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Learner-centered e-learning: an exploration of learner-centered practices in online and traditional instruction in higher education

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LEARNER-CENTERED E-LEARNING:
AN EXPLORATION OF LEARNER-CENTERED PRACTICES IN ONLINE AND
TRADITIONAL INSTRUCTION IN HIGHER EDUCATION

A Dissertation

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

in

The Department of Educational Theory, Policy, and Practice

by
Helen Bourgeois Ware
B.A., McNeese State University, 1984
M.Ed., McNeese State University, 1998
December 2006
DEDICATION

This dissertation is dedicated to my two children, Cami and Gregory. Through the five years in my pursuit of a doctoral degree, they grew into mature young people. To my daughter, Cami, who endured her high school years and her first year of college, I would like to say a sincere thank you. You grew into a wonderful, hard-working young lady even though there were many times that I was in Baton Rouge taking courses instead of being in Lake Charles with you. Thank you for surviving the ordeals of being a teenager and for taking care of Gregory at times when no one else could. Gregory, thank you for being patient with me when I sat for hours at the computer researching, typing, reading, and revising again and again. Thank you for enduring some boring weekends when I just couldn’t get out and do something fun. You have grown into a mature, thoughtful, and respectful young man. To both of my children for enduring the many nights of getting homework help on the telephone on my drive back from Baton Rouge. I simply could not have made it through this long process without your love, understanding, and support.
ACKNOWLEDGEMENTS

I will begin by acknowledging my dissertation committee. Thank you for your help, your patience, and your guidance throughout this process. I especially thank Dr. Janice Hinson. You believed in me and stayed with me throughout this long, long program. Thank you for working with me in the very beginning when you worked hard to offer some of the degree through distance learning. That saved me many hours of driving during my first year. Thank you for all of the meetings, and emails, and phone calls over the past year. You were a positive influence, and kept me going even when I thought I just couldn’t go anymore. I would also like to acknowledge the people with whom I work. Thank you for taking charge on those many days that I headed out to Baton Rouge. I really appreciate the place in which I work, and I wish to acknowledge all of the kind and generous people who make it a great place to be everyday. Thank you to my friend who spent a lot of time reviewing my paper and helping me in many ways. Lastly, I acknowledge my parents, who raised me to be independent and hard-working and helped me to believe that this was an accomplishment that I could achieve.
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This study examined the perceptions of students and instructors in regard to learner-centered pedagogy and web-based learning at a regional public university in a southern state. The study focused on recommendations for online learning, studies of learner-centered pedagogy, and online learning practices such as collaboration, problem-based learning, reflection, asynchronous communication, and authentic learning and assessment. The research examined the students’ perceptions of learner-centered practices in online and traditional courses of the same instructors throughout one semester. The students’ perceptions were compared with the instructors’ perceptions of learner-centered practices in the courses. The qualitative investigation examined each instructor’s pedagogical beliefs about learner-centered instruction in traditional and online courses and his or her attitudes toward the training in which he or she participated. The degree to which the students perceived the courses as learner-centered revealed a positive relationship between the levels of learner-centered practices and the students’ motivation and satisfaction with the courses. The results showed that there was no significant difference in the students’ perceptions of learner-centered practices between the online and the traditional courses. The students felt that instructors were as learner-centered in the online courses as they were in the traditional courses. The qualitative results, combined with the quantitative results revealed that instructors who used more of the strategies and practices recommended in the training were more highly learner-centered. The study resulted in a new training model for learner-centered professional development in online instruction in this university and in others and includes reflective practices for individual instructors.
CHAPTER ONE
INTRODUCTION

Public school and postsecondary instructors worldwide have recognized the usefulness and profitability of the Internet in the delivery of instruction. Students have flocked to educational institutions that offer courses and degrees online. However, brick-and-mortar institutions are not the only ones offering online degrees and certification. For-profit institutions, such as University of Phoenix, Magellan University, and many others, enroll large numbers of students online. Additionally, traditional universities have formed consortia, such as the Southern Regional Electronic Campus or the Sloan Consortium, to manage online courses. Currently, more than 40 percent of college students are over 25 years of age (Simonson, Smaldino, Albright, & Zvacek, 2000), and these non-traditional students are usually employed and have dependents at home. More than 60% of these students are female and 80% have full-time jobs, and they are demanding courses that allow them to maintain their jobs while completing their studies (Brey, 1988).

