particular groupings of page content (Lynch, M., 2002).

2. Reinforce specific information by providing an additional sensory experience on the page

    to improve learning of major concepts or of related details (Belanger & Jordan, 2000).

3. Use color when there is a specific purpose for it; plan a specific meaning for each color

    (Harrison, 1999).

4. Avoid boredom in learners by using color, graphics, sound; use written language in

    interesting ways including for humor and metaphor (Hiltz, 1994).

5. In a study course sites were evaluated with "humanizing" elements like color, animation,

    humor, hot-links, voice and video added; the more frequently the strategy was used, the

    more positive the relationship was with final grades (Kahler, 2002).

6. Course design should consider the motivational appeal of each page: language,

    typography, graphics, color, and page layout should be set up to meet the expectations of

the learner. Lines on the screen with eight to ten words in 10 or 12 point type make it easy to read, they hold learner attention, and they build confidence (Keller, 1993).

7. The look and feel of the course can make a definite difference in student learning (Lynch, M., 2002).

8. An "attractive" course is well designed, with interesting and appropriate graphics and no distracting glitter for the sake of glitter. It is easy to read, with clear instructions and initial visual appeal (Boshier, Mohapi, Moulton, Qayyum, Sadownik, & Wilson, 1997).

Table 27

Results from the survey for the statement "Course utilizes color, pictures, animation, movement, humor, sound, voice, and/or video"

_____

Adjunct-Reported Importance (Low=1, High=4)	Student-Reported Importance (Low=1, High=4)	Student-Reported Presence Out Of 89 Described Cases	Adjunct Interest in Professional Development
Mean = 2.40 Acceptable Practice	Mean = 2.95 Agree: Important	37	9 of 16 instructors 56%

_____

Neither adjuncts nor students considered color, pictures, movement, sound, etc., of major importance to course page design, but both groups agreed that use of these elements would be "good practice" or important. Students reported that course pages often lacked these elements with a very low presence rating of 37 out of 89 cases. Adjuncts (56%) indicated interest in professional development to help them add these elements to course pages.

Lessons learned from this study suggest that creating attractive pages can add interest to a site, but care must be taken to avoid confusing, distracting, or over stimulating the reader.

Utilizing traditional rules for web page design can help the instructor develop or edit for pages that will appropriately add interest to the course. Instructors reported interest in professional development for this practice at a high rate, especially since adjuncts rated it only mean .1 above simply "acceptable practice" and students rated it in the lower level of "agree" to its importance. Instructors may value professional development in this practice because it might help them to add interest to course pages, it might be a design process that they would find interesting or valuable to learn, or it might be a practice that they could have concrete control over in the more abstract environment of the Internet.

Lessons from Adjunct Survey Section #3, Course Page Design, Statement 7

"Visuals are included to enhance concepts to be studied."

Discussion in the Professional Literature: Recommendations from Researchers

1. A "required aspect" of an Internet-based course: use images, but only when they "add value to" the content (Belanger & Jordan, 2000, p. 54).

2. Consider using pictures to illustrate the content (Porter, 1997)

3. Can some words be condensed into a still or moving picture to enhance learning or create interest? (Boshier, Mohapi, Moulton, Qayyum, Sadownik, & Wilson, 1997).

4. Use graphics only when there is a specific academic reason (Harrison, 1999).

Table 28

Results from the survey for the statement "Visuals are included to enhance concepts to be studied"

Adjunct-Reported Importance (Low=1, High=4)	Student-Reported Importance (Low=1, High=4)	Student-Reported Presence Out Of 89 Described Cases	Adjunct Interest in Professional Development
Mean = 2.73 Good Practice	Mean = 3.29 Agree: Important	32	6 of 16 instructors 38%

Instructors rate this practice at a low level of good practice, while students rate it relatively higher in agreeing to its importance but students report presence of this practice in only 32 of 89 cases in the courses they described. Almost 40% of participating adjuncts indicated interest in professional development for this practice; this seems an appropriate level of interest given the low presence numbers. Many of today's learners have grown up in a period where the stimulation of music, television, and video has created highly visual learners. Visual elements can add interest and stimulation to an Internet-based course through the inclusion of graphics and color; images can teach content, or color-coding of materials can help to keep components of the course organized as they add visual interest for students (Lyons, Kysilka, & Pawlas, 1999). However, the emphasis should be on utilization of visual elements to enhance the learning experience only.

Lessons learned from this study suggest that adjunct instructors have a relatively high level of interest in learning to provide content-related visual elements for their courses, even though they do not value this practice at a high level of importance for student achievement and

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satisfaction. Again, as noted above, instructors may value professional development in this practice because it might help them to add interest to course pages. It might be a design process that they would find interesting or valuable to learn, or it might be a practice that they could have concrete control over in the more abstract environment of the Internet.

Lessons from Adjunct Survey Section #3, Course Page Design, Statement 8

"Course site resolution, colors, and graphics download are checked prior to start of term to insure suitability for varied student hardware."

Discussion in the Professional Literature: Recommendations from Researchers

1. It is necessary to plan carefully the elements of a course site to ensure that they will not take too much take time to download for students' hardware (Belanger & Jordan, 2000).

2. Go over the plan for the site with others to test the content and flow from one part of the course to the next; confirm that useful course pages such as the calendar and syllabus will print correctly and be easy to read; check the printed copies to ensure that they do not lose valuable content during the printing process (Instructional Technology Resource Center, 2001).

3. Check the pages to be sure that their appearance is pleasant at any resolution; test the course in all resolutions possible to confirm that its appearance is appropriate in each, especially if the site includes frames, borders, backgrounds, etc. (Lynch, M., 2002).

4. Be alert to the size of downloaded elements included in the course site (Moore, G., Winograd, & Lange, 2001).

5. The instructor should be alert to the fact that many technical complications related to the student's computer can impact a student's ability to download a site quickly or at all (Porter, 1997).

Table 29

Results from the survey for the statement "Course site resolution, colors, and graphics download are checked prior to start of term to insure suitability for varied student hardware"

Adjunct-Reported Importance (Low=1, High=4)	Student-Reported Importance (Low=1, High=4)	Student-Reported Presence Out Of 89 Described Cases	Adjunct Interest in Professional Development
Mean = 3.13 Good Practice	Mean = 3.60 Strongly Agree Important	69	3 of 16 instructors 18%

Students perceive that in 69 of 89 described courses adjunct instructors have confirmed course download prior to beginning the term, suggesting that large numbers of courses have downloaded with few problems. Adjuncts rate this practice a solid "good practice." Appropriate download is very important to students, however, as evidenced by the high 3.60 "strongly agree" student importance rate.

Lessons learned from this study suggest again that students are extremely concerned with the design, readability, and "workability" of the Internet-based course. They recognize that if the course doesn't download effectively on their computers the course experience will likely prove to be frustrating and difficult. Even if download problems can be overcome through the institution's help support system, valuable troubleshooting time will be spent solving problems

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that could have been spent working on course activities. Download problems produce

uncertainty and frustration while students report that they highly value structure, organization,

and security in the Internet-based educational experience. Evaluation of student reported

presence for this practice, present in 69 of 89 courses, suggests that at least some students had

difficulty downloading their courses. The problem may lie with student hardware, software, or

inexperience, but this survey result would remind adjunct instructors to confirm that course

download is appropriate for anticipated student technical capabilities.

Lessons from Adjunct Survey Section #3, Course Page Design, Statement 9

"A consistent opening and a consistent instructional organization are utilized in each

section or learning unit."

Discussion in the Professional Literature: Recommendations from Researchers

1. Create a site that is professional and consistent for all pages: chapter title page; number

   on each page; navigation graphic; header; graphics; size, style, and color of text on each

   page; fill color for tables; etc. (Lynch, M., 2002).

2. Design the screens to be clean and consistent from screen to screen (Belanger & Jordan,

   2000).

3. Be consistent with the placement and appearance of the navigational link, the colors of

   the course pages, and fonts (Course Development & Web Services, n.d.).

4. Experience indicates a necessity to apply a consistent structure to all chunks of the

   course, titles of activities, sequences of activities, navigation instructions, modules, etc.

   (Fredericksen, Pickett, Shea, Pelz, & Swan, 2000).

5. Design particular areas of each page consistently for specific purposes (Harrison, 1999).

6. Include a consistent classroom opening and consistent routine for each session (Holt, 2000).

7. Students responding to researchers indicated that an important factor in course design was "consistency of form and function"; a consistent "'look and feel'" was a student preference (Holland, 2000).

Table 30

Results from the survey for the statement "A consistent opening and a consistent instructional organization are utilized in each section or learning unit"

_____

Adjunct-Reported Importance (Low=1, High=4)	Student-Reported Importance (Low=1, High=4)	Student-Reported Presence Out Of 89 Described Cases	Adjunct Interest in Professional Development
Mean = 2.87 Good Practice	Mean = 3.59 Strongly Agree: Important	68	3 of 16 instructors 18%

_____

Student reported presence of consistency in the design and structure of described cases taught by adjuncts is 68 of 89 cases. Students rated the practice of consistency of course design as "strongly agree" for importance with a mean of 3.59. Adjunct instructors, however, who interact significantly less often with the course pages and content, rate the importance of consistency in Internet-based courses as "good practice" with a lower mean of 2.87, low in the "good practice" range.

Lessons learned from this study suggest once again that students who must on a day to day basis manipulate the pages, assignments, and activities of the Internet-based environment rate security of expectation about the format of the course to be very important. If a course were not initially designed with a consistent organization, adjunct instructors would find editing for this pedagogical practice to be a major undertaking. However, the advantages of consistency are great, and adjuncts might be able to turn to the Internet-based staff of the institution for support in an edit of this magnitude. While staff members would not likely have time for large numbers of major projects such as this, it is possible that edits could be supported on a "first come, first served" basis, even though it might take a significant amount of time to complete all courses that needed staff support. Developing consistent organization of the course is a major step for developing an overall well organized course.

Lessons from Adjunct Survey Section #3, Course Page Design, Statement 10

"Course content is clearly written with common vocabulary, straight-forward sentences, and short paragraphs."

Discussion in the Professional Literature: Recommendations from Researchers

1. The key to successful Internet-based content presentation is "clear, effective writing that is appropriate to your target group" writen in an active, personal style (Harrison, 1999, p. 179)

2. Be sure content is well organized and clear to maintain attention and to create confidence. Use an easy to read writing style with sentences that are of moderate length and utilize familiar, concrete, and specific language (Keller 1993).

Table 31

Results from the survey for the statement "Course content is clearly written with common vocabulary, straightforward sentences, and short paragraphs**"**

Adjunct-Reported Importance (Low=1, High=4)	Student-Reported Importance (Low=1, High=4)	Student-Reported Presence Out Of 89 Described Cases	Adjunct Interest in Professional Development
Mean = 2.93 Good Practice	Mean = 3.54 Strongly Agree: Important	71	4 of 16 instructors 25%

Adjunct instructors and learners have a notable difference in their evaluation of importance for clearly written course content with common vocabulary, straightforward sentences, and short paragraphs. Adjuncts rate the practice as 2.93, solid "good practice." Students, who interact regularly with content on course site pages, report that they value clear writing with high readability, rating the practice 3.54, "strongly agree" for importance. Students report presence of this kind of clearly written content in 71 of 89 cases.

Lessons learned from this study continue to suggest that students have significant concerns that Internet-based courses be designed to minimize the barriers to learning, in this case the barriers that come with inappropriate or difficult readability levels. Students report that they want discussion on the screen to be as clear as possible to support comprehension. This would be especially true when course content is challenging, as is often the case with higher education courses.

Lessons from Adjunct Survey Section #3, Course Page Design, Statement 11

"The site is carefully edited to avoid errors and inconsistencies."

Discussion in the Professional Literature: Recommendations from Researchers

1. Effective online instruction requires content with no errors (Egerton & Posey, 2002).

2. Before the course is made available to students, the instructor should "walk through it" to make sure that everything is correct…with no errors of content or schedule Fredericksen, Pickett, Shea, Pelz, & Swan, 2000).

3. Spell check and grammar check all aspects of the course (Fredericksen, Pickett, Shea, Pelz, & Swan, 2000; Instructional Technology Resource Center, 2001; Porter, 1997).

4. Edit the site carefully and thoroughly for student readability (Harrison, 1999).

Table 32

Results from the survey for the statement "The site is carefully edited to avoid errors and inconsistencies"

Adjunct-Reported Importance (Low=1, High=4)	Student-Reported Importance (Low=1, High=4)	Student-Reported Presence Out Of 89 Described Cases	Adjunct Interest in Professional Development
Mean = 3.40 Good Practice	Mean = 3.58 Strongly Agree: Important	63	3 of 16 instructors 18%

Adjuncts rate this practice at a high level of "good practice," at only mean .10 from "essential practice," while students, who must deal with the uncertainty and frustration of errors

and inconsistencies in course content, "highly agree" to its importance. Students rated presence of this practice in their classes at 63 of 89 cases.

Lessons learned from the study indicate that, nationally, students often must deal with the frustrations that come with uncertainty in Internet-based courses. Due dates are incorrect in calendars, different due dates are provided on different pages of the site, instructions for activities leave out important steps, page numbers are incorrect, etc. Errors of this type are easy to make when creating or editing an extensive project such as a fully developed course for a college audience. Careful editing and cross checking are the first steps necessary to avoid such pitfalls; in addition colleagues are also often asked to check the course for inconsistencies and errors. There is a third level of support that can be utilized as well. The adjunct can make clear to learners that it is important to the instructor that errors be eliminated and enlist their support. Any time students detect an error of any kind they could be asked to contact the instructor who would then alert the entire class and correct the course design for that element. This system worked extremely well to eliminate errors in a past course that this researcher took, and it also had the added advantage for the instructor that he convinced his students that he really cared to "get it right" for their learning. Students appreciated and respected him for his care and concern.

Lessons from Adjunct Survey Section #5, Student Learning, Statement 1

"Course content matches stated course objectives."

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Discussion in the Professional Literature: Recommendations from Researchers

1. Assignments, monitoring of the learning, and support of the student are all related to the objectives, with a direct relationship between the quality of objectives and the quality of the course itself (Moore, M. (2001).

2. Beginning with student's current knowledge, course goals and learning objectives are utilized for extending that knowledge and moving students toward achieving those goals (Moore, Winograd, & Lange, 2001).

3. Teachers must develop clear objectives and then divide course material into manageable chunks to support those objectives, providing constant self-testing so students will be able to judge their progress in the learning as they master the objectives (Mood, 1995).

4. Many times students don't note the purpose of a course; the provided objectives don't always get noticed; so the goals and performance requirements must be stated, restated, and supported by the activities of the course (Keller & Burkman, 1993).

5. Keep exercises and assessment items consistent with the objectives, content, and examples of the course; thus student focus will result in study of the correct concepts and information. (Keller, 1993).

Table 33

Results from the survey for the statement "Course content matches stated course objectives"

Adjunct-Reported Importance (Low=1, High=4)	Student-Reported Importance (Low=1, High=4)	Student-Reported Presence Out Of 89 Described Cases	Adjunct Interest in Professional Development
Mean = 3.33 Good Practice	Mean = 3.67 Strongly Agree: Important	74	2 of 16 instructors 13%

Learning goals and objectives provide the foundation on which the teaching and learning in a course rest. They drive the instructional design, the activities, and the assessment. They are a contract between the learner and the instructor, determining what will be taught and how, and what the student will learn. The student-reported importance that this contract be honored is rated as "essential practice" with a mean of 3.67, one of the two highest scores for student reported importance. Student reported presence in described cases is also high, at 74 of 89 for the third highest presence rating. Adjuncts rate the importance of this "implied contract" at a mean of 3.33, "good practice," only a mean .13 from an "essential practice" rating.

Lessons learned from the study are reiterated again here with student response to this instructional practice. Again and again in their ratings students have indicated that they want to know clearly what to expect from their course and they want the security of knowing that those expectations, created by the objectives and the course design, will be met. It is the instructor's responsibility to evaluate the learning objectives and to be able to show the relationship of each activity incorporated in the course to those objectives. An activity that cannot be shown to

further mastery of stated objectives should be eliminated from the course. This means that objectives must be clear and comprehensive, covering all aspects of course content and assignments. The objectives must be developed carefully and thoughtfully, and the activities of the course must be deliberately developed to support those objectives. Because many instructors in higher education have not been taught to develop or to plan within the confines of learning objectives, this is a practice that should be considered as a professional development option.

Lessons from Adjunct Survey Section #5, Student Learning, Statement 2

"The course is well organized."

Discussion in the Professional Literature: Recommendations from Researchers

1. The organization of a course gives it its sense of structure and support (Cavanaugh, 2002).

2. Work to keep the course well organized by simplifying or eliminating any online activities that often cause confusion; keep the course structured carefully with instruction arranged easy to difficult, simple to complex, or concrete to abstract (Chyung, 2001).

3. Be structured and orderly and sequential in developing the learning process (Kanuka, Collett, & Caswell, 2002).

4. Students in a study indicated that they wanted to know what tasks they needed to perform, what the instructor expected, and exactly when the assignment was due. They preferred structure and specific task information. They expected timely feedback so they would know the effectiveness of the approach they had taken and how to tailor future assignments (Eastmond, 1995).

5. Give all the steps needed and how and when the assignment will be turned in. Put the instructions in the syllabus and each place it will be used in the course; provide reminders and announcements. Carefully set up detailed and correct instructions for each activity of the course (Moore, Winograd, & Lange, 2001).

6. Any flaw in course design and instruction for Internet-based learning becomes magnified

7. (Rudy, 1994).

8. Instructors cited a clear and organized structure designed for the course as being "a key to supporting learning effectiveness" (Sener, 2001).

Table 34

Results from the survey for the statement "Course is well organized"

Adjunct-Reported Importance (Low=1, High=4)	Student-Reported Importance (Low=1, High=4)	Student-Reported Presence Out Of 89 Described Cases	Adjunct Interest in Professional Development
Mean = 3.47 Good Practice	Mean = 3.67 Strongly Agree: Important	65	3 of 16 instructors 19%

Both adjuncts and students value organization in the Internet-based course. The mean for adjunct-reported importance is a high level of "good practice," only mean .03 from "essential." Students rated a well organized course at the highest of all student reported means reported in this study, 3.67. Student reported presence is 65 of 89 courses.