Instructors and students have found that the students often engage as active participants (Hargis, 2001) while using the Internet and that more, or at least a distinctive kind of, work is required to deliver and take web-based courses. However, distance learning experts have found that one of the biggest drawbacks to online learning is the attrition rate (Moore & Kearsley, 1996). One reason for the attrition rate is that students who participate in online courses lacking interaction and community building feel isolated and tend to drop out due to lack of motivation. Taking web-based courses puts pressure on students to construct their own knowledge framework. Therefore, educators
should focus on how new developments in information technology can best be used to ensure that web-based materials are not regarded simply as information, but as a basis for more constructivist or learner-centered practices (Downing, 2001). Is the rise of learner-centered practices in recent years and the advent of online learning a fortuitous combination of phenomena?

Constructivists believe that the learner must construct knowledge by interacting with the teacher as facilitator, interacting with their environment, and drawing meaning from the context in which the learning develops (Bruning, Norby, Schraw, & Ronning, 2004). In contrast, objectivists or behaviorists believe that knowledge and truth exist outside the learner, must be memorized by the learner and supplied by the teacher (Hargis, 2001). The behaviorist approach views students as lacking the necessary ability and skills to take a more active role in constructing knowledge (Lambert & Walker, 1995).

Learner-Centered Instruction and Theoretical Framework

Constructivism and Distance Learning

Constructivism is an old construct in sociology whose rise was strongly influenced by the theory and research of Piaget, Vygotsky, Dewey, and Bruner. In recent years, constructivism has increasingly been applied in education and, of late, in educational technology (Schunk, 2004). In the past, technology programs were developed with the notion that they could transmit information more effectively than teachers could. Constructivists believe that understanding and knowledge can be transmitted neither by teachers nor by technology, but must be constructed by learners. Learners must interpret activities by relating them to their own beliefs and prior experiences. Constructivists see
teaching as a process of helping learners to construct their own meaning by providing those experiences and guiding the meaning-making process and taking advantage of what technologies have to offer (Jonassen, 1999; Bruning, et al., 2004).

Constructivism is a complex theory and the terms “cognitive constructivism” and “social constructivism” represent two divisions of constructivism that have become common when talking about this psychological theory (Epstein, 2002). Cognitive constructivism focuses on the “individual constructions of knowledge discovered in interaction with the environment” (Bonk & Cunningham, 1998, p. 32). Social constructivism reflects Vygosky’s views of a sociocultural context that influences the thinking and creation of meaning (Bonk & Cunningham, 1998). A focus on student-centered learning may be the most important contribution of constructivism (Hoover, 1996). Constructivism is a learner-centered perspective, and the current literature defines “learner-centered” as a focus on the individual learner combined with a focus on learning. All things within individuals, such as their genetics, experiences, backgrounds, skills, and interests are combined with the methods and practices that best exemplify the promotion of high motivation, learning, and achievement (McCombs & Whisler, 1997).

Behaviorism and Constructivism in Distance Education

Michael G. Moore is renowned for his developmental and scholarly work in distance education. In 1972, Moore introduced the first statement of theory about distance education stating that models of learning that only take into account the variables of teaching are unsound (Moore & Kearsley, 1996; Moore, 2005). Moore established the American Journal of Distance Education, the first recognized distance learning publication and internationally recognized journal of research and scholarship. Michael
Moore has much expertise and practical knowledge in teaching online, in designing courses, in training the trainer, and in evaluating programs (Moore, 2005). Distance education materials and Internet delivery technologies must be designed to promote and reinforce self-directed learning (Moore & Kearsley, 1996; Moore, 2002). These technologies have a powerful potential to support the much-needed, self-sustaining learners who can construct their own knowledge alone or in teams and link learning with real-world problem solving (Moore, 2002).