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Lessons learned from this study indicate that structure in an Internet-based course is created by the objectives, activities, assignments, and assessments determined by the instructor or the course designer. The instructor's choices of these activities, assignments, and assessments guide students through the learning process. Students, who must make sense of the assignments and activities of the course, emphasize the importance of organization with their highest mean valuation, but both students and instructors rate this element of the teaching and learning process as very important. Organization of a course can begin by designing the course to include appropriate recommended practices listed in this discussion chapter. For example, instructors should design for a consistent opening and closing for each unit, page, and activity; for clear and descriptive headings for each unit, page, and activity; for a calendar with due dates that can be accessed from many, if not all, course pages; for clear instructions for each use of technology or for each assignment. Consideration of these and many of the other practices listed in this chapter would provide direction for the instructor to create the well organized course valued by both instructor and student.

Lessons from Adjunct Survey Section #5, Student Learning, Statement 3

"Instructor responds to questions and assignments in a timely manner."

Discussion in the Professional Literature: Best Practice

"Feedback to student assignments and questions is…provided in a timely manner" (Phipps & Merisotis, 2000).

Discussion in the Professional Literature: Recommendations from Researchers

1. Quick turnaround is needed for assignments so learners aren't working on assignment number 12 before they have feedback for assignments 10 or 11 (Mood, 1995).

2. In attitudinal data from surveys students specifically liked immediate feedback (Arvan & Musumeci, 2000).

3. Student comfort is enhanced through quick response to student questions and quick turnaround for feedback (Cavanaugh, 2003).

4. Students need specific, concrete, timely, and constructive feedback (Chyung, 2001).

5. Evaluate student work and return it as quickly as possible (Fredericksen, Pickett, Shea, Pelz, & Swan, 2000).

6. Answer questions right away to keep potential attrition down (American Federation of Teachers, 2000).

7. Students' suggestion on one most important thing that a faculty member should do to facilitate a good learning experience is to respond in a timely and substantive way to student postings and other communications (Hiltz, 1994).

8. Instructors must offer timely feedback that can overcome the lack of verbal and visual cues utilized in traditional classes for added understanding (Kanuka, Collett, & Caswell, 2002).

Table 35

Results from the survey for the statement "Instructor responds to questions and assignments in a timely manner"

Adjunct-Reported Importance (Low=1, High=4)	Student-Reported Importance (Low=1, High=4)	Student-Reported Presence Out Of 89 Described Cases	Adjunct Interest in Professional Development
Mean = 3.73 Essential Practice	Mean = 3.65 Strongly Agree: Important	66	2 of 16 instructors 13%

Adjunct instructors rate timely feedback as an "essential practice" (mean of 3.73) and therefore best practice, and students "strongly agree" that it is important (3.65) in the Internet-based environment. This adjunct-rated mean is the highest practice mean for adjuncts and the student mean is one of the highest four means as rated by students. This practice is also rated "best practice" by Phipps and Merisotis (2000).

Lessons learned from this study indicate that instructors and students agree on the importance of timely response to student questions and assignments. Students often expect responses to questions in Internet-based courses to be "immediate" because of the immediacy of email communication. Instructors can respond on a predictable schedule with regular office hours set up but many instructors check their email more often through the day and respond even earlier. Early response can be helpful to students who are studying at a distance because Internet-based courses do not have the advantage of class discussion in preparation for course activities. When students begin the assignment, questions could delay completion of the task. One strategy to respond to students who have questions about an assignment might be to set up a forum

discussion of the week's activities at the beginning of each new week. Any questions and responses that arise about the assignment could be entered in that forum and students with questions could check that forum for quick answers. Or students could be instructed to send assignment–or technology–questions to a class "Help" forum for fellow students to respond to in case they can provide an answer before the instructor responds. If the question is answered by students, instructors will have minimized by at least one question their consistently busy agenda of course related communication.

Lessons from Adjunct Survey Section #5, Student Learning, Statement 4

"Instructor response and feedback are provided in a constructive, non-threatening manner."

Discussion in the Professional Literature: Best Practice

"Feedback to student assignments and questions is constructive" (Phipps & Merisotis, 2000).

Discussion in the Professional Literature: Recommendations from Researchers

1. Students' suggestion on one most important thing that a faculty member should do to facilitate a good learning experience is to give positive feedback to learner contributions (Hiltz, 1994).

2. Give positive extrinsic feedback for success at a rigorous assignment (Keller 1993).

3. Offer two positive comments to the student about his/her work; then offer two ways to improve it (Sweder & Holdiman, 2002).

Table 36

Results from the survey for the statement "Instructor response and feedback are provided in a constructive, non-threatening manner"

Adjunct-Reported Importance (Low=1, High=4)	Student-Reported Importance (Low=1, High=4)	Student-Reported Presence Out Of 89 Described Cases	Adjunct Interest in Professional Development
Mean = 3.71 Essential	Mean = 3.66 Strongly Agree: Importance	69	3 of 16 instructors 19%

This practice is also rated by adjuncts as "essential" (mean = 3.71) and therefore as best practice and by students as "strongly agree" (mean = 3.66) for importance. The "essential" rating provided by adjuncts would suggest that this practice is best practice. This practice is also defined "best practice" by Phipps and Merisotis (2000).

Lessons learned from this study suggest that, while discussions between student and instructor in the traditional course usually focus on course content, discussions between student and instructor in the Internet-based environment is more often related to encouragement and motivation. In the unfamiliar setting of Internet-based learning, students new to the program struggle to "get it right" and need support in that effort. Even experienced students need a clearly constructive and non-threatening response to questions and to assignments because with the lack of verbal and visual cues misunderstandings can create critical problems for sensitive students. With constructive and non-threatening responses to their questions and their work, students can build trust that the invisible instructor is an ally supporting them in their learning process.

Lessons from Adjunct Survey Section #5, Student Learning, Statement 5

"When possible, the instructor relates course content to students' life experiences."

Discussion in the Professional Literature: Recommendations from Researchers

1. For effective Internet-based instruction, keep the class relevant. Give students the chance to relate content to their own needs and to focus on the areas useful for their own interests; this will create motivation (Egerton & Posey, 2002).

2. A key requirement for working with adult learners: "instructors must recognize and incorporate" adults' past experiences (Guvenoz, 2002, p. 24).

3. Courses are set up so that a student who successfully completes the course will be able to immediately utilize the skills and concepts in a real world experience (Thompson, 2000).

4. Students suggest an important strategy for learner online success: the instructor encourages linkages from content to student life experiences (Tsay, Morgan, & Quick, 2000).

5. Connect the course material to students' real life experience; instructors can share their own life experiences related to the content (Lynch, 2002).

6. Where possible, learning outcomes should relate to real-life experiences through simulation and application (American Distance Education Consortium, 2002).

Table 37

Results from the survey for the statement "When possible, the instructor relates course content to students' life experiences"

Adjunct-Reported Importance (Low=1, High=4)	Student-Reported Importance (Low=1, High=4)	Student-Reported Presence Out Of 89 Described Cases	Adjunct Interest in Professional Development
Mean = 3.00 Good Practiced	Mean = 3.17 Agree: Important	51	2 of 16 instructors 13%

Both adjuncts and students rate this practice "good practice" and "agree" to its importance. Presence is low at 51 of 89 described courses.

Lessons learned from this study indicate that many students in Internet-based courses are adult learners with families, employment responsibilities, and other commitments. Often without the option to return to the college campus, they are enrolled in Internet-based programs to continue their education. One major instructional practice suggested for teaching effectively for adult learners is to make the course relevant to their life experiences whenever possible. Many courses treat content as though it were isolated information with little or no relationship to the world of the student, but most courses can be related in some way to the personal experiences of the learner. Adult learners (like all learners) prefer to learn content that is meaningful to them, content that focuses on their own interests and needs. The instructor can provide bridges from course content to real life. Because learners in Internet-based courses are studying in their own local communities at a distance from the college, the life experiences of students who make up the class will often vary greatly. Adult learners are life-centered and seek authentic learning

opportunities; they can enrich the course by sharing their varied perspectives on how course content relates to real world experiences.

Lessons from Adjunct Survey Section #5, Student Learning, Statement 6

"Course content is presented in sequential steps, building on prior knowledge and/or previous learning."

Discussion in the Professional Literature: Recommendations from Researchers

1. A desirable quality of a good module: the subject matter is built on students' existing knowledge (Balbo, & Orlina, 1984).

2. Effective online instruction: activities begin "small" with a low level of content learning that is merged into the larger content, relating it to prior knowledge and to a larger process (Egerton & Posey, 2002).

3. Beginning with student's current knowledge, course goals and learning objectives are utilized for extending that knowledge, moving students toward achieving desired goals (Moore, Winograd, & Lange, 2001).

Table 38

Results from the survey for the statement "Course content is presented in sequential steps, building on prior knowledge and/or previous learning"

Adjunct-Reported Importance (Low=1, High=4)	Student-Reported Importance (Low=1, High=4)	Student-Reported Presence Out Of 89 Described Cases	Adjunct Interest in Professional Development
Mean = 3.27 Good Practice	Mean = 3.56 Strongly Agree: Important	63	2 of 16 instructors 13%

Adjuncts rate this practice as "good practice," while students "strongly agree" that it is important. This practice is reported present in only 63 of 89 courses.

Lessons learned from this survey suggest that linkage of new knowledge to past learning or understanding is especially helpful for adult learners. Links to life experiences, career choices, or educational opportunities can help adults (and all learners) see analogies and relationships between what was already known and the developing new knowledge. Each new concept should be built just one step beyond the student's current understanding.

Lessons from Adjunct Survey Section #5, Student Learning, Statement 7

"Course content and learning activities are presented through a variety of methods and strategies appropriate for online learning."

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Discussion in the Professional Literature: Recommendations from Educational Associations

 "Learning environments must include problem-based as well as knowledge-based learning" (American Distance Education Consortium, 2002).

Discussion in the Professional Literature: Recommendations from Researchers

1. Success comes from the use of varied media for activities and communication and by integrating that communication into the course (Cavanaugh, 2002).

2. Instructors need to offer interactive problem solving activities that are relevant to real-world issues and that motivate learners. (Chickering, & Ehrmann, 1996).

3. Valued qualities in courses include appropriate off-line assignments (Fredericksen, Pickett, Shea, Pelz, & Swan, 2000).

Table 39

Results from the survey for the statement "Course content and learning activities are presented through a variety of methods and strategies appropriate for online learning"
_____

Adjunct-Reported Importance (Low=1, High=4)	Student-Reported Importance (Low=1, High=4)	Student-Reported Presence Out Of 89 Described Cases	Adjunct Interest in Professional Development
Mean = 3.31 Good Practice	Mean = 3.54 Strongly Agree: Important	55	2 of 16 instructors 31%

_____

Adjuncts rate this practice at a high level of "good practice." Students report that they value variety in their Internet-based course, rating this practice as "strongly agree" for

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importance. Presence for this practice is low, with only 55 courses of the 89 reported to utilize varied and appropriate strategies.

Lessons learned from this study suggest that students value a change of pace through a variety of instructional strategies. Variety in strategies and activities will allow students with differing learning styles to each have activities appropriate for their individual modalities. However, the low presence of varied and appropriate methods and strategies is not surprising. Traditionally, many instructors in higher education rely on lecture format in the face-to-face classroom and when they transition to the Internet-based environment they have little preparation for other pedagogical methods and strategies. Nationwide large numbers of institutions offering Internet-based programs have been challenged by the press of time and dwindling resources, and little professional development for either full-time or adjunct instructors has been available. Without professional development to offer instructors new ways to teach in this new medium, few instructors will be able to provide creative and varied strategies for student learning. Internet-based programs should commit to professional development experiences for both full-time and adjunct instructors.

Lessons from Adjunct Survey Section #5, Student Learning, Statement 8

"Activities and assignments require learners to utilize high-level thinking skills of analysis, synthesis, and evaluation."

Discussion in the Professional Literature: Best Practice

The course must require student learning processes for analysis, synthesis, and evaluation (Phipps & Merisotis, 2000).

Discussion in the Professional Literature: Recommendations from Educational Associations

"Quality Web-based teaching and learning [is] based on higher level thinking skills" (American Distance Education Consortium, 2002).

Discussion in the Professional Literature: Recommendations from Researchers

Questions utilizing analysis, synthesis, and evaluation can provide interesting debates that can promote deeper response than fact and knowledge levels can provide. They also can help learners to assimilate the content into their thinking (Moore, Winograd, & Lange, 2001).

Table 40

Results from the survey for the statement "Activities and assignments require learners to utilize high-level thinking skills (analysis, synthesis, and evaluation)"

Adjunct-Reported Importance (Low=1, High=4)	Student-Reported Importance (Low=1, High=4)	Student-Reported Presence Out Of 89 Described Cases	Adjunct Interest in Professional Development
Mean = 3.33	N/A	N/A	18%

Student surveys did not include this question. Adjuncts rate this pedagogical strategy as "good practice." Phipps and Merisotis rate it "essential practice."

Lessons learned from the study indicate that higher level thinking skills can be utilized effectively through Internet-based teaching strategies. Just as in traditional classrooms, assignments would require analysis, synthesis, and evaluation to correctly answer questions

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about course content. Questions must be carefully and purposefully structured in advance to ensure that higher level thought processes would be required for appropriate student responses.

Lessons from Adjunct Survey Section #5, Student Learning, Statement 9

"Course design requires students to 'learn by doing' (through research, essays, projects, debates, etc.) and not simply by reading assigned materials."

Discussion in the Professional Literature: Recommendations from Educational Associations

"The learner is actively engaged" with hands-on, concrete experiences . . . learning by doing" (American Distance Education Consortium, 2002).

Discussion in the Professional Literature: Recommendations from Researchers

1. Based on the fact that students often question the idea of "teaching themselves," Valenta takes part of the first session of the online course to review the implications of Objectivist vs. Constructivist pedagogy. In this way she describes for the students what the focus of the course is to be; when she does this, students more rapidly move into their role as active learner. They better understand her role as facilitator as opposed to "teacher" and they are more clearly familiarized with the expected work experience of the upcoming course (Valenta, 2000).

2. Problem-based learning deals with real world problems where students in groups examine the issue and solve the problem (Moore, Winograd, & Lange, 2001).

3. It is important that students do not think that they are "teaching themselves" and resent it; instructors should be very clear from the beginning why they will use active learning and

the benefits of it. Be sure that students are aware that you, the expert, are in charge and
are making sure that they are learning the appropriate concepts (Theis, 2000).

Table 41

Results from the survey for the statement "Course design requires students to 'learn by doing'
(through research, essays, projects, debates, etc.) and not simply by reading assigned materials"

Adjunct-Reported Importance (Low=1, High=4)	Student-Reported Importance (Low=1, High=4)	Student-Reported Presence Out Of 89 Described Cases	Adjunct Interest in Professional Development
Mean = 3.64 Essential Practice	Mean = 3.60 Strongly Agree: Important	71	5 of 16 instructors 31%

Adjuncts rate this pedagogy "essential" and students "strongly agree" to its importance.
The practice is viewed by students as present in a large number of described cases. Indicating the
importance of this practice for the Internet-based instructor, 31% of adjuncts report interest in
professional development for this strategy.

Lessons from the study suggest that "learning by doing" is a significant and important
pedagogical strategy for effective learning in the Internet-based educational environment. Rather
than simply reading about the concepts to be learned from the computer screen or from assigned
texts, active learning techniques allow students to seek out answers and to make meaning of
them for themselves. Creative projects can be utilized to guide students as they discover new
knowledge. Students can talk with experts on- or off-line to learn more about the assigned topic.
They can seek answers through searches of the Internet or through researching in their local

community. They can work in groups to come to consensus or they can serve as a committee of one to bring to the rest of the class new information from their own past experience. "Learning by doing" is a particularly appropriate method of learning for the adult learner because it allows the adult to learn in a life-centered, authentic learning atmosphere.

Lessons from Adjunct Survey Section #5, Student Learning, Statement 10

"Course design requires multiple interactions between instructor and each student (email, chatroom, or forum/threaded discussion, etc.)."

Discussion in the Professional Literature: Best Practice

"Student interaction with faculty…is an essential characteristic and is facilitated through a variety of ways, including voice-mail and/or e-mail" (Phipps & Merisotis, 2000).

Discussion in the Professional Literature: Recommendations from Educational Associations

1. "Learning experiences should support interaction " (American Distance Education Consortium, 2002).
2. "To maximize communication electronically, distance learning courses should, to the greatest extent possible, incorporate both real-time electronic interchange…and asynchronous forms of communication" (American Federation of Teachers, 2000).
3. "The course…provides for appropriate interaction between faculty and students" (Foundation for Quality of the Electronic Campus of the Southern Regional Education Board, 2003).

4. "Effective learning environments should provide frequent and meaningful interactions…between learners and the instructor" (Innovations in Distance Education, n.d.).

5. "Programs provide for timely and appropriate interaction between students and faculty" (North Central Association Commission on Institutions of Higher Education, 2000).

6. "The importance of appropriate interaction (synchronous or asynchronous) between instructor and students…is reflected in the design of the program and its courses" (Regional Accrediting Commissions, 2000).

Discussion in the Professional Literature: Recommendations from Researchers

Student/teacher interaction is the "most important factor in student motivation and involvement." Knowing that the instructor is concerned helps students when they are facing difficulties and helps motivate them to continue to strive (Chickering & Gamson, n. d.).

Table 42

Results from the survey for the statement "Course design requires multiple interactions between instructor and each student (email, chatroom, or forum/threaded discussion, etc.)"

Adjunct-Reported Importance (Low=1, High=4)	Student-Reported Importance (Low=1, High=4)	Student-Reported Presence Out Of 89 Described Cases	Adjunct Interest in Professional Development
Mean = 3.21 Good Practice	Mean = 3.41 Good Practice	64	2 of 16 instructors 13%

Adjuncts rate this practice "good practice" and students rate it at a high level of "agree" for importance, only a mean of .09 from "essential." This practice is rated "best practice" by Phipps and Merisotis (2000) and is recommended by six educational associations. However, it is present in only 64 of 89 classes.

Lessons learned from this study point to the importance that the professional literature places on multiple interactions between instructor and student in Internet-based courses. Because of the easy access to the instructor that the Course Management System provides through forums, chatrooms, and email, many Internet-based instructors find that they communicate with their students far more often than they did with their traditional learners. Instructors also report that, because of these multiple communications, they know their Internet-based students better than they knew their traditional learners. Learners in the Internet-based environment, especially those new to this unique course delivery system, communicate to their instructors their concerns about "getting the technology right" and adjunct instructors report that a significant amount of their communication with students is designed to provide support and encouragement for student efforts. Because access to Internet-based instructors, including adjuncts, is so easy through the electronic media, instructors have a constant stream of communications in their email inbox, causing them to be inundated with messages much of the time. Because of this increased interaction, instructors discover that teaching an Internet-based course requires far more time than does teaching in the traditional environment.

Lessons from Adjunct Survey Section #5, Student Learning, Statement 11

"Course design requires multiple interactions among learners (email, chatroom, or forum/threaded discussion, etc.)"

Discussion in the Professional Literature: Best Practice

   "Student interaction with…other students is an essential characteristic and is facilitated through a variety of ways, including voice-mail and/or e-mail."

Discussion in the Professional Literature: Recommendations from Educational Associations

1. "Learning experiences should support interaction and the development of communities of interest" (American Distance Education Consortium, 2002).

2. "The course…provides for appropriate interaction…among students" (Foundation for Quality of the Electronic Campus of the Southern Regional Education Board, 2003).

3. "Effective learning environments should provide frequent and meaningful interactions among learners" (Innovations in Distance Education, n.d.).

4. "Programs provide for timely and appropriate interaction…among students" (North Central Association Commission on Institutions of Higher Education, 2000).

5. "The importance of appropriate interaction (synchronous or asynchronous) …among students is reflected in the design of the program and its courses" (Regional Accrediting Commissions, 2000).

Discussion in the Professional Literature: Recommendations from Researchers

   The instructor promotes interaction by helping students to provide support and encouragement of other learners' progress by helping, responding, sharing resources, encouraging, and motivating to help get the job done. The instructor observes the process and alternates roles periodically, as responsibilities for the instructor's role tends to diminish with time (Aviv, 2000).

Table 43

Results from the survey for the statement "Course design requires multiple interactions among learners (email, chatroom, or forum/threaded discussion, etc.)"

Adjunct-Reported Importance (Low=1, High=4)	Student-Reported Importance (Low=1, High=4)	Student-Reported Presence Out Of 89 Described Cases	Adjunct Interest in Professional Development
Mean = 2.87 Good Practice	Mean = 3.09 Agree: Important	57	3 of 16 instructors 18%

The literature suggests that students are often less enthusiastic about joining Internet-based interactive group activities than in taking part in other Internet-based assignments. Adjuncts rate this practice at a low level of "good practice" and students "agree" to its importance. Level of presence for this practice is 57 course cases out of 89. This practice is rated "best practice" by Phipps and Merisotis (2000) and is recommended by five educational associations.

Lessons learned from this study indicate that interaction, including interaction between learners, is the pedagogical practice most frequently discussed and recommended in the professional literature. This frequency of discussion and recommendation shows the importance that the professional community places on students interacting among themselves as they also interact with instructors and with course content in the Internet-based environment. Interaction is one of the most obvious elements missing as students move from traditional to Internet-based learning. Students enrolled in the Internet-based course study in isolation from other students, and educators have repeatedly shown that effective interaction among peers can still occur, even

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in the computer assisted environment. Through the capabilities of the Course Management System there are concrete practices that can be used to counter the loss of face-to-face interaction. However, many Internet-based instructors nationwide remain uncertain about how to use the capabilities of the Course Management System to ensure appropriate student to student communication that will enrich the learning environment. Courses must be carefully designed to include interactive activities for students. This practice is an important option for professional development for both full-time and adjunct Internet-based instructors.

Lessons from Adjunct Survey Section #5, Student Learning, Statement 12

"Course design requires student collaboration (solve problems, complete group projects, comment on or edit work of other learners, etc."

Discussion in the Professional Literature: Recommendations from Educational Associations

 "Quality Web-based teaching and learning allows group collaboration and cooperative learning…[and] focuses on real-world problem solving" (American Distance Education Consortium, 2002).

Discussion in the Professional Literature: Recommendations from Researchers

1. Success comes from providing cooperative groups with real life problems so that the activity is similar to the professional out of class experience, utilizing interdependent effort (Cavanaugh, 2002).

2. Positive interdependence comes when each student senses that success comes if, and only

    if, all members of the grouop succeed, causing all to work together toward group success

    (Aviv, 2000).

3. Valued qualities in courses: Appropriate collaborative experiences (Fredericksen, Pickett,

    Shea, Pelz, & Swan, 2000).

Table 44

Results from the survey for the statement "Course design requires student collaboration (solve
problems, complete group project, comment on or edit work of other learners, etc.)"

Adjunct-Reported Importance (Low1, High 4)	Student-Reported Importance (Low1, High 4)	Student-Reported Presence Out Of 89 Described Cases	Adjunct Interest in Professional Development
Mean = 2.75 Good Practice	Mean = 2.62 Agree: Important	23	2 of 16 instructors 13%

Adjunct importance level for Internet-based collaboration was a mean of 2.75, a low level

in the "good practice" range and only .25 above "acceptable practice." Student importance level

was even lower at 2.62, with a mean score only .12 above "disagree" that the practice is

important to student achievement and satisfaction. Reported presence in courses was low at 23.

Lessons learned from this study suggest that with a student-reported presence for this

practice in 23 of 89 described cases, adjunct instructors at this Central Florida community

college follow national trends in their utilization of the Course Management System potential for

collaborative learning activities. In national studies, most courses provided no opportunities for

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student collaborative learning; the courses often simply transmitted information. And just as instructors nationwide do not include collaborative learning exercises in courses, students nationwide are also wary of these activities and are reported to respond negatively when faced with collaborative learning options. However, after successful application of collaborative learning precepts in a course, students report positive responses to the experience. Instructors may find it difficult to recognize the positive potential for collaborative learning activities in the isolated world of the computer-based environment. Professional development is needed to provide instructors with appropriate strategies collaborative activities. Not surprisingly, only two of 16 adjunct instructors reported interest in professional development in this practice, paralleling nationwide trends in which instructors, like students, do not exhibit positive response to Internet-based collaboration. This may be a case in which lack of awareness and understanding results in a lack of interest. Professional development might change negative response into positive results.

Lessons from Adjunct Survey Section #5, Student Learning, Statement 13

"'Electronic lecture' content is provided in concise form."

Discussion in the Professional Literature: Recommendations from Researchers

1. When developing electronic lectures, include careful use of "white space" and content-appropriate graphics and/or pictures (Moore, Winograd, & Lange, 2001).

2. Student suggestions on the one most important thing that a faculty member should do to facilitate a good learning experience: present the information in "e-lectures" concisely (Hiltz, 1994).

3. In developing electronic lectures, include hyperlinks to web sites that strengthen your presentation of the content, along with instructions for returning to the lecture. Or set up the hyperlinks so that they will open in a separate smaller window next to the lecture site (Moore, Winograd, & Lange, 2001).

4. Set lecture content into a slide show with software such as PowerPoint; show the important concepts on each slide and the slide show can be programmed to play any appropriate audio or video clip to enhance the learning (Moore, Winograd, & Lange, 2001).

5. "E-lectures" clearly represent messages from the instructor that he/she considers important.

6. They should be chunked so that not too much information appears on the site at one time (Hislop, 2000).

Table 45

Results from the survey for the statement "'Electronic lecture' content is provided in concise form"

Adjunct-Reported Importance (Low=1, High=4)	Student-Reported Importance (Low=1, High=4)	Student-Reported Presence Out Of 89 Described Cases	Adjunct Interest in Professional Development
Mean = 3.08 Good Practice	Mean = 3.34 Agree: Important	44	2 of 16 instructors 13%

Both adjunct instructor and student agree that this practice is good practice and important to student achievement or satisfaction. However, this practice is utilized in only 44 of 89 described cases and only 2 instructors indicate interest in training for developing concise "E-lectures."

Lessons learned from this study suggest that the E-lecture, or the electronic lecture, should not be made up of a long series of computer screens to be read one following the other. For many people, reading from the computer screen is awkward and distracting at least, confusing and frustrating at worst. Concise E-lectures are seen in only 44 of 89 cases reported in this survey. That number is not surprising, given the inclination of instructors in higher education nationwide to bring to Internet-based teaching the strategies utilized in the traditional classroom and a typical lack of experience with alternative instructional options. Students may not see viable alternatives to the lengthy text-based lecture because they, too, may have had little or no experience with other Internet-based instructional strategies. However, they do recognize that extended periods of reading text from the computer screen are not pleasant ways of learning content. Providing strategies for building content beyond the E-lecture is one professional development option that should be considered, even though significant numbers of instructors do not request training for that practice; instructors may not ask for support for a practice when they aren't aware that there are viable alternatives.

Lessons from Adjunct Survey Section #5, Student Learning, Statement 14

"Concise 'electronic lecture' content is further developed through student-centered activities (research, discussion, projects, etc.)"

Discussion in the Professional Literature: Recommendations from Researchers

In developing the concise e-lecture, determine whether the content of the lecture gives information that students could get from the text, from a project, or from a discussion forum. The instructor must determine alternative ways in which this content could be presented that would be more effective than reading a long "lecture" (Moore, G., Winograd, & Lange, 2001).

Table 46

Results from the survey for the statement "Concise 'electronic lecture' content is further developed through student-centered activities (research, discussion, projects, etc.)"

Adjunct-Reported Importance (Low=1, High=4)	Student-Reported Importance (Low=1, High=4)	Student-Reported Presence Out Of 89 Described Cases	Adjunct Interest in Professional Development	
Mean = 2.92 Practice	Mean = 3.30 Agree: Important	31	2 of 16 instructors 13%	Good

Adjuncts rate the practice of extending concise electronic lectures through student-centered activities to be "good practice." Student-reported presence in only 31 cases suggests, however, that instructors have made little progress in extending knowledge of content through strategies for active learning provided in conjunction with concise "e-lectures." Student-reported importance rating is at a high level of "agree" that this is an important practice for their achievement and satisfaction, but they do not "strongly agree" to its importance.

Lessons learned from this study suggest that providing concise E-lectures combined with student-centered activities such as research papers, debates, role playing, or hands-on projects

can provide learning alternatives to the lengthy traditional lecture that might have been presented for face-to-face class sessions. Students could develop content knowledge for themselves by researching issues related to the E-lecture, bringing the information back for discussion by posting to electronic forums. Students could reply with questions and through replies to the postings of others. Adjunct as well as full-time instructors should be taught, through professional development programs, to create E-lectures designed to lead students to meaningful activities so that they develop and extend important content information for themselves.

Lessons from Adjunct Survey Section #5, Student Learning, Statement 15

"Appropriate research sources, including virtual library references and links, are provided if research activities are assigned."

Discussion in the Professional Literature: Best Practice

"Students have access to sufficient library resources that may include a 'virtual library' accessible through the World Wide Web" (Phipps & Merisotis, 2000).

Discussion in the Professional Literature: Recommendations from Educational Associations

1. "Each student…has assured access to learning resources–including libraries and other information sources…–requisite to the content and rigor of the courses" (Global Alliance for Transnational Education, 2000).
2. "Distance Education students should be given access to all possible electronic research materials" (American Federation of Teachers, 2000).

3. The "course ensures that appropriate learning resources are available for students" (Foundation for Quality of the Electronic Campus of the Southern Regional Education Board, 2003).

4. "The institution ensures that students have access to…appropriate library resources" (North Central Association Commission on Institutions of Higher Education, 2000).

5. "The program assures that appropriate learning resources are available to students" (Western Cooperative for Educational Telecommunications, 2003).

Table 47

Results from the survey for the statement "Appropriate research sources, including virtual library references and links, are provided if research activities are assigned"

Adjunct-Reported Importance (Low=1, High=4)	Student-Reported Importance (Low=1, High=4)	Student-Reported Presence Out Of 89 Described Cases	Adjunct Interest in Professional Development
Mean = 2.77 Good Practice	Mean = 3.39 Agree: Important	41	2 of 16 instructors 13%

Students value the support of appropriate research resources recommended or provided through the course at a mean of 3.39, a high level of "agree" to the importance of this practice. Adjunct instructors perceive the responsibility to provide those resources at a low level of "good practice." Resources were provided in 41 of 89 described cases, but there is no record of how many described courses required research, so this number is not meaningful. This practice is rated best practice and essential by Phipps and Merisotis (2000).

Lessons learned from the study suggest that, in contrast to those students taking traditional courses on the college campus, some students studying at a distance may not have access to an appropriate library. Because they are physically isolated from the intellectual community, if research activities are assigned for these students they may have great difficulty. Students new to Internet-based research also may not be proficient at locating appropriate resources on the World Wide Web. Instructors should ensure that appropriate reference resources, print or Internet-based, are available to learners at a distance if they are required for course activities. Instructors' response to this practice rates it just .27 of the mean above simply being "acceptable practice." Instructors in higher education may feel that college level students should be able to find adequate reference sources on their own, but with students living and working at a distance from campus that may not be a realistic expectation. Students rate this practice only .11 of the mean below "strongly agree" to its importance; those students with little Internet-based experience may rate the practice at a higher level than do students who have learned to successfully search the World Wide Web. But for the student who is still learning to navigate in the Internet-based environment, having access to adequate resources for required research might be a critical element in achievement in and satisfaction with an Internet-based course.

Lessons from Adjunct Survey Section #5, Student Learning, Statement 16

"Training is provided for students to locate, evaluate, and use appropriate online resources if research activities are assigned."

Discussion in the Professional Literature: Best Practice

"Students are instructed in the proper methods of effective research, including assessment of the validity of resources" (Phipps & Merisotis, 2000).

Discussion in the Professional Literature: Recommendations from Researchers

1. The World Wide Web offers much information but it does not offer knowledge. Instructors must help students turn that information into valid knowledge (Moore, G., Winograd, & Lange, 2001).

2. Success comes from Information literacy skills developed for information retrieval or for evaluation of sources (Cavanaugh, 2002).

3. Standards for good practice: Students have access to and effectively use correct learning resources. (Dasher-Alston & Patton, 1998).

Table 48

Results from the survey for the statement "Training is provided for students to locate, evaluate, and use appropriate online resources if research activities are assigned"

Adjunct-Reported Importance (Low=1, High=4)	Student-Reported Importance (Low=1, High=4)	Student-Reported Presence Out Of 89 Described Cases	Adjunct Interest in Professional Development
Mean = 2.67 Good Practice	Mean = 3.34 Agree: Important	34	2 of 16 instructors 13%

Adjuncts rate this practice at a low level of "good practice" and students "agree" to its importance. This practice is rated "best practice" by Phipps and Merisotis (2000).

Lessons learned from this study suggest that research on the World Wide Web utilizes skills both similar to and different from research in the physical library of the college campus. In both environments researchers must learn to locate resources, evaluate their authority, and use them appropriately. However, when searching the World Wide Web for resources the skills needed to locate appropriate sources are very different from traditional skills utilized to find print reference materials. When searching the World Wide Web the skills needed to evaluate the authority of a web site are different from traditional skills used to evaluate reference materials. From understanding how to search with Web browsers to determining the authority of a Web site, many students will need training to appropriately utilize Internet resources. Because these skills are unique when compared with traditional research skills, many instructors will themselves need training to prepare them to teach these skills to their students.

Lessons from Adjunct Survey Section #5, Student Learning, Statement 17

"Clear instructions are repeated EACH time an assignment requires the use of a specific component of technology."

Discussion in the Professional Literature: Recommendations from Researchers

For redundancy briefly repeat again and again, at the point when they are needed, the instructions for, important information about, navigational steps for, and ways to use new technologies (Moore, Winograd, & Lange, 2001).

Table 49

Results from the survey for this statement "Clear instructions are repeated EACH time an assignment requires the use of a specific component of technology"

Adjunct-Reported Importance (Low=1, High=4)	Student-Reported Importance (Low=1, High=4)	Student-Reported Presence Out Of 89 Described Cases	Adjunct Interest in Professional Development
Mean = 2.92 Good Practice	Mean = 3.14 Agree: Important	36	3 of 16 instructors 19%

Adjunct instructors rate this "good practice," and students "agree" that it is an important practice for student achievement and satisfaction. Presence for this practice is seen in only 36 of 89 course descriptions.

Lessons learned from this study suggest that students want very much to avoid the frustrations that come with uncertainty about course operation. The purpose of this recommended practice is to ensure that students have clear and accessible directions for each required activity that utilizes technology, avoiding the confusion that can arise when learners are assigned a task about which they are uncertain. For many students redundant technical instructions are unnecessary once the required skill has been mastered, but for some students each additional application of that technology skill could be a point for confusion and frustration. To eliminate the possibility of distraction, frustration, and loss time for those students, a brief but consistent and complete set of sequential steps for the technical activity should be developed and inserted each time the technical activity is assigned. Students who don't need the technical

support can ignore these instructions, while those who did need them would find them readily

available each time the activity was assigned.

Lessons from Adjunct Survey Section #5, Student Learning, Statement 18

"Clear instructions for accomplishing each academic task are repeated EACH time a

learning activity is assigned."

Discussion in the Professional Literature: Recommendations from Researchers

Repeat instructions each time they could be used, and explain what, why, where, when, and

how for each activity (Moore, Winograd, & Lange, 2001).

Table 50

Results from the survey for the statement "Clear instructions for accomplishing each academic task are repeated EACH time a learning activity is assigned"

Adjunct-Reported Importance (Low=1, High=4)	Student-Reported Importance (Low=1, High=4)	Student-Reported Presence Out Of 89 Described Cases	Adjunct Interest in Professional Development
Mean = 3.08 Good Practice	Mean = 3.19 Agree: Important	47	3 of 16 instructors 18%

Adjunct instructors rate this "good practice," and students "agree" that it is an important

practice for student achievement and satisfaction. Presence for this practice is seen in only 47 of

89 course descriptions.

Lessons learned from this study suggest that students want very much to avoid the frustrations that come with uncertainty related to course structure and operation. For many students redundant instructions for similar assignments may be unnecessary once the instructions for the activity have been successfully completed the first time. However, for clarity it is important to provide along with the assignment, each time the assignment is presented, a brief but consistent and complete set of sequential steps for the activity. Students who don't need this reminder can ignore redundant instructions, while those who do need them would find them readily available. This practice is designed to ensure that students have clear directions for each required activity, avoiding the confusion that can arise when learners are assigned a task about which they are uncertain.