At the time that Moore introduced his concept, behaviorist principles guided learning theory. Behaviorist beliefs gave little recognition to learners as autonomous individuals who could construct their own knowledge based on their own experience (Moore & Kearsley, 1996). Guided by scientist-philosopher, B.F. Skinner, behaviorists centered on objectively observable behaviors. The overall assumption was that behavior was a function of its consequences and that learning was achieved through repeated response and direct reinforcement of appropriate behavior (Bruning, et al., 2004). Therefore, behaviorists supported the notion that education at a distance should be planned with a structured set of objectives, techniques, and testing devices that maintains and controls every learner. Interaction was only seen as a test of the extent to which the learners were achieving the teacher’s objectives and to give positive reinforcement (Moore & Kearsley, 1996).

Moore believed in structure, but proposed that a balance was needed to recognize the independence of learners in online education as an asset rather than an annoyance. He envisioned a collaborative relationship between teachers and learners that allowed learners to choose their own objectives and construct and control much of the learning
process. This concept of learner autonomy implies that learners have a capacity for making decisions regarding their own learning (Moore & Kearsley, 1996). Most students appreciate a balance between student-centered and teacher-centered activities in online environments. Ko and Rossen (2001) stated that students want to get some distinct contributions from the teacher that they can’t get from a book, but they also react positively to an atmosphere that requires them to be active contributors to their own learning.

Learner-Centered Technology

So what does “learner-centered” technology look like? Closely associated with constructivist concepts are the Learner-Centered Principles (LCP) developed by the American Psychological Association (APA, 1997). McCombs (2000) acknowledged that technology-enhanced circumstances, such as distance learning, offer special occasions for executing learner-centered principles. Distance learning technology can offer greater options to carry out learning activities that are internally driven and constructive, reflective, personally meaningful, authentic, collaborative, and adaptive to the diversity of individuals.

Learner-Centered Principles and (Distance) E-Learning

This study used the APA Learner-Centered Principles as its research-validated framework (American Psychological Association [APA], 1997). The LCPs, which exemplify learner-centered instruction, were developed by The American Psychological Association (APA) in the early 1990s. The principles were based on research in the fields of learning and instruction beginning with the cognitive psychology that emerged in the 1970s and 1980s. The LCPs were revised in 1997 and aimed at addressing school reform.
and redesign. The LCPs consist of 14 principles that address the social, cognitive, affective, and individual principles of learning that reflect learner-centered instruction. This study examined whether these 14 principles were evident in traditional and online courses and whether there is a relationship between these principles and the perceptions of instructors and students. The validated instrument, The Assessment of Learner-Centered Practices (ALCP), which was used in this study, is based on these principles.

APA principles have considerable potential for web-based instruction (Bonk, Appelman & Hay, 1996; Bonk & Reynolds, 1997). Although the principles were not designed specifically for the purpose of e-learning, Bonk and Cummings (1998) acknowledged a dozen recommendations for web-based instruction from a learner-centered perspective. These include: establishing a sense of community between students and with instructor, giving students choices in activities, providing feedback, using instructor facilitation instead of dictation, including reflection, using a variety of pedagogical activities and those that use and explore the Internet, allowing student mentoring, using rubrics, using recursive assignments in building personal knowledge, and providing clear expectations and structure. These strategies are reflected in various studies and designs of e-learning courses.

Lunenberg (1998) agreed that constructivist principles are well suited for web-based instruction (WBI). He reviewed constructivism and the use of technology and concluded that their marriage could reform the dynamic relationship between teaching and learning. In online learning environments, a constructivist model enhances desired teaching/learning practices, such as higher-level instruction, increased learner control, problem (project) based learning, and student-centered research. Lunenberg felt that the
concept of cooperative learning groups that allow students to share experiences and collectively construct knowledge enhances students’ ability to reflect on their own ideas and on the ideas of others.