Lessons from Adjunct Survey Section #7, Assessment of Student Learning, Statement 1

"Assessment is clearly based on stated objectives."

Discussion in the Professional Literature: Recommendations from Educational Associations

1. "Assessment follows the objectives, activities, and technologies (American Council on Education, 1996).

2. "Evaluation of performance should be directed toward the measurement and assessment of the defined learning goals" (Innovations in Distance Learning, n.d.).

Discussion in the Professional Literature: Recommendations from Researchers

Good instructional design connects objectives and strategies with assessment to indicate whether or not students have learned the material (Lynch, M., 2002).

Table 51

Results from the survey for the statement "Assessment is clearly based on stated objectives"
_____

Adjunct-Reported Importance (Low=1, High=4)	Student-Reported Importance (Low=1, High=4)	Student-Reported Presence Out Of 89 Described Cases	Adjunct Interest in Professional Development
Mean = 3.20 Good Practice	Mean = 3.53 Strongly Agree: Important	62	2 of 16 instructors 13%

_____

Adjunct instructors rate assessment based on learning objectives to be "good practice"; students "strongly agree" that this is important. Presence is reported in 62 of 89 described cases.

Lessons learned from this study indicate that students expect the security that clear published objectives create as they guide course content, with activities and assignments developing student learning based on published objectives. Students expect the security of knowing that their learning will be assessed based on anticipated objectives.

Lessons from Adjunct Survey Section #7, Assessment of Student Learning, Statement 2

"A variety of techniques is utilized to evaluate and assess student learning."

Discussion in the Professional Literature: Recommendations from Educational Associations

Many and varied "'low-stakes'" evaluation strategies are appropriate so students can see where they stand in achievement but will not have their grade affected in major ways (Innovations in Distance Education, n.d.).

Discussion in the Professional Literature: Recommendations from Researchers

1. Technology can be used to make all assessments by portfolio; give many small but varied assignments for students to respond to (Bullock, 2000).

2. Success comes from portfolios, tests, and varied assessment methods (Cavanaugh,2003).

3. Effective online instruction provides self-check evaluations, exams, written assignments, and presentations (Egerton & Posey, 2002).

Table 52

Results from the survey for the statement "A variety of techniques is utilized to evaluate and assess student learning"

Adjunct-Reported Importance (Low=1, High=4)	Student-Reported Importance (Low=1, High=4)	Student-Reported Presence Out Of 89 Described Cases	Adjunct Interest in Professional Development
Mean = 3.27 Good Practice	Mean = 3.67 Strongly Agree: Important	55	3 of 16 instructors 19%

Adjunct instructors rate this "good practice" and students "strongly agree" that it is important for student achievement and satisfaction. Presence is low at 55 of 89 cases.

Lessons learned from this study suggest that, while instructors believe that variety in assessment is important, they do not have experience with a variety of strategies that could be used as assessment instruments. For example, the Course Management System offers unique options for objective quizzes but most instructors are not likely to have thought of other ways to use this capability to add variety and enhance learning for students. Essays, essay tests, and

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research papers are traditional ways of assessing learning, but instructors are likely to need professional development opportunities to help them identify additional ways to evaluate student learning in Internet-based courses.

Adjunct Instructors and Their Students: Highest Priority Practices

A comparison of ratings reported by adjuncts and students of their perceptions of the importance for student achievement and satisfaction of each pedagogical practice shows both similarities and differences (as seen in Table 53). Of the six practices rated "essential" or best practice by adjuncts, three are included, and three are not included, in the "Students' Top Fifteen" practices that students "strongly agree" are important to achievement or satisfaction. Of the "Adjuncts' Top Ten" practices, six are included the first eight rankings for the "Students' Top Fifteen" practices that students "strongly agree" are important. This indicates strong agreement among adjuncts and students on six practices that are considered highest priority for both. Those "high priority six" are (1) Instructor response is timely, (2) Response is constructive and non-threatening, (3) Students learn by doing, (4) The course is well organized, (5) The site is edited to avoid errors and inconsistencies, and (6) Course content matches published objectives.

However, four practices listed in the "Adjuncts' Top Ten" are not listed at all in the "Students' Top Fifteen"; all of these practices are related to technology: (1) Technical training activities are included in course activities, (2) A policy is published for contact in case of technology failure, (3) Technical support access is clear and published for student reference, and (4) A policy is in place and published for continued learning in the event of technology failure. With an emphasis on these practices, instructors show concern to protect learners from the potential perils of technology problems in an Internet-based course. The fact that these practices

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are not major concerns for students suggests that the institution and instructors have protected

learners well. If students faced significant problems with technology in a course built on a

technical delivery system, technology issues would be more critical to them.

Further evaluation of student responses shows that nine of the "Students' Top Fifteen"

practices are not included at all in the highest priority listing for adjunct-reported importance.

Table 53
Comparison of Practice Ratings for Adjunct Instructors and their Students: Highest Priority "Top 10 + 5"
_____

Instructors' Highest Rated Practices and Best Practices	Mean Low=1 High=4	Students' Highest Rated Practices	Mean Low=1 High=4

_____

1.   Instructor response timely

Instructor rating:	n=15	3.73
Student rating:	n=81	3.65
Presence in courses: 80% n=83		
(Phipps & Merisotis' best practice)		

Course well organized

Student rating:	n=82	3.72
Instructor rating:	n=15	3.47
Presence in courses: 81% n=80		
(Researcher recommendation)		

**2.   Response constructive
     and non-threatening**

Instructor rating:	n=14	3.71
Student rating:	n=81	3.66
Presence in courses: 85% n=81		
(Phipps & Merisotis' best practice)		

**Content matches
objectives**

Student rating:	n=83	3.67
Instructor rating:	n=15	3.33
Presence in courses: 90% n=82		
(Researcher recommendation)		

**3.   Technical training
     activities included**

Instructor rating:	n=12	3.69
Student rating:	n=70	3.21
Presence in courses: 68% n=62		
(Educational association recommendation)		

**Response constructive
and non-threatening**

Student rating:	n=82	3.66
Instructor rating:	n=11	3.71
Presence in courses: 85% n=81		
(Phipps & Merisotis' best practice)		

4.   Students learn by doing

Instructor rating:	n=15	3.64
Student rating:	n=78	3.60
Presence in courses: 88% n=81		
(Educational association recommendation)		

Instructor response timely

Student rating:	n=81	3.65
Instructor rating:	n=12	3.73
Presence in courses: 80% n=83		
(Phipps & Merisotis' best practice)		

5. Policy for contact in Technology failure

Instructor rating: n=16 3.56
Student rating: n=86 3.48
Presence in courses: 82% n=85
(Researcher recommendation)

Downloads checked for suitability

Student rating: n=75 3.60
Instructor rating: n=15 3.13
Presence in courses: 89% n=78
(Researcher recommendation)

6. Technical support access clear and published

Instructor rating: n=16 3.50
Student rating: n=84 3.31
Presence in courses: 89% n=78
(Researcher recommendation)

Students learn by doing

Student rating: n=78 3.60
Instructor rating: n=15 3.64
Presence in courses: 88% n=81
(Educational association recommendation) **7.**

7. Course well organized

Instructor rating: n=15 3.47
Student rating: n=82 3.72
Presence in courses: 81% n=80
(Researcher recommendation)

Design includes consistent organization

Student rating: n=78 3.59
Instructor rating: n=15 2.87
Presence in courses: 90% n=76
(Researcher recommendation)

8. Site edited to avoid errors and inconsistencies

Instructor rating: n=15 3.40
Student rating: n=77 3.58
Presence in courses: 78% n=81
(Researcher recommendation)

Site edited to avoid errors and inconsistencies

Student rating: n=77 3.58
Instructor rating: n=15 3.40
Presence in courses: 78% n=81
(Researcher recommendation)

9. Policy for learning in technology failure

Instructor rating: n=16 3.38
Student rating: n=84 3.36
Presence in courses: 53% n=80
(Educational association recommendation)

Clear objectives published

Student rating: n=86 3.57
Instructor rating: n=16 3.25
Presence in courses: 94% n=88
(Phipps & Merisotis' best practice)

10. Content matches objectives

Instructor rating: n=15 3.33
Student rating: n=83 3.67
Presence in courses: 90% n=82
 (Researcher recommendation)

Sequential steps build on prior knowledge

Student rating: n=81 3.56
Instructor rating: n=15 3.27
Presence in courses: 79% n=80
(Researcher recommendation)

11

Course content clearly written

Student rating: n=76 3.54
Instructor rating: n=15 2.93
Presence in courses: 87 n=82
(Researcher recommendation)

12.

Strategies varied and appropriate for Internet-based instruction

Student rating: n=82 3.54
Instructor rating: n=13 3.31
Presence in courses: 74% n=80
(Researcher recommendation)

13.   **Content labeled, with headings**
             on every page
             Student rating: n=78   3.53
             Instructor rating: n=15   3.13
             Presence in courses: 92% n=82
             (Researcher recommendation)

14.   **Excessive scrolling minimized**
             Student rating: n=73   3.53
             Instructor rating: n=15   2.80
             Presence in courses: 83% n=80
             (Researcher recommendation)

15.   **Scrolling minimized by linked**
             information
             Student rating: n=75   3.51
             Instructor rating: n=15   2.93
             Presence in courses: 88% n=71
             (Researcher recommendation)

*Red: Practice is rated in the highest 10 ranked practices for both adjunct instructors and the students of adjunct instructors.
*Instructor mean of 3.5 or higher for a practice indicates that the practice is rated "essential" for student academic success and/or satisfaction in Internet-based courses: best practice
**Student mean of 3.5 or higher for a practice indicates that the practice is rated "strongly agree" that utilization of this practice would improve student academic success and/or satisfaction in Internet-based courses.
_____

Recommendations for Further Study

The following recommendations for further study are based on the results of this research

and on the conclusions of the study.

1. Practitioners in the field of Internet-based education should work to develop and

   communicate a single, standard, measurable definition of the term "best practice"; that

   definition should be grounded in appropriate theory. From that definition, pedagogical

   practices appropriate for the refocused pedagogy of the Internet-based environment

   should be identified and published for practitioners in the Internet-based community.

2. To facilitate an authoritative model of appropriate pedagogy, and of eventual appropriate theory, every community college Internet-based program should regularly study student characteristics and needs and the pedagogy that "works" for learners in those programs. Results of these evaluations should be published so that they can be added to the body of evidence that will eventually provide greater understanding of the ways in which students learn through Internet-based instruction.

3. This study could be replicated for varied Internet-based programs to determine if studies of programs with different focuses would product different results. Community college adjunct instructors and their students could be re-examined, and community college full-time instructors and their students, four-year institution adjunct instructors and their students, and four-year full-time instructors and their students could be surveyed.

4. This study could be replicated to determine perceptions about and use of pedagogical practices by instructors and students in the pioneering institutions that have funded extensive professional development in the pedagogy considered appropriate for quality teaching and learning in the Internet-based classroom.

Recommendations for the Profession

Pedagogical practices designed into a course provide the framework upon which course content and student learning rest. Community colleges, as well as other institutions of higher learning, must ensure that Internet-based courses utilize appropriate pedagogical practices to develop quality course design. Quality course design is important to the community college's growth in this new field of education, to the full-time and the adjunct instructor's success in the

Internet-based classroom, and to the student's learning. The following recommendations could provide direction to the efforts of the community college in its pursuit of quality and excellence.

1. At a time when institutions of higher education are beginning to compete among themselves as well as with other non-traditional educational programs for students, Internet-based education offers the promise of institutional innovation and growth. This unique platform for the delivery of education offers new avenues of enrollment for traditional as well as hereto untapped non-traditional learners, and the current phenomenal growth of Internet-based programs offers corresponding growth for institutions willing to take a leadership role. But along with opportunity comes competition for students and their dollars, and the programs that ensure quality courses will be the programs that will attract the students and earn the growth and prestige that Internet-based programs can promise. Adjunct and student responses to this study show a statistically significant relationship between student reported utilization of recommended practices in described courses and achievement in and satisfaction with that Internet-based course. Innovative programs that choose to lead must commit, as a major institutional priority, resources to ensure that these kinds of appropriate recommended practices are included in the design and instruction for their courses. To attain quality course, and the growth and prestige that can accompany that quality, community college Internet-based programs must provide professional development opportunities for adjunct instructors in the recommended re-focused pedagogy appropriate for the Internet-based environment.

2. Because of the youth of this new medium for educational delivery, appropriate pedagogical practices for the Internet-based environment are still being studied,

identified, and defined. Research studies and anecdotal reports fill the literature but they are scattered through hundreds of journals, texts, conference reports, and web sites. To help instructors identify and determine for themselves recommended practices that could be included in course design and instruction, the discussion section of this chapter describes 43 practices recommended in the professional literature, along with representative commentary related to the practice from up to eight sources. Commentary includes information to inform the reader if the practice is defined "best practice," if it is recommended by a regional educational association, or if it is recommended by research and anecdotal reports in the literature. Tables indicate evaluation of the practice's importance by local community college Internet-based adjunct instructors and by students of those instructors. Tables also define student perceptions of whether the practice is utilized in courses described for this study and instructor perceptions of interest in professional development for the practice. Finally, implications of the use of the practice are discussed based on lessons learned from this study. Instructors could utilize these brief snapshots of each practice to evaluate its importance to quality course design. Specific practices determined to be appropriate for the content and the instructor could then be included in the design for new courses or edited into existing courses.

3. Studies have shown that many currently available Internet-based courses fail to utilize the basic pedagogical practices required for a quality course. Community college Internet-based programs should develop for their adjunct instructors a required standard for best and recommended practice pedagogy to be incorporated into Internet-based courses. Through that standard, existing practices in a course could be aligned with expected best practices. Professional development should be utilized to assist adjunct instructors and

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designers in the process of re-examination and editing of existing courses to provide for the institution a quality program and for students a quality learning experience

4. Community college Internet-based programs should develop on-going policy to ensure that continued quality courses employing appropriate pedagogical practices are provided for their students, with a regular review and assessment of course offerings in light of recommended standards. This would provide evidence of the institutions' aim for excellence.

5. The Course Management System for the Internet-based environment became commercially available in only 1997, and since that time researchers and practitioners have worked tirelessly to identify and define a pedagogy appropriate for this unique educational delivery system. New research becomes available with each new journal issue, text, conference report, or Internet site devoted to Internet-based learning. Community college Internet-based programs should provide for course designers and adjunct instructors a program of on-going pedagogical support to keep practitioners informed about new developments in the effort to define an appropriate pedagogy for Internet-based learning, just as a program of on-going technical support is currently provided.

6. While at this time there is no real consensus on "what works" in the pedagogy of the Internet-based environment, techniques appropriate for a Constructivist model are consistently recommended in the literature, as well as being mentioned through adjunct interviews for this study. In the Constructivist model the instructor serves as facilitator to help students take responsibility for developing new knowledge or extending existing knowledge. Learning is student-centered and authentic and encourages interaction.

Constructivist techniques work well with the communication capabilities of the Course Management System and many of the recommended pedagogies utilized in this study are appropriate for this model as well. Community college Internet-based programs should provide adjunct instructors with professional development opportunities to assist them in understanding the theory and in implementing a Constructivist focus in the design and instruction for their courses.

7. Studies of existing Internet-based courses found very little evidence for the use of pedagogical techniques utilized in the Cooperative Learning model for education. Internet-based learners are often isolated from other learners and studying at a physical distance from fellow students. However, the capabilities of the Course Management System provide options for interaction that could minimize the isolation and distance of each student by employing pedagogies inherent in a Cooperative Learning program. This model provides structured activity to allow students at a geographical distance to study and learn together as teams. Community college Internet-based programs should provide adjunct instructors with professional development opportunities to assist them in including Cooperative Learning experiences in the design and instruction for their courses.

8. The adult learner is an established audience for Internet-based higher education, and characteristics of the adult learner should be considered in the design and instruction for Internet-based courses. Adult learning is authentic, learner-centered, and life-centered. Adult learners are active learners and problem solvers, preferring to "learn by doing." These characteristics make the adult learner an appropriate learner for Constructivist strategies and an appropriate learner for recommended practices identified for Internet-

based pedagogy. Community college Internet-based programs should provide adjunct instructors with professional development opportunities to assist them in understanding the characteristics of and in matching appropriate pedagogy to the needs of the adult learner.

9. Traditionally, the study of pedagogy with its emphasis on appropriate instructional strategies and methods has not been a part of the advanced degree curriculum for most graduate programs. As a result, many instructors teaching in higher education today have had little training in pedagogical practices for either the face-to-face or the Internet-based classroom. Many instructors in higher education deliver information to students through the lecture, and when they transition to the Internet-based environment they are untrained in alternative strategies and are especially untrained in alternative strategies for the Internet-based environment. Professional development for community college adjunct instructors should provide opportunities for them to learn many and varied strategies with which to teach content and assess learning as they utilize recommended Internet-based pedagogical practices.

10. Because many instructors in higher education have not studied the science of teaching or the use of pedagogy with its emphasis on appropriate instructional strategies and methods, professional development should provide a forum for these instructors to develop a personal philosophy of Internet-based teaching and learning. After learning about the characteristics of the adult learner and the learning processes of the Objectivist, Constructivist, and Cooperative Learning practitioner, for example, instructors should be given an opportunity to develop their own philosophy and then to articulate that philosophy, formally writing it out to make it concrete. They should then re-examine,

with a focus on their chosen philosophy, the pedagogical practices employed in their own courses. Professional development staff could then guide instructors as they edited their courses to match course pedagogy more effectively with their stated philosophy.

11. In planning for professional development in appropriate Internet-based pedagogy, educators should consider the best practices and recommended practices developed by educational associations. However, student responses to this survey indicate that, while student needs and practitioner expectations for student needs often coincide, many times those needs and expectations to not. In a comparison of adjunct and student perceptions about the most important practices for Internet-based courses, only three of the six practices chosen as "essential" by adjuncts were chosen as most important by students. The other three adjunct choices determined to be "essential," or best practice, were not included in the student-reported 15 most important practices. Of the 15 practices which students "strongly agreed" were important to student achievement and satisfaction, only three were defined as best practice by Phipps and Merisotis. Only two were recommended by educational associations. The remaining 10 practices were recommended by individual authors as they wrote in the professional literature about anecdotal experiences and research studies. Educators planning for appropriate pedagogy for Internet-based courses should be alert to the fact that if they focus only on best practices, or even also on practices recommended by educational associations, 10 of the 15 practices reported as most important to students would be overlooked. In determining professional development options, community college Internet-based programs should examine student concerns about a wide range of recommended practices, not just about those practices seen by educators as being most important.

12. The two practices from the study with the highest student importance ratings were related to confidence and security in course organization and direction: (1) The course was well organized and (2) Course content matched objectives. The two practices rated third and fourth in importance were related to confidence and security in the student's relationship with the instructor: (3) Instructor response was constructive and non-threatening and (4) Instructor response was timely. In planning for appropriate pedagogical practices for the Internet-based course, educators should provide a variety of interesting and innovative activities, but they must ensure that course design is consistent and predictable and orderly. Instructors may interact with students through many of the technnical capabilities provided by the Course Management System, but that interaction should be consistently constructive, helpful, supportive, and promising of trust. Student interaction with both the instructor and the course itself should be comfortable and predictable, allowing student energy to be spent on mastering the objectives and the content and not on frustrations created by the course experience itself.

13. Community college Internet-based programs should consider offering a wide range of recommended practices for adjunct instructor professional development, not just those practices requested by adjuncts. Because many professionals have had little or no professional development in the refocused pedagogy for the Internet-based experience, they are often unaware of many of the refocused pedagogical practices available to them or of the importance to quality instruction of that refocused pedagogy. Professional development options should include practices recommended in the professional literature as well as instructor requests.

14. Recommended practices reported with the least presence in described courses include collaborative activities, student-centered activities to extend the learning beyond the basic content of the e-lecture, and visuals included on course pages to enhance learning. Evaluation of recommended practices missing in the courses of an Internet-based program can inform decisions about content designed for professional development for instructors.

15. Planning, designing, developing, writing, editing, checking, and facilitating an Internet-based course is a major time consuming process. The instruction process for Internet-based courses is recognized as significantly more time-intensive than instruction for traditional courses. In many cases, a department chairperson is unaware of the increased workload required to develop and then to instruct an Internet-based course. This additional effort should be recognized and rewarded in annual faculty evaluations.

16. Because the Internet-based environment is significantly different from the traditional educational environment, student evaluations for Internet-based courses should not be identical to those of traditional courses. A committee of Internet-based instructors should consider existing evaluation forms and suggest modifications that better reflect the unique Internet-based experience.

Summary

In the early stages of this research, study of the professional literature and discussions with professionals indicated that many community colleges, as well as four-year institutions, throughout the nation were facing challenges in their attempts to include appropriate pedagogy in the design of their Internet-based courses. Developing a comprehensive enumeration of

recommended pedagogical practices was proving to be a difficult task for busy practitioners at a time when there was little official consensus on which practices were actually appropriate for this new Internet-based environment. There was comparatively little discussion in the literature related to community college Internet-based pedagogical issues and even less about the issues created as increasingly greater numbers of adjunct instructors were teaching proportionally more and more of the nation's students in Internet-based community college programs. This study examined both the role of the adjunct instructor and the environment of the community college as they related to development of quality courses that utilizing appropriate Internet-based pedagogical practices.

Results of this study confirmed that many Internet-based pedagogical practices that community college adjuncts and their students valued for student achievement and satisfaction were included in described courses in significant numbers. However, a number of other practices reported important to student achievement and satisfaction by adjuncts, students, or the professional literature were present in relatively low numbers in those same courses. This result is not surprising. The professional literature indicates that on a national level many pedagogical practices are not included in Internet-based courses because of the lack of professional development needed to help instructors learn the refocused pedagogy of today's Internet-based educational experience. Results of the two surveys identify the reported level of importance to student achievement and satisfaction of 43 recommended Internet-based pedagogical practices and reports the presence…or lack of presence…of those practices in the classes of these adjunct instructors. Statistical analysis shows a significant relationship between the presence of those practices in a described course and student-reported academic achievement. A significant relationship is also seen between the presence of those practices and student satisfaction with the

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course. This study adds local data to the larger national effort to identify and include in course

design and instruction appropriate pedagogical practices for Internet-based education.

APPENDIX A
UCF INSTRUCTIONAL REVIEW BOARD APPROVAL LETTER

July 24, 2003

Janet Kemerait
589 Spindle Palm Drive
Indialantic, FL 32903

Dear Mrs. Kemerait:

With reference to your protocol entitled, "Best Practice Pedagogy for the Virtual Campus," I am enclosing for your records the exempt, executed document of the UCFIRB Form you had submitted to our office.

Should there be any addendums or administrative changes to the already approved protocol, they must also be submitted to the Board. Changes should not be initiated until written IRB approval is received. Adverse events should be reported to the IRB as they occur.

Should you have any questions, please do not hesitate to call me at 823-2901.

Please accept our best wishes for the success of your endeavors.

Cordially,

Chris Grayson
Institutional Review Board (IRB)

Copies: Dr. Larry Holt
IRB File

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APPENDIX B
ADJUNCT INSTRUCTOR AND STUDENT CONSENT LETTERS

November 1, 2003

Dear Virtual Campus Instructor:

You are invited to take part in an online research study to share information about your experiences with and opinions about online instruction. The information gathered through this survey will be summarized so that we can provide instructors with an inservice in online instructional methods and strategies that will focus on their perceived needs.

This survey is designed to discover the instructional practices that professionals in online learning most highly recommended. We will also examine whether there is a perceived relationship between specific instructional strategies in the online classroom and student achievement and satisfaction.

As instructors learn more about these relationships, they will be able to more effectively plan lessons that provide opportunities for greater student achievement and satisfaction. This can, in turn, help the instructors to find greater achievement and satisfaction in their own teaching experiences.

Participation in this linked Zoomerang survey will be anonymous to the researcher; all course descriptions will be removed and replaced with identification numbers. Because of this there is no anticipated risk to any participant.

You do not have to answer any question you do not wish to answer and participation is voluntary. No compensation will be provided for participation in this study.

Your response to the survey will indicate your consent to take part in this investigation.

Thank you for your help with this effort to improve future online instruction.

To participate and share your experience, the survey can be found online at ***************

Janet Kemerait
Ja092178@pegasus.cc.ucf.edu

If you have any questions about this survey please contact UCF doctoral student Janet Kemerait at (321) 728-0906 or Associate Professor Dr. Larry Holt at (407) 823-2015. Questions or concerns about research participants' rights may be directed to the UCF IRB Office, University of Central Florida Office of Research, Orlando Tech Center, 12443 Research Parkway, Suite 207, Orlando, FL 32826. The phone number is (407) 823-2901.

November 2, 2003

Dear Virtual Campus Student:

Students 18 years old and older are invited to take part in an online research study to help improve future Virtual Campus courses.

You will be asked to share information about your experiences in your online course(s) this term. We want to know if there is a relationship between specific instructional practices in the online classroom and student achievement and satisfaction.

We will share the information that we learn with Virtual Campus instructors and staff. As instructors learn more about these relationships they will be able to more effectively develop programs that provide for greater student achievement and satisfaction.

Participation in this linked Zoomerang survey will be anonymous to the researcher; all course identification will be removed and replaced with coded numbers so that specific students and courses cannot be identified. Because of this there is no anticipated risk to any participant.

You do not have to answer any question you do not wish to answer and participation is voluntary. No compensation will be provided for participation in this study.

Your response to this survey will indicate your consent to take part in this investigation.

Thank you for your help with this effort to improve future online instruction.

Please participate and share your experience. The survey can be found at ***********

Janet Kemerait
ja092178@pegasus.cc.ucf.edu

If you have any questions about this survey please contact UCF doctoral student Janet Kemerait at (321) 728-0906 or UCF Associate Professor Dr. Larry Holt at (407) 823-2015. Questions or concerns about research participants' rights may be directed to the UCFIRB Office, University of Central Florida Office of Research, Orlando Tech Center, 12443 Research Parkway, Suite 207, Orlando, FL 32826. The telephone number is (407) 823-2901.

APPENDIX C
ADJUNCT INSTRUCTOR SURVEY INSTRUMENT

Virtual Classroom: Instructor Survey

The results of this survey will be shared with other Virtual Campus instructors/staff in order to improve course design.

I understand that my response to this survey confirms my consent to take part in this study.

Section 1. ORIENTATION PAGES FOR THE ONLINE COURSE

Please indicate your opinion about the importance of the following practices for either STUDENT ACADEMIC SUCCESS OR STUDENT SATISFACTION

1	2	3	4	5
Essential Practice	Good Practice	Acceptable Practice	Not Acceptable Practice	Not Applicable/ No Opinion

_____

1. Orientation includes clearly written
    behavioral course objectives

2. Orientation includes a clearly written,
    straightforward summary of course learning
    outcomes.

3. Orientation provides student training in
    basic software, hardware, and technology
    Skills required for the course.

4. Orientation pages include clear instructions for access
    to Virtual Campus Blackboard technical support.

5. Orientation pages include detailed instructions for
    contact (instructor to student / student to instructor)
    in the event of technology failure.

6. Orientation pages include clear procedures for keeping
    the course moving forward academically in the event of
    technology failure.

7. A calendar with assignment information is easy to
    access from many of the course pages.

8. "Office hours" (email, online chat, forum/threaded
    discussion, or live on-campus) are scheduled for both
    conventional and unconventional days and times to satisfy
    varied online learner needs.

9. Orientation pages include detailed expectations for

behavior to ensure respectful interactions among students and between student and instructor.

10. Orientation pages include a clear explanation of the expected amount of time that is required for this online course.

11. Orientation pages include clearly stated assignment due dates to show agreement between instructor and learners.

12. Orientation pages include a policy statement for "timely" instructor feedback for questions, assignments, and grades.

13. Orientation pages include a "Frequently Asked Questions" (FAQ) page for student reference.

_____

Section 2. Please indicate below whether you would be interested in inservice training for the following strategies (check all that apply):
_____

1. ___ Developing behavioral objectives for student learning

2. ___ Developing learning outcomes for online courses

3. ___ Developing student training in course-required software, hardware, or technology skills required

4. ___ Providing access to Virtual Campus Blackboard technical support.

5. ___ Planning for instructor–student contact in the event of technology failure.

6. ___ Planning for academic procedures in the event of technology failure.

7. ___ Providing access to course calendar from a variety of course pages.

8. ___ Scheduling "Office hours" (email, online chat, forum/threaded discussion boards, or live on-campus) for the varied needs of students

9. ___ Developing guidelines for behavior to ensure respectful interactions among students and between student and instructor

10. ___ Determining minimum time required for an online course.

11. ___ Providing clearly stated assignment and test dates

12. ___ Developing a policy for "timely" feedback for student questions, assignments, and grades

13. ___ Developing a (FAQ)

14. ___ Not Interested in training

15. ___ Other, Please specify

Section 3. COURSE PAGE DESIGN

Please indicate your opinion about the importance of the following practices for either STUDENT ACADEMIC SUCCESS OR STUDENT SATISFACTION

1	2	3	4	5
Essential Practice	Good Practice	Acceptable Practice	Not Acceptable Practice	Not Applicable/ No Opinion

_____

1. Standard course page content design is based on browser characteristics and screen resolution settings to minimize the length of pages and excessive scrolling.

2. Course page length and excessive scrolling are minimized by electronically linking related information to the original page.

3. Course pages design includes generous white space and avoids excessive text.

4. Course content is clearly indicated on every page by self-explanatory titles, headings, and descriptions.

5. Clear instructions are posted on every page to help students navigate easily to important pages as well as forward and backward through the course.

6. Course utilizes color, pictures, animation, movement, humor, sound, voice, and/or video.

7. Visuals are included to enhance concepts to be studied.

8. Course site resolution, colors, and graphics download are checked prior to start of term to ensure suitability for varied student hardware.

9. A consistent opening and a consistent instructional organization are utilized in each section or learning unit.

10. Course content is clearly written with common vocabulary, straightforward sentences, and short paragraphs.

11. The site is carefully edited to avoid errors and inconsistencies.

_____

Section 4. Please indicate below whether you would be interested in inservice training for the following strategies (check all that apply):

1. ___ Developing course page design based on browser characteristics and screen resolution settings, minimizing the length of pages and excessive scrolling.

2. ___ Minimizing course page length by electronically linking related information

3. ___ Designing pages to include generous white space and to avoid excessive text

4. ___ Indicating page content by self-explanatory titles, headings, and descriptions

5. ___ Providing clear navigation instructions on each course page

6. ___ Designing course pages for the use of color, pictures, animation, movement, humor, sound, voice, and/or video.

7. ___ Providing visuals to enhance content

8. ___ Review of site resolution, colors, and graphics to ensure suitability for varied student hardware

9. ___ Developing consistency in opening and instructional organization for each section or unit

10. ___ Developing clearly written course content

11. ___ Editing to avoid errors and inconsistencies

12. ___ Not interested in training

13. ___ Other, Please specify

Section 5. STUDENT LEARNING

Please indicate your opinion about the importance of the following practices for either STUDENT ACADEMIC SUCCESS OR STUDENT SATISFACTION

1	2	3	4	5
Essential Practice	Good Practice	Acceptable Practice	Not Acceptable Practice	Not Applicable/ No Opinion

1. Course content matches stated course objectives

2. Course is well organized

3   Instructor responds to questions and assignments in a
     timely manner

4.   Instructor response and feedback are provided in a
     constructive, non-threatening manner.

5.   When possible, the instructor relates course content to
     students' life experiences

6.   Course content is presented in sequential steps, building
     on prior knowledge and/or previous learning.

7.   Course content and learning activities are presented through
     a variety of methods and strategies appropriate for
     online learning.

8.   Activities and assignments require learners to utilize
     high-level thinking skills (analysis, synthesis,
     and evaluation).

9.   Course design requires students to "learn by doing"
     (through research, essays, projects, debates, etc.)
     and not simply by reading assigned materials.

10. Course design requires multiple interactions between
     instructor and each student (email, chatroom, or
     forum/threaded discussion, etc.).

11. Course design requires multiple interactions among
     learners (email, chatroom, or forum/threaded discussion, etc.).

12. Course design requires student collaboration (solve
     problems, complete group project, comment on or
     edit work of other learners, etc.).

13. "Electronic lecture" content is provided in concise form,

14. Concise "electronic lecture" content is further developed
     through student-centered activities (research, discussion,
     projects, etc.).

15. Appropriate research sources, including virtual library
     references and links, are provided if research activities
     are assigned.

16. Training is provided for students to locate, evaluate,
     and use appropriate online resources if research activities
     are assigned.

17. Clear instructions are repeated EACH time an assignment
     requires the use of a specific component of technology.

18. Clear instructions for accomplishing each academic task

are repeated EACH time a learning activity is assigned.

Section 6. Please indicate below whether you would be interested in inservice training for the following strategies (check all that apply):

---

1. ___ Matching course to stated objectives

2. ___ Organizing the course

3. ___ Responding to questions and assignments in a timely manner

4. ___ Responding to student input with constructive, non-threatening feedback

5. ___ Relates course content to students' life experiences

6. ___ Designing course content in sequential steps, based on prior knowledge and/or previous learning.

7. ___ Teaching with a variety of methods and strategies appropriate for online learning.

8. ___ Providing activities and assignments require learners to utilize high-level thinking skills

9. ___ Designing a course where students to "learn by doing"

10. ___ Designing a course that requires multiple interactions between instructor and each student

11. ___ Designing a course that requires multiple interactions among learners

12. ___ Designing a course design requires student collaboration

13. ___ Designing concise "Electronic lectures"

14. ___ Assigning student-centered activities to further develop concise "electronic lecture" content through student-centered activities learner research, discussion, role playing, group projects, etc.)

15. ___ Providing appropriate sources, virtual library references, and links on the course site if research activities are assigned

16. ___ Training students to locate, evaluate, and use appropriate online resources if research activities are assigned

17. ___ Writing (and repeating) clear instructions for the use of specific components of technology.

18. ___ Writing (and repeating) clear instructions for accomplishing course activities

---

Section 7. ASSESSMENT OF STUDENT LEARNING

Please indicate your opinion about the importance of the following practices for either STUDENT ACADEMIC SUCCESS OR STUDENT SATISFACTION

1	2	3	4	5
Essential Practice	Good Practice	Acceptable Practice	Not Acceptable Practice	Not Applicable/ No Opinion

_____

1.   Assessment is clearly based on stated objectives

2.   A variety of techniques is utilized to evaluate and assess student learning

_____

Section 8. Please indicate below whether you would be interested in inservice training for the following strategies (check all that apply):
_____

1.   ___ Assessing student learning based on stated course objectives

2.   ___ Assessing student learning through a variety of techniques

3.   ___ Assessing student learning through online quizzes/exams

4.   ___ Assessing student learning through evaluation of participation in online forum/threaded discussion

5.   ___ Assessing student learning through evaluation of participation in online chatrooms

6.   ___ Assessing student learning through evaluation of essays/compositions

7.   ___ Assessing student learning through evaluation of online group activities

8.   ___ Assessing student learning through evaluation of individual online project activities

9.   ___ Assessing student learning through evaluation of electronic portfolios

10. ___ Not interested in training

11. ___ Other, Please specify

_____

INSTRUCTOR DEMOGRAPHICS
_____

Section 9

Number of years of teaching experience you have

   ___Less than 1
   ___1
   ___2

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＿＿＿3-5
＿＿＿6-10
＿＿＿11 or more

___

Section 10

Number of terms you have taught online course(s): [do not include the current term]

＿＿＿Current term
＿＿＿One
＿＿＿Two
＿＿＿Three – Five
＿＿＿Six or More

___

Section 11

Do you use only ONLINE forms of assessment for students in your online course(s)?

＿＿＿Yes
＿＿＿No

___

Section 12

Have you also taught one or more of your online course in a traditional setting?

＿＿＿Yes
＿＿＿No

___

Section 13

Please indicate your gender:

＿＿＿Female
＿＿＿Male

___

Section 14

Please indicate your ethnicity:

＿＿＿White, non-Hispanic
＿＿＿Black, non-Hispanic
＿＿＿Hispanic
＿＿＿Asian or Pacific Islander
＿＿＿American Indian or Pacific Islander
＿＿＿Resident or Non-Resident Alien

Section 15

Please share an online practice or suggestion that has been helpful to you or that you feel should be initiated. Comments on distance learning items mentioned or omitted in this survey are welcome.