Is it possible that web-based learning forces learner-centered principles into the learning scheme, even if the learning scheme is basically linear? Perhaps, when students are made responsible for their learning in a web situation, they have no choice but to relate experiences to knowledge in an attempt to cope with the added responsibility of learning on their own (Hargis, 2001).

**Pedagogical Changes**

Becker and Ravitz (1999) found that in schools with a strong technological infrastructure, the computer might be a means to increase teachers’ constructivist or learner-centered practices in ways that may not be possible by other means. They found that a greater amount of a teacher’s involvement in Internet-based activities and a longer period of computer use were highly related to greater changes in teaching practices and related perceptions. Teachers who had students use computer software and the Internet in innovative activities were more likely to report that their teaching practices had changed over the last three years to more learner-centered methods. Becker and Ravitz also stressed that it was not just a fluke when an instructor who proceeded to use technology also developed more constructivist methods. Their study examined how computer and Internet use affects teachers’ practices in a traditional classroom and that any successful program must focus on the instructional needs of the students, rather than the technology (Sherry, 1996; Becker & Ravitz, 1999). Becker and Ravitz questioned whether teachers who were already constructivist-oriented simply found the resources of technology to be
appropriate to those methods or whether actually using computers and the Internet effectively leads non-constructivist teachers to change their pedagogical concepts. They believed that a change in instructional philosophy occurred based on the characteristics of the Internet’s constructive environment (Becker & Ravitz, 1999; Hargis, 2001).

Training Modules

The training modules at the university in this study were designed for use with courses developed as part of a grant in which the researcher was the principal investigator. The modules were developed to guide the instructors in the development of a web-based version of a traditional course within an associate degree program. The development of the courses and the degree was designed to facilitate educational paraprofessionals in meeting the requirements of the No Child Left Behind Act (U. S. Department of Education, 2002).

Adrianne Hunt, Ph.D, a consultant with extensive experience in education and widespread development of web-based courses, was hired to design and facilitate the modules to meet the requirements of the principle investigator. The modules were designed based on the consultant’s and the researcher’s knowledge of learner-centered practices and the kinds of activities that should be present in online courses to reflect those practices. The modules guide the instructors through the use of interaction between the student and teacher, content and other students, multiple teaching strategies, addressing the needs of individual learners, alternate assessment methods, as well as practical organizational techniques in developing their courses. Because the courses were designed with the knowledge of learner-centered instruction, it was hoped that the instructors would teach using learner-centered practices reflected in the training modules.
Statement of the Problem

The purpose of this study was to examine the relationship between learner-centered instruction and web-based learning at a regional public university in southwestern Louisiana. The data gathered in this study were used to identify learner-centered tendencies of instructors of online courses as compared with the learner-centered tendencies of the same professors in their face-to-face courses by studying the perceptions of the students and the instructors. The data were used with the understanding that all of these instructors had participated in the training modules. Interviews provided qualitative data which were also examined and analyzed to evaluate the success of the university’s online training module in promoting valid, learner centered instructional practices.

Overall, research on web-based instruction has indicated a student-centered learning environment, use of multimedia resources, expanded interactivity, adaptability to different learner characteristics, and collaborative learning as the distinct features of online learning (Jung, 2001). Additionally, researchers have observed learners in web-based courses being autonomous individuals who construct their own knowledge (Jonassen, 1999). Thus, web-based students appear to be able to learn collaboratively as well as autonomously (Moore & Kearsley, 1996).

Experts in the field of distance education (Moore & Kearsley, 1996; Moore, 1972) and technology (Jonassen, 1999) have pointed out several parallels between the basic constructivist principles proposed by educational psychologists (Dewey, 1916; Piaget, 1973; Vygotsky, 1978) and effectively designed online courses. Learner-centered instruction seems to be at the forefront of effective instruction in online courses, and
constructivist principles worked well with the online environment even though assessing their effect on student achievement would be difficult.