_____

APPENDIX D
STUDENT SURVEY INSTRUMENT

Virtual Classroom: Student Survey

The results of this survey will be shared with Virtual Campus instructors/staff in order to improve course design.

I understand that (1) I must be at least 18 years old to participate in this survey, and that (2) my response to this survey confirms my consent to take part in this study.

Numbers 1 through 16 will be a list of disciplines, each with a drop-down box for class sections within the discipline. In order to participate in this survey, please select one discipline and one section in which you are currently enrolled. Then skip to number 17 and begin answering survey questions as they relate to the class that you have selected.

Drop-down boxes include these disciplines.

1. Behavioral Sciences/Social Sciences
2. Biological Sciences/Physical & Natural Sciences
3. Business
4. Community Service Learning/Experiential Learning/Success Strategies for college
5. Computers/Geographic Information Systems
6. Criminal Justice
7. Dental Support
8. Education
9. English/Communications/Foreign Languages
10. Humanities/Art
11. Legal Assisting/Paralegal
12. Math/Distributed Energy
13. Medical/Nutrition
14. Office Technology
15. Physical Education
16. Other

BEGINNING THE ONLINE COURSE

SECTION 17. Please indicate whether you agree that the following practices were utilized in THIS online course.

	Yes	No	Not Applicable/ No Opinion

1.   The course learning objectives were clearly stated in the syllabus

2.   Training for the course-required software, hardware, and technology skills
        was included in the learning activities

3. Clear instructions were provided for reaching Blackboard Technical Assistance

4. Clear instructions were posted for contact (instructor to student / student to instructor) in the event of technology failure

5. Clear procedures were posted for keeping the course moving forward academically in the event of technology failure

6. A calendar with assignment due dates, test dates, etc., was easy to access from many of the course pages

8. "Office hours" (by email, forum/threaded discussion, online chatroom, or live on-campus) were posted for days and times that fit my needs

9. Guidelines for behavior were posted to ensure respectful interaction among students and between student and instructor

10. Information was provided to clarify the expected amount of time that his online course would require

11. A policy for "timely" feedback for student assignments was posted

12. A "Frequently Asked Questions" (FAQ) page was provided for student reference

---

SECTION 18. Please indicate whether you agree that the practices above (listed again below) would improve either STUDENT LEARNING OR STUDENT SATISFACTION if successfully applied to all online courses.

_____

	1 Strongly Agree	2 Agree	3 Disagree	4 Strongly Disagree	5 Not Applicable/ No Opinion

_____

1. Course learning objectives clearly stated in the syllabus

2. Training provided for software, hardware, and technology skills needed for the course

3. Clear instructions provided for reaching Blackboard Technical Assistance

4. Clear instructions provided for contact (instructor to student/student to instructor) in the event of technology failure

5. Clear procedures posted for keeping the course moving forward academically in the event of technology failure

6. A calendar with assignment due dates, test dates, etc., accessed easily from many course pages

7. "Office hours" (by email, forum/threaded discussion,
    online chatroom, or live on-campus) posted for days and
    times that fit the needs of students

8. Guidelines for behavior posted to ensure respectful
    interactions among students and between student and
    instructor

9. Information provided to clarify the expected amount of time
    this online course would require

10. Policy posted for "timely" feedback for student assignments

11. A "Frequently Asked Questions" (FAQ) page provided for
    student reference

_____

THE COURSE PAGES DESIGN
_____

SECTION 19. Please indicate whether you agree that the following practices were utilized in THIS online course.
_____

	Yes	No	Not Applicable/ No Opinion

_____

1. Virtual pages of text were short and did not require scrolling

2. Pages were kept short by electronically linking related
    information to them

3. Pages appearance was uncluttered, with plenty of white space
    and without an excessive amount of text

4. Course content was clearly defined on every page by self-explanatory
    titles, headings, and descriptions

5. Clear instructions were posted on every page to help students
    navigate easily to important pages as well as forward and backward
    through the course

6. The course pages included color, pictures, animation, movement,
    humor, sound, or video

7. Pages included pictures, charts, and other visuals to help develop
    student understanding

8. The course downloaded quickly and worked well on my computer

9. All sections of the course were organized in a similar format for
    easy use

10. Course content was clearly written with common vocabulary, straightforward sentences, and short paragraphs

11. The course site was free of errors in information and of mistakes in assignments and dates

_____

SECTION 20. Please indicate whether you agree that the practices above (listed again below) would improve either STUDENT LEARNING OR STUDENT SATISFACTION if successfully applied to all online courses.

_____

	1 Strongly Agree	2 Agree	3 Disagree	4 Strongly Disagree	5 Not Applicable/ No Opinion

_____

1. Virtual pages of text that are short and do not require extensive scrolling

2. Pages kept short by electronically linking related information to the original page

3. Pages appear uncluttered, have plenty of white space, and do not have an excessive amount of text

4. Every page includes self-explanatory titles, headings, and descriptions to identify content

5. Clear instructions posted on every page to help students navigate easily

6. Course pages that include color, pictures, animation, movement, humor, sound, or video

7. Pages include pictures, charts, and other visuals to help develop student understanding

8. Courses that download quickly and that work well on any computer

9. All sections of the course organized in a similar format for ease of use

10. Clearly written content utilizing common vocabulary, straightforward sentences, and short paragraphs

11. Course site free of errors in information and of mistakes in assignments and dates

STUDENT LEARNING
_____

SECTION 21. Please indicate whether you agree that the following practices were utilized in THIS online course.
_____

		Yes	No	Not Applicable/ No Opinion

1. The course content matched the stated course objectives

2. The course was well organized

3. The instructor responded to questions and assignments in a
    timely manner

4. The instructor provided me with constructive and non-threatening
    feedback

5. The instructor related information in the course content to my
    life experiences

6. The course was developed in sequential steps, with each step built
    on my prior knowledge and earlier learning

7. The course content and learning activities were presented through
    a variety of methods and strategies appropriate for online learning

8. Course design required students to "learn by doing" (through
    research, essays, projects, debates, etc.) and not simply by reading
    assigned materials

9. Course design required multiple interactions (through email,
    chatroom, or forum/threaded discussion, etc.) between student
    and instructor

10. Course design required multiple interactions among students
    (through email, chatroom, or forum/threaded discussion, etc.)

11. Course design required students to work in groups
    to complete specific assignments

12. Instructor's electronic text "lectures" were relatively brief

13. Content of electronic text "lectures" was developed and extended
    through student research, discussions, projects, etc.

14. If a research activity was assigned, assess to traditional and/or
    virtual learning resources was provided

15. If a research activity was assigned, I was taught to locate,

evaluate, and use appropriate online references

16. Technical instructions were repeated each time an assignment
required page navigation or the use of an online Blackboard activity
(chatroom, threaded discussion, quiz, etc.)

17. Complete instructions were repeated each time a learning activity
was assigned

_____

SECTION 22. Please indicate whether you agree that the practices above (listed again below) would improve either
STUDENT LEARNING OR STUDENT SATISFACTION if successfully applied to all online courses.

_____

	1 Strongly Agree	2 Agree	3 Disagree	4 Strongly Disagree	5 Not Applicable/ No Opinion

_____

1. Course content that matches the course objectives

2. Courses that are well organized

3. Instructors that respond to questions and assignments in
a timely manner

4. Instructors that provide constructive, non-threatening feedback

5. Course content that is related to students' life experiences

6. Course developed in sequential steps, building on students'
prior knowledge and earlier training

7. Content taught through a variety of methods and strategies
appropriate for online learning

8. Course design that requires students to "learn by doing"
rather than simply by reading assigned materials

9. Course design that requires multiple interactions between
student and instructor

10. Course design that requires multiple interactions among students

11. Course design that requires students to work in groups

12. Instructor's electronic lectures" that are relatively brief

13. Brief "electronic lecture" content further developed through
student research, discussions, projects, etc.

14. Traditional and/or virtual learning resources provided
    for any required research projects

15. Training for students to locate, evaluate, and use appropriate
    online references if research projects are assigned

16. Technical instructions repeated each time page navigation
    or an online Blackboard activity is assigned

17. Complete instructions repeated each time a learning
    activity is assigned

ASSESSMENT OF STUDENT LEARNING

SECTION 23. Please indicate whether you agree that the following practices were utilized in THIS online course.

	Yes	No	Not Applicable/ No Opinion

---

1. I was evaluated on the extent to which I mastered course objectives

2. My learning was evaluated through a variety of methods

3. All quizzes and exams for this course were taken as online activities

---

SECTION 24. Please indicate whether you agree that the practices above (listed again below) would improve either STUDENT LEARNING OR STUDENT SATISFACTION if successfully applied to all online courses.

---

	1 Strongly Agree	2 Agree	3 Disagree	4 Strongly Disagree	5 Not Applicable/ No Opinion

---

1. Students evaluated on mastery of course objectives

2. Students' learning evaluated through a variety of methods

3. All quizzes and exams given as online activities

SECTION 25. Please indicate whether you agree with the following.

_____

	1 Strongly Agree	2 Agree	3 Disagree	4 Strongly Disagree	5 Not Applicable/ No Opinion

_____

1.   Instructional practices designed into this course were satisfactory

2.   Possibilities for academic success were strengthened by
     instructional practices included in this course

_____

STUDENT DEMOGRAPHICS
_____

Section 26. How many online courses have you completed? [Do not include current incomplete course(s)].

___Zero
___One
___Two
___Three-Four
___Five or more

_____

Section 27. Please indicate your age range:

___18-19
___20-21
___22-26
___27-33
___34 or older

_____

Section 28. Please indicate your gender:

___Female
___Male

_____

Section 29. Please indicate your ethnicity:

___White, non-Hispanic
___Black, non-Hispanic
___Hispanic
___Asian or Pacific Islander
___American Indian or Alaskan Native

___Other

_____

Section 30. Please share an online instructional practice that has been very helpful for your learning experience

_____

APPENDIX E
TABLES 54–62

Table 54

Adjunct-Reported Importance of Recommended Internet-Based Practices to Student Achievement and Satisfaction

(Mean Low =1, High =4)

Survey Statement Number and Topic	n=	Unacceptable Practice Number and %	Acceptable % Practice Number and %	Good Practice Number and %	Essential Practice Number and %	Mean for Importance
Section 1, "Orientation Pages"						
1. Clear behavioral objectives published	16	0	3 (19%)	6 (38%)	7 (44%)	3.25
2. Clear learning outcomes published	16	0	3 (19)	7 (44%)	6 (38%)	3.19
1. Technical training activities included	16	0	1 (6%)	3 (18%)	12 (75%)	3.69
4. Technical support access published	16	0	1 (6%)	6 (38%)	9 (56%)	3.50
5. Contact for technology failure published	16	0	3 (19%)	1 (6%)	12 (75%)	3.56
6. Learning in technology failure policy published	16	0	2 (13%)	6 (38%)	8 (50%)	3.38

Survey Statement Number and Topic	n=	Unacceptable Practice Number and %	Acceptable % Practice Number and %	Good Practice Number and %	Essential Practice Number and %	Mean for Importance
Section 1, "Orientation Pages"						
7. Assignment calendar easy access published	15	1 (6%)	6 (40%)	5 (33%)	3 (20%)	2.67
8. Unconventional office hours published	16	0	5 (31%)	6 (38%)	5 (31%)	3.00
9. Expectations for behavior published	14	0	5 (36%)	4 (29%)	5 (36%)	2.80
10. Time commitment expected published	15	0	5 (33%)	8 (53%)	2 (13%)	2.80
11. Clear due dates published	15	0	2 (13%)	11 (73%)	2 (13%)	3.27
12. Timely feedback policy published	15	0	2 (13%)	11 (73%)	2 (13%)	3.00
13. FAQ page published	15	1 (7%)	6 (40%)	5 (33%)	3 (20%)	2.67

Survey Statement Number and Topic	n=	Unacceptable Practice Number and %	Acceptable % Practice Number and %	Good Practice Number and %	Essential Practice Number and %	Mean for Importance
Section 3, "Course Page Design"						
14. Excessive scrolling minimized	15	2 (13%)	2 (13%)	8 (53%)	3 (20%)	2.80
15. Scrolling minimized by linking information	15	0	3 (20%)	10 (67%)	2 (13%)	2.93
16. Generous white space; minimized text amount	15	3 (20%)	6 (40%)	4 (27%)	2 (13%)	2.33
17. Content labeled with headings every page	15	0	4 (27%)	5 (33%)	6 (40%)	3.13
18. Navigation instructions visible on every page	15	1 (7%)	2 (13%)	7 (47%)	5 (33%)	3.07
19. Design includes color, pictures, humor, etc.	14	3 (21%)	3 (21%)	5 (36%)	3 (21%)	2.40
20. Visuals enhance content	15	1 (7%)	3 (20%)	6 (40%)	4 (27%)	2.73

Survey Statement Number and Topic	n=	Unacceptable Practice Number and %	Acceptable % Practice Number and %	Good Practice Number and %	Essential Practice Number and %	Mean for Importance
Section 3, "Course Page Design"						
21. Downloads checked for suitability	15	0	3 (20%)	7 (47%)	5 (33%)	3.13
22. Design includes consistent organization	15	1 (7%)	3 (20%)	8 (53%)	3 (20%)	2.87
23. Course content clearly written	15	0	6 (40%)	4 (27%)	5 (33%)	2.93
24. Site edited to avoid errors/inconsistencies	15	0	1 (7%)	7 (47%)	7 (47%)	3.40
Section 5, "Student Learning"						
25. Course well organized	15	0	3 (20%)	2 (13%)	10 (67%)	3.47

Survey Statement Number and Topic	n=	Unacceptable Practice Number and %	Acceptable % Practice Number and %	Good Practice Number and %	Essential Practice Number and %	Mean for Importance
Section 5, "Student Learning"						
26. Instructor response timely	15	0	1 (7%)	2 (13%)	12 (80%)	3.73
27. Response constructive and non-threatening	14	0	1 (7%)	2 (14%)	11 (79%)	3.71
28. Content made relevant to student experience	15	0	5 (33%)	5 (33%)	5 (33%)	3.00
29. Sequential steps build on prior knowledge	15	0	3 (20%)	5 (33%)	7 (47%)	3.27
30. Strategies varied and appropriate for Internet-based instruction	13	0	1 (8%)	7 (54%)	5 (39%)	3.31
31. Higher level thinking skills required	15	0	3 (20%)	4 (27%)	8 (53%)	3.33
32. Students learn by doing	15	0	1 (7%)	3 (20%)	10 (67%)	3.64

Survey Statement Number and Topic	n=	Unacceptable Practice Number and %	Acceptable % Practice Number and %	Good Practice Number and %	Essential Practice Number and %	Mean for Importance
Section 5, "Student Learning"						
33. Multiple student/ instructor interaction	14	1 (7%)	1 (7%)	6 (43%)	6 (43%)	3.21
34. Multiple student/ student interaction	15	2 (13%)	1 (7%)	9 (60%)	3 (20%)	2.87
35. Student collaboration required	15	1 (7%)	3 (20%)	6 (40%)	2 (13%)	2.75
36. Concise E-lecture provided	15	1 (7%)	1 (7%)	6 (40%)	4(27%)	3.08
37. Student activities extend E-lecture info	15	1 (7%)	3 (20%)	5 (33%)	4 (27%)	2.92
38. Virtual library and resources provided	14	1 (7.%)	5 (36%)	3 (21%)	4 (29%)	2.77
39. Training with virtual resources provided	14	1 (7.%)	4 (29%)	5 (36%)	2 (14%)	2.67

Survey Statement Number and Topic	n=	Unacceptable Practice Number and %	Acceptable % Practice Number and %	Good Practice Number and %	Essential Practice Number and %	Mean for Importance
Section 5, "Student Learning"						
40. Instructions repeated for EACH assigned use of technology	15	1 (7%)	2 (13%)	7 (47%)	3 (20%)	2.92
41. Instructions repeated for EACH academic task	14	0	2 (14%)	7 (50%)	3 (21%)	3.08
Section 7, "Assessment of Student Learning"						
42. Assessment based on stated objectives	15	0	2 (13%)	8 (53%)	5 (33%)	3.20
43. Variety of assessment techniques utilized	15	0	2 (13%)	7 (47%)	6 (40%)	3.27

Table 55

Student Perception that Appropriate Utilization of Recommenced Pedagogical Practices Would Improve Student Achievement and Satisfaction in Internet-Based Courses
(Mean Low =1, High =4)

Survey Statement Number and Topic	n=	Strongly Disagree # & %	Disagree # & %	Agree % # & %	Strongly Agree # & %	Mean
Section 18, "The Course"						
1. Clear objectives published	86	2 (2%)	5 (6%)	21 (24%)	58 (67%)	3.57
2. Technical training activities included	70	4 (6%)	8 (11%)	27 (39%)	31 (44%)	3.21
3. Technical support access published	84	5 (6.%)	3 (4%)	37 (44%)	39 (46%)	3.31
4. Contact for technology failure published	86	5 (6%)	2 (2%)	26 (30%)	53 (62%)	3.48
5. Learning in technology failure policy published	84	5 (6%)	6 (7%)	27 (32%)	46 (55%)	3.36
6. Assignment calendar easy access published	86	3 (4%)	7 (8%)	21 (24%)	55 (64%)	3.49

Survey Statement Number and Topic	n=	Strongly Disagree # & %	Disagree # & %	Agree % # & %	Strongly Agree # & %	Mean
Section 18, "The Course"						
7. Unconventional office hours published	82	1 (1.2%)	7 (8.5%)	25 (30.5%)	49 (59.8%)	3.49
8. Guidelines for behavior published	78	2 (2.6%)	10 (12.8%)	30 (38.5%)	36 (46.2%)	3.28
9. Expected time commitment published	82	7 (8.5%)	10 (12.2%)	22 (26.8%)	43 (52.4%)	3.23
10. Timely feedback policy published	84	4 (4.8%)	9 (10.7%)	23 (27.4%)	48 (57.1%)	3.37
11. FAQ page published	84	4 (4.8%)	12 (14.3%)	24 (28.6%)	44 (52.4%)	3.29
Section 20, "Course Pages Design"						
12. Excessive scrolling minimized	73	1 (1.4%)	4 (5.5%)	24 (32.9%)	44 (60.3%)	3.52
Section 20, "Course Pages Design"						
13. Scrolling minimized by linked information	75	1 (1%)	5 (7%)	24 (32%)	45 (60%)	3.51