Research can look at the benefits of a learner-centered environment in ways other than just objective student outcomes. A study (Wegner, Holloway, & Garton, 1999) that revealed concepts such as students’ satisfaction with gains concerning collaborative skills, the richness of written comments from all of the students, and students’ increased autonomy showed that learner-centered instruction worked well with the online environment. Since educational views in general have culminated in a move toward learner-centered instruction, educators may take the opportunity of making pedagogical changes in their teaching practices when converting to online instruction. The new online paradigm calls not so much for delivering instruction at a distance, as for making learning resources and instructional activities obtainable to learners (Carr-Chellman & Duchastel, 2000).

There is a gap in the literature examining the relationship between learner-centered practices and online learning, and more empirical work is needed in order to establish this relationship. Again, research should not just focus on the objective test scores of one learning theory over another, or simply of comparisons to traditional methods that have repeatedly revealed “no significant difference.” Since philosophical and pedagogical shifts affect instruction, online educators need to carefully consider the influence on learners before they apply a new educational theory or methodological practice (Huang, 2002). Only when more research relates online learning and the pedagogical practices of learner-centered instruction can effective instructional design
incorporate the recommended mixture and provide professional development for educators to implement these practices.

This study involved the investigation of learner-centered practices in the delivery of instruction in an online format, in individual instructor’s traditional teaching practices, and any relationship with participation in the university’s online training. The Assessment of Learner-Centered Practices (ALCP) (McCombs & Pierce, 1999) surveys were used to assess the perceptions of both learners and teachers in their respective online and traditional courses. The ALCP surveys were based on the principles found in the APA Learner-Centered Principles (See Appendix A). The questions on part I of the ALCP student survey (See Appendix B for sample survey) and part II of the ALCP instructor survey (See Appendix C for sample survey) are divided into five domains: 1) Facilitates Positive Interpersonal Relationships, 2) Adapts to Class Learning Needs, 3) Facilitates the Learning Process, 4) Provides for Individual and Social Learning Needs, and 5) Encourages Personal Challenge and Responsibility. Comparisons were made between the instructors’ and students’ perceptions and practices that the researcher gleaned from qualitative analysis of those same courses. This evidence of learner-centered practices in instruction was used to provide feedback for each instructor’s reflection and to provide data to evaluate and restructure the professional development modules.

Research Questions

1. How do the instructor’s ALCP ratings in each of the five domains in his or her online course compare with the ALCP ratings in each of the five domains in the traditional course?
2. Is there a significant difference in ALCP ratings in each of the five domains between students in an instructor’s online course and students in that instructor’s traditional course?

3. Is there a significant difference in the mean ALCP ratings and in the Student Evaluation of Instruction (SEI) ratings between students in each instructor’s online course and students in each instructor’s traditional course?

4. How do instructor’s individual and overall ALCP ratings and the individual and overall ALCP course ratings of students in each course compare?

5. Is there any significant difference in the ALCP scores of students in the online and in the traditional courses at the beginning and at the end of the course?

Qualitative Component

A qualitative component consisted of interviews with the instructors concerning their practices and the structure of the online and the traditional course. The questions were based on the information within the E-Learning Advisory Team (ELAT) checklist (see Appendix D). ELAT is a team comprised of faculty from each college of the university whose mission is to advise instructors in the design of their online courses. The checklist was developed as part of that advisory function. The checklist contains specific items and activities that should be present in a successful online course. The checklist was also used to guide the researcher in the review of the materials and activities that took place in the online courses throughout the semester. Instructors were also asked to relate these experiences to how they handle similar ones in traditional courses.
Significance of the Study

The results of this study will offer important contributions to the academic body of knowledge regarding the application of research-based, learner-centered practices in the online learning environment in higher education. The comparison between perceptions of students and instructors, the evidence of learner-centered practices, and the students’ evaluation of the instruction indicated the relationship between using those practices in an online environment and successful instruction. An enhanced knowledge of what students perceived as successful learner-centered situations provided data for instructors and instructional designers to improve the current training practices at this university and to identify appropriate strategies in online courses in higher education in general. Additionally, the study used qualitative means to investigate the possibility that teaching online courses may be a natural way for instructors to migrate toward more learner-centered practices in not only online but also in traditional courses in higher education.

Limitations of the Study

The definitions of learner-centered practices that guided the investigation in this study were limited to those that are in the ALCP surveys based on the four domains within the APA 14 learner-centered principles. These principles provide a research-validated framework for implementing the pedagogical components of web-based design and for emphasizing the active and reflective nature of learning (APA, 1997; McCombs, 1999).

The study was also limited to a review of selected traditional and online courses in one university in the south with a population of approximately 8,500 students and the
instructors teaching those courses who participated in the in-house training modules. The study participants included the faculty and students associated with the online courses that took place during spring 2006 and the training in 2005. Therefore, the findings of this study were limited to this university.

The study was limited by the number of instructors participating in the study, but involved a significant number of students in both online and traditional classes of those instructors. The study was limited to six instructors who participated in the training modules and who taught two classes—one online course and one traditional course during the same semester. The data also provided demographical information of the instructors of these courses.

The limitations of the study also include the acknowledgement that the level of LCPs that exist in a course cannot be directly related only to the training modules, but the researcher sought qualitative evidence from the instructors that the training encouraged the use of learner-centered practices.

Definition of Terms

**Asynchronous e-learning:** E-learning in which participants may work at different times and places from each other. It involves self-paced learning, CD-ROM-based, Network-based, Intranet-based, or Internet-based. It may include access to instructors through online bulletin boards, online discussion, groups and e-mail. Or, it may be totally self-contained with links to reference materials in place of a live instructor.

**Constructivism:** Learning that is a constructive process in which the learner is building an internal illustration of knowledge, a personal interpretation of experience. This representation is continually open to modification, its structure and linkages forming the
ground to which other knowledge structures are attached. The fundamental challenge of constructivism is in its changing the locus of control over learning from the teacher to the student.

**Course management system:** A software application such as Blackboard that provides a template for individual online classroom development and is usually licensed by a learning institution for its users.

**Distance education:** A teaching-learning relationship where the participants are geographically separated and communication between them is through technologies, such as audio and video broadcasts, teleconferences and recordings, printed study guides, and multimedia systems. Subfields include online learning, e-learning, distributed learning, asynchronous and synchronous learning, and blended learning (Moore, 2006).

**Distance learners:** The people who, because of time, geographic, or other constraints, choose not to attend a traditional classroom (Western Cooperative of Educational Telecommunications (WCET), 2005).

**E-learning:** The unifying term to describe the fields of online learning, web-based training, and technology-delivered instruction.

**Face-to-face (F2F):** The instruction or learning that is synonymous with traditional learning and occurs at the same time and place.

**Learner-Centered Principles (LCP):** The principles that stress the active and reflective character of learning and learners and the psychological factors that are controlled by the learner internally rather than through conditioned behavior or physiological aspects. The principles are divided into cognitive and metacognitive, motivational and affective,
developmental and social, and individual difference factors that influence learners and
learning (APA, 1997).

**Learner-centered:** Learning that has a focus on the individual learner combined with a
focus on learning. All things within the individual such as genetics, experiences,
backgrounds, skills and interests are combined with the methods and practices that best
exemplify the promotion of high motivation, learning, and achievement. (McCombs,
1999).

**Online learning:** Instruction that consists of many routines similar to a traditional class
but that is delivered on a computer through the Internet using a software course
management system. Online learning should use interaction, chat, activities, assignments,
lectures, course materials, and various forms of assessment.

**Problem-based learning (PBL):** Originally developed to help medical students, PBL is
a student-centered, contextualized approach to schooling. In this approach, learning
begins with a problem to be solved rather than content to be mastered (Aspy, Aspy, &
Quinby, 1993).

**Scaffolding:** A form of teaching where the instructor continually adjusts the level of his
or her help in response to the student’s level of performance. Scaffolding not only
produces immediate results, but also instills the skills necessary for independent problem
solving in the future (Wood, Bruner, & Ross, 1976).