Survey Statement Number and Topic	n=	Strongly Disagree # & %	Disagree # & %	Agree % # & %	Strongly Agree # & %	Mean
14. Generous white space and minimized text	76	1 (1%)	5 (7%)	27 (36%)	43 (57%)	3.47
15. Content labeled with headings on every page	78	0	7 (9%)	23 (30%)	48 (62%)	3.53
16. Navigation instructions visible on each page	78	0	8 (10%)	27 (35%)	43 (55%)	3.45
17. Design includes color, pictures, humor, etc.	75	9 (12%)	13 (17%)	26 (35%)	27 (36%)	2.95
Section 20, "Course Pages Design						
18. Visuals enhance content	73	1 (1%)	12 (16%)	25 (34%)	35 (48%)	3.29
19. Downloads checked for suitability	75	2 (3%)	5 (7%)	14 (19%)	54 (72%)	3.60
20. Design includes consistent organization	78	0	5 (6%)	22 (28%)	51 (65%)	3.59
21. Course content clearly written	76	0	5 (7%)	25 (33%)	46 (61%)	3.54

Survey Statement Number and Topic	n=	Strongly Disagree # & %	Disagree # & %	Agree % # & %	Strongly Agree # & %	Mean
22. Site edited to avoid errors or inconsistencies	77	3 (4%)	5 (7%)	13 (17%)	56 (73%)	3.58
Section 22, "Student Learning"						
23. Content matches objectives	83	1 (1%)	2 (2%)	20 (24%)	60 (72%)	3.67
24. Course well organized	82	0	2 (2%)	19 (23%)	61 (74%)	3.72
25. Instructor response timely	81	3 (4%)	2 (3%)	15 (19%)	61 (75%)	3.65
26. Response constructive and non-threatening	82	1 (1%)	2 (2%)	21 (26%)	58 (71%)	3.66
27. Content made relevant to student experience	81	6 (7%)	8 (10%)	33 (41%)	34 (42%)	3.17
28. Sequential steps build on prior knowledge	81	2 (3%)	6 (7%)	18 (22%)	55 (68%)	3.56

Survey Statement Number and Topic	n=	Strongly Disagree # & %	Disagree # & %	Agree % # & %	Strongly Agree # & %	Mean
Section 22, "Student Learning"						
29. Strategies varied and appropriate for Internet-based instruction	82	1 (1%)	6 (7%)	23 (28%)	52 (63%)	3.54
30. Higher Level Thinking Skills Required	N/A	N/A	N/A	N/A	N/A	N/A
31. Students Learn By Doing	78	1 (1%)	2 (3%)	24 (31%)	51 (65%)	3.60
32. Multiple student/ instructor interaction	81	1 (1%)	10 (12%)	25 (31%)	45 (56%)	3.41
33. Multiple student/ student interaction	75	6 (8%)	11 (15%)	28 (37%)	30 (40%)	3.09
34. Student Collaboration Required	71	17 (24%)	16 (23%)	15 (21%)	23 (32%)	2.62
Section 22, "Student Learning"						
35. Concise E-lecture provided	68	2 (3%)	8 (12%)	23 (34%)	35(52%)	3.34

Survey Statement Number and Topic	n=	Strongly Disagree # & %	Disagree # & %	Agree % # & %	Strongly Agree # & %	Mean
36. Student activities extend E-lecture learning	66	1 (2%)	10 (15%)	23 (35%)	32 (49%)	3.30
37. Internet-based library and resources provided	72	1 (1%)	7 (10%)	27 (38%)	37 (51%)	3.39
38. Training provided for Internet-based resources	73	0	11 (15%)	26 (36%)	36 (49%)	3.34
39. Instructions repeated for EACH assigned use of technology	72	1 (1%)	16 (22%)	27 (38%)	28 (39%)	3.14
Section 22, "Student Learning"						
40. Instructions repeated for EACH academic task	75	2 (3%)	13 (17%)	29 (39%)	31 (41%)	3.19
Section 24, "Assessment"						
41. Assessment based on stated objectives	77	1 (1%)	4 (5.2%)	25 (33%)	47 (61%)	3.53
42. Variety of assessment techniques utilized	76	0	3 (4%)	19 (25%)	54 (71%)	3.67

Survey Statement Number and Topic	n=	Strongly Disagree # & %	Disagree # & %	Agree % # & %	Strongly Agree # & %	Mean
43. All assessment Is online	79	1 (1%)	4 (5%)	17 (22%)	57 (72%)	3.65

Table 56

Educational Associations Recommending Pedagogical Practices Designed for Quality Internet-Based Teaching and Learning

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Recommending Educational Association	Number of Pedagogies Recommended	Terminology used for Recommendation
1. American Council on Education (Emphasis on pedagogy) http://www.acenet.edu/calec/dist_learning/dl_principlesIntro.cfm	23	Guiding Principles
2. America Distance Education Consortium (Emphasis on pedagogy) http://www.adec.edu/admin/papers/distance-learning_principles.html	9	Guiding Principles
3. American Federation of Teachers (Emphasis on pedagogy) http://www.aft.org/higher_ed/downloadable/distance.pdf	5	Guidelines (Also called "Standards")
4. Foundation for Quality of the Electronic Campus of the Southern Regional Education Board (Practices initially developed as a member of Western Cooperative for Educational Telecommunications: (Emphasis on program; some attention to pedagogy) http://www.electroniccampus.org/student/srecinfo/publications/principles.asp	2	Principles
5. Global Alliance for Transnational Education (Emphasis on program; some on pedagogy) http://www.adec.edu/international/gate1.html	3	Principles (Also called "Best Practices")

Recommending Educational Association	Number of Pedagogies Recommended	Terminology used for Recommendation
6. Innovations in Distance Education (Emphasis on pedagogy) http://www.outreach.psu.edu/de/ide/guiding_principles/	13	Guiding Principles
7. Institute for Higher Education Policy (Phipps & Merisotis, 2000) (Emphasis on program; some emphasis on pedagogy) http://www.ihep.com/Pubs/PDF/Quality.pdf	8	Best Practices (Defined as Best Practice)
8. North Central Association Commission on Institutions of Higher Education (Practices initially developed as a member of Western Cooperative for Educational Telecommunications: (Emphasis on program; some emphasis on pedagogy) http://www.ncacihe.org/resource/guidelines/gdistance.html	5	Guidelines
9. Regional Accrediting Commissions of the Evaluation of Electronically Offered Degree and Certificate Programs (Practices initially developed as a member of Western Cooperative for Educational Telecommunications (Emphasis on program; some emphasis on pedagogy) http://www.wcet.info/resources/publications/guidelines.pdf)	1	Guidelines (Intermittently called "Best Practices")

Table 57

Pedagogical Practices Recommended by Educational Associations for Quality Internet-Based Teaching and Learning

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Category and Statement of Practice	Frequeny Practices in a Category Were Recommended by an Educational Association to be Best Practice, Guiding Practice, Guideline, Principle, Guiding Principle, Standard, etc.

Assessment of student learning

10 recommended practices in this category

1. "Learning opportunities include …assessment methods appropriate to the activities and technologies" (American Council on Education, 2003).

2. "Learning activities and modes of assessment are responsive to the learning needs of individual learners" (American Council on Education, 2003).

3. "Distance learning programs organize learning activities around demonstrable learning outcomes, assist the learner to achieve these outcomes, and assess learner progress by reference to these outcomes" (American Council on Education, 2003).

4. "Learning outcomes are assessed in a way relevant to the content, the learner's situation, and the distance education delivery system" (American Council on Education, 2003).

5. "Assessment of learning is timely, appropriate, and responsive to the needs of the learner" (American Council on Education, 2003).

Category and	Frequeny Practices in a Category Were Recommended by an
Statement of Practice	Educational Association to be Best Practice, Guiding Practice, Guideline, Principle, Guiding Principle, Standard, etc.

Assessment (Continued)

6. "As a matter of prudence, steps should be taken to limit the possibility of fraud and abuse in a distance education environment" (Higher Education Program and Policy Council of the American Federation of Teachers, 2000).

7. "Evaluation of performance should be directed toward the measurement and assessment of the defined learning goals" (Innovations in Distance Education, 2002).

8. "Documented assessment of student achievement is conducted in each course…by comparing student performance to intended learning outcomes" (North Central Association Commission on Institutions of Higher Education, 2000).

9. "When examinations are employed…they take place in circumstances that include firm student identification" (North Central Association Commission on Institutions of Higher Education, 2000).

10. "Documented procedures assure that security of personal information is protected in the conduct of assessments and evaluations and in the dissemination of results" (North Central Association Commission on Institutions of Higher Education, 2000).

Categories and Statement of Practice	Frequency Practices in a Category Were Recommended by an Educational Association to be Best Practice, Guiding Practice, Guideline, Principle, Guiding Principle, Standard, etc.

Content development

1. "Learning opportunities include a clear statement of intended learning outcomes… [and] learning content that is appropriate to these outcomes" (American Council on Education, 2003).

2. "Elements of a learning event—the learning content, instructional methods, technologies, and context—complement each other" (American Council on Education, 2003).

3. "Distance learning designs consider nature of the content" (American Distance Education Consortium, 2002).

3 recommended practices in this category

Developing learning communities

1. "The use of electronic communications technologies should be considered as a tool for creating and maintaining learning communities for learners at a distance" (Innovations in Distance Education, 2002).

2 recommended practices in this category

Categories and Statement of Practice	Frequency Practices in a Category Were Recommended by an Educational Association to be Best Practice, Guiding Practice, Guideline, Principle, Guiding Principle, Standard, etc.

Developing learning communities (Continued)

2. "Social interactions between and among learners enrich the learning community and should be encouraged and supported in the instructional design and the delivery of educational programs" (Innovations in Distance Education, 2002).

Feedback to questions and student assignments

2 recommended practices in this category

1. "Feedback to student assignments and questions is constructive and provided in a timely manner" (Institute for Higher Education Policy Best practice: Phipps and Merisotis, 2000)

2. "Faculty and students agree upon expectations regarding times for student assignment completion and faculty response" (Institute for Higher Education Policy Best practice: Phipps and Merisotis, 2000)

Categories and Statement of Practice	Frequency Practices in a Category Were Recommended by an Educational Association to be Best Practice, Guiding Practice, Guideline, Principle, Guiding Principle, Standard, etc.
Interaction instructor/student, student/student, student/content	8 recommended practices in this category

1. "Student Interaction with faculty and other students is an essential characteristic and is facilitated through a variety of ways, including voice-mail and/or e-mail" (Institute for Higher Education Policy Best practice: Phipps and Merisotis, 2000)

2. "Learning opportunities include flexible opportunities for interaction" (American Council on Education, 2003).

3. "To maximize communication electronically, distance learning courses should, to the greatest extent possible, incorporate both real-time electronic interchange through devices such as chat rooms and discussion groups and asynchronous forms of communication such as email and computer bulletin boards" (Higher Education Program and Policy Council of the American Federation of Teachers, 2000).

4. "Whenever it is feasible, opportunities for same time same place interchange between the teacher and student, or among students, should be built into credit courses taught at a distance" (Higher Education Program and Policy Council of the American Federation of Teachers, 2000).

5. "The course or program provides for appropriate interaction between faculty and students and among students" (Foundation for Quality of the Electronic Campus of the Southern Regional Education Board, 2003).

Categories and Statement of Practice	Frequency Practices in a Category Were Recommended by an Educational Association to be Best Practice, Guiding Practice, Guideline, Principle, Guiding Principle, Standard, etc.

Interaction instructor/student, student/student, student/content (Continued)

6. "Effective learning environments should provide frequent and meaningful interactions among learners, between learners and instructional materials, and between learners and the instructor" (Innovations in Distance Education, 2002).

7. "Programs provide for timely and appropriate interaction between students and faculty, and among students" (North Central Association Commission on Institutions of Higher Education, 2000).

8. "The importance of appropriate interaction (synchronous or asynchronous) between instructor and students and among students is reflected in the design of the program and its courses, and in the technical facilities and services provided" (Regional Accrediting Commissions, 2000).

Learner centered activities   6 recommended practices
                                                                                        in this category

1. "Learning activities…are responsive to the learning needs of individual learners" (American Council on Education, 2003).

Categories and Statement of Practice	Frequency Practices in a Category Were Recommended by an Educational Association to be Best Practice, Guiding Practice, Guideline, Principle, Guiding Principle, Standard, etc.

Learner centered activities (Continued)

2. "The learning experience is organized to increase learner control over the time, place, and pace of instruction" (American Council on Education, 2003).

3. "When possible, individual learners help shape the learning outcomes and how they are achieved" (American Council on Education, 2003).

4. "Distance learning designs consider needs, learning goals, and other characteristics of the learners" (American Distance Education Consortium, 2002).

5. "Distance learning designs consider local learning environment" (American Distance Education Consortium, 2002).

6. "The design of programs delivered via distance education should reflect the diversity of potential learners" (Innovations in Distance Education, 2002).

Category and Statement of Practice	Frequency Practices in a Category Were Recommended by an Educational Association to be Best Practice, Guiding Practice, Guideline, Principle, Guiding Principle, Standard, etc.
Objectives/Outcomes	17 recommended practices in this category

1. "Students are provided with supplemental course information that outlines course objectives, concepts, and ideas, and learning outcomes for each course are summarized in a clearly written, straightforward statement" (Institute for Higher Education Policy Best practice: Phipps and Merisotis, 2000)

2. "Intended learning outcomes are reviewed regularly to ensure clarity, utility, and appropriateness" (Institute for Higher Education Policy Best practice: Phipps and Merisotis, 2000)

3. "Learning opportunities include a clear statement of intended learning outcomes, learning content that is appropriate to these outcomes, clear expectations of learner activities…and assessment methods appropriate to the activities and technologies" (American Council on Education, 2003).

4. "Learning outcomes address both content mastery and increased learning skills" (American Council on Education, 2003).

Categories and Statement of Practice	Frequency Practices in a Category Were Recommended by an Educational Association to be Best Practice, Guiding Practice, Guideline, Principle, Guiding Principle, Standard, etc.

Objectives/Outcomes (Continued)

5. "Distance learning programs organize learning activities around demonstrable learning outcomes, assist the learner to achieve these outcomes, and assess learner progress by reference to these outcomes" (American Council on Education, 2003).

6. "When possible, individual learners help shape the learning outcomes and how they are achieved" (American Council on Education, 2003).

7. "Intended learning outcomes are described in observable, measurable, and achievable terms" (American Council on Education, 2003).

8. "The learning design is consistent with and shaped to achieve the intended learning outcomes" (American Council on Education, 2003).

9. "Distance education media and delivery systems are used in a way that facilitates the achievement of intended learning outcomes" (American Council on Education, 2003).

Categories and Statement of Practice	Frequency Practices in a Category Were Recommended by an Educational Association to be Best Practice, Guiding Practice, Guideline, Principle, Guiding Principle, Standard, etc.

Objectives/Outcomes (Continued)

10. "Intended learning outcomes are reviewed regularly to ensure their clarity, utility, and appropriateness for the learners" (American Council on Education, 2003).

11. "Distance learning designs consider desired learning outcomes" (American Distance Education Consortium, 2002).

12. "Distance learning opportunities are effectively and flexibly supported, including initial disclosure of information on the learning opportunities" (American Distance Education Consortium, 2002).

13. "Transnational courses must be guided by goals and objectives understood by participants who enroll in them" (Global Alliance for Transnational Education, 2000).

14. "Course and program offerings have explicit and publicly disclosed goals and objectives"(Global Alliance for Transnational Education, 2000).

15. "Course and program goals and objectives identify and address educational needs understood by students who enroll" (Global Alliance for Transnational Education, 2000).

Categories and Statement of Practice	Frequency Practices in a Category Were Recommended by an Educational Association to be Best Practice, Guiding Practice, Guideline, Principle, Guiding Principle, Standard, etc.

Objectives/Outcomes (Continued)

16. "Learning goals should be defined as part of the instructional design plan" (Innovations in Distance Education, 2002).

17. "Specific instructional activities should be directed toward providing learners with the necessary skills, knowledge, and experience to meet the goals and objectives of the course" (Innovations in Distance Education, 2002).

Resources needed for course activities   8 recommended practices
                                                                              in this category

1. "Students have access to sufficient library resources that may include a "virtual library" accessible through the World Wide Web" (Institute for Higher Education Policy Best practice: Phipps and Merisotis, 2000)

2. "Students are instructed in the proper methods of effective research, including assessment of the validity of resources" (Institute for Higher Education Policy Best practice: Phipps and Merisotis, 2000)

3. "Distance learning opportunities are effectively and flexibly supported, including provision of … library and information services" (American Distance Education Consortium, 2002).

Categories and Statement of Practice	Frequency Practices in a Category Were Recommended by an Educational Association to be Best Practice, Guiding Practice, Guideline, Principle, Guiding Principle, Standard, etc.

Resources needed for course activities (Continued)

4. Opportunities…to conduct independent course-related research must be substantially the same as the opportunities provided other students" (Higher Education Program and Policy Council of the American Federation of Teachers, 2000).

5. "Students should be given access to all possible electronic research material" (Higher Education Program and Policy Council of the American Federation of Teachers, 2000).

6. "For any course requiring independent research, as long as it is feasible…students should be expected to visit a campus or public library at least once (Higher Education Program and Policy Council of the American Federation of Teachers, 2000).

7. "The program or course ensures that appropriate learning resources are available to students" (Foundation for Quality of the Electronic Campus of the Southern Regional Education Board, 2003).

8. "The institution ensures that students have access to and can effectively use appropriate library resources" (North Central Association Commission on Institutions of Higher Education, 2000).

Categories and Statement of Practice	Frequency Practices in a Category Were Recommended by an Educational Association to be Best Practice, Guiding Practice, Guideline, Principle, Guiding Principle, Standard, etc.

Student and Instructor Expectations

1. "Faculty and students agree upon expectations regarding times for student assignment completion and faculty response" (Institute for Higher Education Policy Best practice: Phipps and Merisotis, 2000)

2. "Learning opportunities include clear expectations of learner activities" (American Council on Education, 2003).

2 recommended practices in this category

Technology Issues

1. "Elements of a learning event—the learning content, instructional methods, technologies, and context—complement each other" (American Council on Education, 2003).

2. "The selection and application of technologies for a specific learning opportunity are appropriate for the intended learning outcomes, subject matter content, relevant characteristics and circumstances of the learner, and cost range" (American Council on Education, 2003).

12 recommended practices in this category

Categories and Statement of Practice	Frequency Practices in a Category Were Recommended by an Educational Association to be Best Practice, Guiding Practice, Guideline, Principle, Guiding Principle, Standard, etc.

Technology Issues (Continued)

3. "Distance learning designs consider appropriate instructional…technologies"
   (American Distance Education Consortium, 2002).

4. "Distance learning opportunities are effectively and flexibly supported,
   including orientation to the process of learning at a distance, including use
   of technologies for learning" (American Distance Education Consortium, 2002).

5. "To help reduce barriers to effective learning and establishing social relationships,
   participants should be afforded the opportunity to build confidence and competence
   with the distance education process and supporting technologies" (Innovations
   in Distance Education, 2002).

6. "Distance learning opportunities are effectively and flexibly supported, including
   provision of technical support" (American Distance Education Consortium, 2002).

Categories and Statement of Practice	Frequency Practices in a Category Were Recommended by an Educational Association to be Best Practice, Guiding Practice, Guideline, Principle, Guiding Principle, Standard, etc.

Technology Issues (Continued)

7. "Distance learning opportunities are effectively and flexibly supported, including problem-solving assistance" (American Distance Education Consortium, 2002).

8. "The selection and use of instructional media and tools should be based upon their ability to support the predetermined learning goals and objectives of the learning program" (Innovations in Distance Education, 2002).

9. "The selection of instructional media and tools should be influenced by their accessibility by learners. A distance education program should incorporate a technology base that is appropriate for the widest range of students within that program's target audience" (Innovations in Distance Education, 2002).

10. "The selection of instructional media and tools should reflect a thorough analysis and understanding of the "added value" of the technology" (Innovations in Distance Education, 2002).

11. "Users of a distance learning system should be adequately prepared and supported in order to maximize the capabilities of instructional media and tools" (Innovations in Distance Education, 2002).

Categories and Statement of Practice	Frequency Practices in a Category Were Recommended by an Educational Association to be Best Practice, Guiding Practice, Guideline, Principle, Guiding Principle, Standard, etc.

Technology Issues (Continued)

12. "Contingency strategies should be planned to provide a quick recovery
    from technology-related interruptions when the instructional design model
    relies on electronic technology for delivery" (Innovations in Distance Education, 2002).

Table 58

Adjunct Instructor-Reported Interest in Professional Development Listed by Frequency of Interest

Survey Statement of Recommended Practice (N=16)	# and % of Instructors Indicating Interest
1. Using color, pictures, animation, movement, humor, sound, etc.	8 (50%)
2. Planning for academic procedures in the event of technology failure	6 (38%)
3. Providing visuals to enhance content	6 (38%)
4. Designing a course where students "learn by doing"	5 (31%)
5. Teaching with a variety of strategies appropriate for online learning	5 (31%)
6. Assessing learning in online forum/threaded discussion	4 (25%)
7. Assessing learning through online quizzes and exams	4 (25%)
8. Determining minimum time required for an online course	4 (25%)
9. Developing clearly written course content	4 (25%)
10. Developing student training for course-related technology skills	4 (25%)
11. Minimizing the length of pages and excessive scrolling	4 (25%)
12. Planning for contact in the event of technology failure	4 (25%)
13. Assessing learning through a variety of techniques	3 (19%)
14. Assessing learning through evaluation of electronic portfolios	3 (19%)
15. Assessing learning through evaluation of essays/compositions	3 (19%)
16. Assessing learning through evaluation of online chatrooms	3 (19%)
17. Designing a course that requires multiple interactions among learners	3 (19%)
18. Developing consistency throughout course site	3 (19%)

Survey Statement of Recommended Practice (N=16)	# and % of Instructors Indicating Interest
19. Editing to avoid errors and inconsistencies	3 (19%)
20. Ensuring download suitability for varied student hardware	3 (19%)
21. Minimizing course page length by linking related information	3 (19%)
22. Organizing the course	3 (19%)
23. Providing activities that require utilize high-level thinking skills	3 (19%)
24. Providing access to course calendar from a variety of course pages	3 (19%)
25. Providing access to virtual campus Blackboard technical support	3 (19%)
27. Providing appropriate resources if research is assigned	3 (19%)
28. Providing clear navigation instructions on each course page	3 (19%)
29. Responding with constructive, non-threatening feedback	3 (19%)
30. Writing (and repeating) clear instructions for the use of technology	3 (19%)
31. Writing (and repeating) clear instructions for course activities	3 (19%)
32. Assessing learning based on stated course objectives	2 (13%)
33. Assessing learning through evaluation of individual online projects	2 (13%)
34. Assessing learning through evaluation of online group activities	2 (13%)
35. Assigning student-centered activities to develop concise "Electure"	2(13%)
36. Content in sequential steps based on prior knowledge and learning	2 (13%)
37. Designing a course that requires student collaboration	2 (13%)

Survey Statement of Recommended Practice (N=16)	# and % of Instructors Indicating Interest
38. Designing concise "electronic lectures"	2 (13%)
39. Designing for multiple interactions between instructor and students	2 (13%)
40. Developing behavioral objectives for student learning	2 (13%)
41. Including generous white space and avoiding excessive text	2 (13%)
42. Indicating page content by self-explanatory titles, headings	2 (13%)
43. Matching course to stated objectives	2 (13%)
44. Relating course content to students' life experiences	2 (13%)
45. Responding to questions and assignments in a timely manner	2 (13%)
46. Training for reference skills if research activities are assigned	2 (13%)
47. Developing a FAQ Page	1 (6%)
48. Developing a policy for "timely" feedback	1 (6%)
49. Developing guidelines for behavior to ensure respectful interactions	1 (6%)
50. Scheduling "office hours" for the varied needs of students	1 (6%)
51. Providing clearly stated assignments and test dates	0

Table 59

Course Average GPA Related to Student-Reported Presence of Recommended Practices in a Described Course

Number of Student And Number of Described Course	Mean GPA for this Course (2.68 = Mean GPA for All Described Courses)	Mean Reported Presence of Practices for this Course (Mean Low =1, High =4)	% Reported Presence of Practices for this Course
1. Student/Course	2.24	.87	33
2. Student/Course	1.95	1.00	32
3. Student/Course	2.71	.75	27
4. Student/Course	1.38	.56	20
5. Student/Course	2.47	.46	17
6. Student/Course	x	x	x
7. Student/Course	3.31	.97	31
8. Student/Course	2.00	.69	24
9. Student/Course	2.00	.69	24
10. Student/Course	3.32	.76	28
11. Student/Course	3.32	.76	28
12. Student/Course	3.17	.56	18
13. Student/Course	2.22	.81	29
14. Student/Course	2.91	.84	32
15. Student/Course	2.00	.95	36
16. Student/Course	2.60	.88	35
17. Student/Course	3.31	.83	30
18. Student/Course	3.21	.80	32
19. Student/Course	3.32	.89	33
20. Student/Course	2.33	.44	14
21. Student/Course	3.17	.94	31
22. Student/Course	3.17	.33	13
23. Student/Course	2.92	.97	38
24. Student/Course	3.15	1.00	41
25. Student/Course	3.15	1.00	9
26. Student/Course	2.06	.78	31
27. Student/Course	2.57	1.00	40
28. Student/Course	2.38	.95	36
29. Student/Course	3.50	.90	35
30. Student/Course	2.59	1.00	41
31. Student/Course	x	x	x
32. Student/Course	3.05	.50	17

Number of Student And Number of Described Course	Mean GPA for this Course (2.68 = Mean GPA for All Described Courses)	Mean Reported Presence of Practices for this Course	% Reported Presence of Practices for this Course
33. Student/Course	2.44	.92	33
34. Student/Course	2.07	.18	7
35. Student/Course	2.10	.71	27
36. Student/ Course	2.44	.97	31
37. Student/Course	2.00	.13	4
38. Student/Course	2.96	.90	37
39. Student/Course	3.17	1.00	33
40. Student/Course	x	x	x
41. Student/Course	3.04	.87	33
42. Student/Course	2.19	.29	7
43. Student/Course	3.21	.95	36
44. Student/Course	2.92	1.00	38
45. Student/Course	2.68	.81	30
46. Student/Course	x	x	x
47. Student/Course	3.25	.89	25
48. Student/Course	3.15	.38	11
49. Student/Course	1.68	.62	18
50. Student/Course	1.90	.81	17
51. Student/Course	3.13	.69	24
52. Student/Course	3.00	.78	31
53. Student/Course	3.00	.42	16
54. Student/Course	2.00	.51	19
55. Student/Course	4.00	.81	26
56. Student/Course	3.38	.55	17
57. Student/Course	1.50	.32	9
58. Student/Course	x	x	x
59. Student/Course	4.00	.61	22
60. Student/Course	2.22	.97	36
61. Student/Course	x	x	x
62. Student/Course	2.00	1.00	41
63. Student/Course	3.10	.67	26
64. Student/Course	3.56	.89	32
65. Student/Course	2.33	.44	15
66. Student/Course	2.43	.97	31
67. Student/Course	3.56	.88	29

Number of Student And Number of Described Course	Mean GPA for this Course (2.68 = Mean GPA for All Described Courses)	Mean Reported Presence of Practices for this Course	% Reported Presence of Practices for this Course
68. Student/Course	x	x	x
69. Student/Course	2.93	.62	21
70. Student/Course	3.65	.81	29
71. Student/Course	2.31	.77	10
72. Student/Course	2.31	1.00	40
73. Student/Course	2.59	.97	38
74. Student/Course	2.91	.83	30
75. Student/Course	3.14	.95	39
76. Student/Course	x	x	x
77. Student/Course	2.41	.78	28
78. Student/Course	2.41	.78	28
79. Student/Course	2.41	.78	28
80. Student/Course	2.41	.78	28
81. Student/Course	1.67	1.00	41
82. Student/Course	1.91	.63	17
83. Student/Course	3.53	.91	10
84. Student/Course	2.32	.42	16
85. Student/Course	2.43	.58	23
86. Student/Course	1.81	.88	30
87. Student/Course	3.67	.83	30
88. Student/Course	3.44	.88	36

Table 60

Student-Reported Total Presence of Recommended Practices in a Course Related to Student Expectations of Academic Achievement As Measured by Response to the Statement "Possibilities for academic achievement were strengthened by instructional practices included in this course"

Course Described By Number of Practices Present	Student Response			
	1 Strongly Disagree	2 Disagree	3 Agree	4 Strongly Agree
0-14	3	3	0	2
15-24	1	8	6	1
25-34	0	2	16	17
35-44	0	0	4	13

n = 76
Pearson Chi Square = 51.107
d.f. = 9
Significance = .000

Table 61

Student-Reported Total Presence of Recommended Practices in a Course Related to Student Student-Reported Satisfaction as Measured by Response to the Statement "Instructional practices designed into this course were satisfactory"

_____

Course Described By Number of Practices Present	Student Response			
	1 Strongly Disagree	2 Disagree	3 Agree	4 Strongly Agree
0-14	3	3	1	2
15-24	1	7	8	0
25-34	0	2	11	22
35-44	0	0	5	12

n = 77
Pearson Chi Square: 75.944
d.f.:   21
Significance   .000

_____

Table 62

Interviews with Community College Adjunct Instructors: Their Perceptions of Recommended Practices

Survey Statement	Adjunct Instructor Comments Relating to Recommended Internet-Based Practices

Section 18, "The Course"

1. Technical training

1. "Problems come for some students when they are new at the technology required for the course. Students need some advance computer background or ability to take online class and be comfortable; otherwise they often withdraw in frustration."
"When they get the technology going well they can handle the content."

2. Technical support access published

1. "Technical support from the Help desk is very important."

3. Unconventional office hours published

1. "Instructional practices that worked well: Virtual Chat office hours."

4. Guidelines for behavior published

1. "Without cues it makes it easy even for instructor to misinterpret student or instructor attitude; determine in advance to have a "no judgment' response and stay calm and polite. Judge only assignments. Avoid negative feelings and responses. Instructor can't know how students meant the comment."
"Can students hold up under criticism that sometimes comes from other students? Need to emphasize that it is important to voice opinions, but to do it in an appropriate way. It is OK to talk. But must temper comments."
2. "Hesitant people must be brought out. Many times the instructor finds one aspect of his/her success is measured with growth in bringing the hesitant student into a greater zone of comfort with joining and participating."
3. Instructor "had thought that the emotional sensitivity in response to others' comments would disappear with anonymity, but it didn't

5. Expected time commitment published

1. "It is important to let students know the time commitment expected each week."
2. Instructional practices that worked well: "Keep them engaged with weekly requirements."

Survey Statement	Adjunct Instructor Comments Relating to Recommended Internet-Based Practices
	3. Instructional practices that worked well: "Retention strategy…engage students on a weekly basis; instructors must keep them engaged with regular weekly activities. Easy things can be used to engage them; then move to additional more meaningful activities for a quiz, lab, forum, etc."
	4. "Problems arise when students come in with low expectations for what will be expected in online experience."
6. Timely feedback policy published	1. "It is important for instructors to communicate. Communication is the key; regular feedback is needed for Internet-based teaching. The instructor must be obviously "available" much more so than in face-to-face courses."
	2. "Students expect feedback and work back more quickly than in traditional courses." When students are having problems, feedback and praise help."
7. FAQ page published	1. Instructional practices that worked well: "Frequently Asked Questions page."

Section 20, "Course Pages Design"

8. Design includes consistent organization	1. "Students like that the course is easy to follow; that they know there will be a regular quiz; that they know weekly where they stand."
9. Course content clearly written	1. "Content between traditional and online platforms is comparable." To the instructor's surprise, "many instructional materials translate from face-to-face to online platform."
	2. "It is useful to consider learning styles when designing materials and activities for an online experience."
10. Site edited to avoid errors and inconsistencies	1. "It is important to have many professionals check to be sure there are no errors."
	2. "Check to be sure that the work load is appropriate for the time set up for the assignment."

Survey Statement	Adjunct Instructor Comments that Relate to Recommended Internet-Based Practices Included in Survey Statements

Section 20, "Student Learning"

11. Course well organized

1. "One thing I can say is that my online courses are much better organized than my f2f courses–and students will 'get on you' much faster in the online world than in the f2f world for being disorganized. In addition, I tend to plan more for my online courses."
2. "Students like…that the course is organized and straightforward."

12. Response constructive and non-threatening

1. "It is important to keep a non-threatening manner and to provide low anxiety exercises."

13. Content made relevant to student experience

1. Instructional practices that worked well: "Activities that are tangible and meaningful for students."
2. Instructional practices that worked well: "Activities that relate to student's lives."

14. Multiple student/ Instructor interaction

1. "Regular communications by email show a student's personality."
2. "Conversations between instructor and students are different online than in a traditional setting: face-to-face discussions deal with content; online conversations have a motivational emphasis (depending on how new to distance learning the student is and the age of the student). New students are concerned with getting the needed technology skills and with getting the online environment right. More experienced students now know the routine and the time commitment and can move beyond that focus."
3. "Success comes from instructor 'Presence and Participation': Being there!"
4. "My online students are in constant communication with me. I communicate with them through e-mail and discussion boards much more than with my brick and mortar students who talk with me once a week in class."

Survey Statement	Adjunct Instructor Comments that Relate to Recommended Internet-Based Practices Included in Survey Statements
	5. Instructional practices that worked well: Instructor has "learned phrase questions to mimic face-to-face conversation. It is more work to create those questions, but they provide greater depth of discussion." 6. "The role of Internet-based instructor with no body gestures and no eye contact de-emphasizes the instructor role. His role is to help them use resources, get results, and understand the process."
15. Multiple student/ student interaction	1. "Discussion boards are used to share with class and to build camaraderie." 2. "For tech problems, check first with classmates to add to interaction." 3. "My face-to-face classes are much larger…than my online classes, with less opportunity for students to write because of the greater numbers; online they are writing constantly with forum assignments" 4. "Invisibility helps students feel more comfortable when they are older than others in the class, or different in any way. This allows more success online than in face-to-face classes," students tell the instructor. 5. "The sideline conversations that happen in the face-to-face environment don't translate [to the Internet-based classroom]. Online conversations take more unique directions that give a better understanding of the student." 6. Instructional practices that worked well: To learn about student satisfaction and success the adjunct instructor gives out a "weekly survey for a reality check and also for a sense of community. The results are posted anonymously for all to see. The survey has 5-10 questions on what is working and what is not." 7. Being online "allows the instructor to give perspectives about the real world. Discussion forums work well for this."
16. Student Collaboration Required	1. "The goal is to develop independent learners as they work in collaboration." 2. "Group work takes more coordination in online" classes.

Survey Statement	Adjunct Instructor Comments that Relate to Recommended Internet-Based Practices Included in Survey Statements
	3. Instructional practices that worked well: Online students "take on the role of academic-based research assistants, seeking out new information that is shared with each other and with my other classes, especially with my face-to-face classes."
	4. Instructional practices that worked well: collaborative "editing workshop."
17. Concise E-lecture provided	1. "My lectures can be the same as in my face-to-face classes."
	2. "Lectures can be done in PowerPoint but not too often because it can become monotonous; also it can't download easily for some and you can't put too many words on a page."
18. Student activities extend E-lecture learning	1. "Instead of lecture, I try to key discussion to my lecture topics."
	2. "I set up lectures in Power Point and PDF to create a background for discussion."
19. Internet-based library and resources provided	1. "For research we use links."
	2. Using online resources allows the instructor to constantly bring in "what's new" in the field; we "can link to the newest perspectives; I can take students places and do things that can't be done in regular classes. Being online allows me to keep the course new and fresh and never do the same thing twice."
	3. Being online "allows the instructor to give perspectives about the real world. Live chat with an expert is a good strategy."

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[1–144] References that make up the Content Analysis References List developed for Research Question 4:" What pedagogical practices for Internet-based teaching and learning are identified as best practice and recommended practice in the professional literature?"