**Synchronous e-learning:** The training that is done in real-time with a live instructor
facilitating the training. Everyone logs in at a set time and can communicate directly with
the instructor and with each other. This type of training usually takes place via Internet
Web sites, audio- or video-conferencing, or even two-way live broadcasts to students in a classroom.

**Traditional learning:** The instruction that occurs with an instructor and students at the same time and place.

**Web-based learning:** Instruction that occurs on the Internet and is synonymous or interchangeable with e-learning and online learning (elearners, 2006).

**Zone of proximal development:** The gap between what students can achieve alone, their “potential development as determined by independent problem solving”, and what they can achieve “through problem solving under adult guidance or in collaboration with more capable peers” (Vygotsky, 1978).
Constructivist roots can be traced from John Dewey and progressive educators, to Piaget and Jerome Bruner’s discovery learning, but Lev Semenovich Vygotsky’s theory formed the cornerstone of constructivism in its emphasis on the role of social mediation of knowledge construction (Bruning et al., 2004). His theory stressed the interaction of social, cultural-historical, and individual factors in developmental growth (Schunk, 2004).

Although constructivism is not a new concept, in the past twenty years, constructivist perspectives on learning have become progressively more significant and “can be said to represent a paradigm shift in the epistemology of knowledge and theory of learning” (Applefield, Huber, & Moallem, 2001, p 37). According to some researchers, activities should cause learners to gain access to their experiences, knowledge, and beliefs, and the more directly and interactively they experience things, the more knowledge about the subject that they are likely to construct (Lambert & Walker, 1995). Vygotsky (1978) visualized that the social process by which learning occurs creates a connection that spans the learner’s “zone of proximal development.” This means that what the learner is unable to achieve alone can be accomplished successfully with a more capable peer or with a teacher (Bruning et al., 2004). In this process of construction, there is a constant relationship between social processes and individual cognitive construction. Based on these beliefs, Jonassen (1999) argued that technology, including the Internet, can be effectively used as a tool with which to construct knowledge. Other researchers (Hung, 2001; Oliver, 1999; Hung & Nichani, 2001) have identified constructivism as the
most suitable instructional approach for online learning environments. Jonassen (1999, p. 16) believes that meaningful learning will result when technologies engage learners in the following:

- Knowledge construction, not reproduction
- Conversation, not reception
- Articulation, not repetition
- Collaboration, not competition
- Reflection, not prescription

Research on instructional technology further stresses that students cannot learn solely from teachers or technology, but must learn from thinking, and thinking in turn is engaged by activity (Jonassen, 1999; Bruning et al., 2004). Learners must clarify their understandings by reflecting on their learning and analyzing the ways in which they construct knowledge and meaning (Lambert & Walker, 1995; Applefield et al., 2001).

Self-directed learning is also an attribute of distance education that is defined as “the ability to undertake all or most of the design of one’s own learning, to evaluate performance, and to make adjustments accordingly” (Moore & Kearsley, 1996, p. 119). Self-assessment allows students to evaluate how much they have learned as well as how they have learned (Lambert & Walker, 1995).

Other terms are also used to refer to constructivist views of learning, including: generative learning, situated learning, authentic instruction (Applefield et al., 2004), and more recently, learner-centered instruction. Learner-centered instruction is a reflection of the programs, practices, and policies as well as the people that support learning for all. Learning-centered is not just about the practices and policies, but is a reflection of
attitudes and beliefs found in the Learner-Centered Psychological Principles (McCombs & Whisler, 1997; McCombs, 2003). Learner-centered pedagogies and strategies assess the needs of students, what is important to them, and their individual learning preferences (Bonk & Wisher, 2000). Many educational technologists promote strategies that progress from teacher-centered to learner-centered (Hannafin & Land, 1997).

Analytical Framework

The American Psychological Association developed 14 learner-centered principles with the perspective that educational practice will improve when education is redesigned to focus on the learner (APA, 1997). The principles stress the active and reflective character of learning and learners and the psychological factors that are controlled by the learner internally rather than through conditioned behavior or physiological aspects. The principles also consider the relationship of external contexts and environmental factors to the internal factors within the learner. The principles stress real-world learning situations and are viewed as a collective set of factors, rather than individual factors. The principles are divided into cognitive and metacognitive, motivational and affective, developmental and social, and individual difference factors that influence learners and learning. The list of these principles and a description of the processes are listed below (APA, 1997), and the strategies that educators need to use to achieve these principles are included in Appendix A.
COGNITIVE AND METACOGNITIVE FACTORS
Principle 1: Nature of the learning process. The learning of complex subject matter is most effective when it is an intentional process of constructing meaning from information and experience.
Principle 2: Goals of the learning process. The successful learner, over time and with support and instructional guidance, can create meaningful, coherent representations of knowledge.
Principle 3: Construction of knowledge. The successful learner can link new information with existing knowledge in meaningful ways.
Principle 4: Strategic thinking. The successful learner can create and use a repertoire of thinking and reasoning strategies to achieve complex learning goals.
Principle 5: Thinking about thinking. Higher-order strategies for selecting and monitoring mental operations facilitate creative and critical thinking.
Principle 6: Context of learning. Learning is influenced by environmental factors, including culture, technology, and instructional practices.

DEVELOPMENTAL AND SOCIAL FACTORS
Principle 10: Developmental influence on learning. As individuals develop, they encounter different opportunities and experience different constraints for learning. Learning is most effective when differential development within and across physical, intellectual, emotional, and social domains is taken into account.
Principle 11: Social influences on learning. Learning is influenced by social interactions, interpersonal relations, and communication with others.

MOTIVATIONAL AND AFFECTIVE FACTORS
Principle 7: Motivational and emotional influences on learning. What and how much is learned is influenced by the learner’s motivation. Motivation to learn, in turn, is influenced by the individual’s emotional states, beliefs, interests and goals, and habits of thinking.
Principle 8: Intrinsic motivation to learn. The learner’s creativity, higher-order thinking, and natural curiosity all contribute to motivation to learn. Intrinsic motivation is stimulated by tasks of optimal novelty and difficulty, relevant to personal interests, and providing for personal choice and control.
Principle 9: Effects of motivation on effort. Acquisition of complex knowledge and skills requires extended learner effort and guided practice. Without learners’ motivation to learn, the willingness to exert this effort is unlikely without coercion.

INDIVIDUAL DIFFERENCES FACTORS
Principle 12: Individual differences in learning. Learners have different strategies, approaches, and capabilities for learning that are a function of prior experience and heredity.
Principle 13: Learning and diversity. Learning is most effective when differences in learners’ linguistic, cultural, and social backgrounds are taken into account.
Principle 14: Standards and assessment. Setting appropriately high and challenging standards and assessing the learner and learning progress—including diagnostic, process, and outcome assessment—are integral parts of the learning process.
This literature review focused on research of online courses that use reflection and articulation (Bean & Stevens, 2002; Maor, 2003; Salmon, 2002; Wickstrom, 2003), collaboration, interaction, and problem-based learning (McConnell, 2002; Orrill, 2002), critical thinking and knowledge construction (Gilbert & Driscoll, 2002; Hargis, 2001; Roberts, 2002;), and other learner-centered approaches (Churach & Fisher, 2001; Hewson & Hughes, 2001; Howland & Moore, 2002; Hughes & Daykin, 2002; Petrides, 2002) that incorporate the various aspects of learner-centered principles. Although many of the studies focus on one particular concept, learner-centered principles are designed to overlap (APA, 1997), and several activities and strategies may be present in one learning situation. Following the discussion of those aspects, research involving a more complete picture of learner-centered practices was included.

Related Empirical Studies

Reflection

The word “reflection” derives from Latin and means to bend or turn backwards. In human terms, this means reflecting on oneself or others, as though viewed through a mirror. Reflective practice focuses on individual interpretation of events and the articulation of those interpretations into suitable actions (Salmon, 2002).

Computer-mediated conferencing uses computers to store and mediate messages sent to a group of users. In this way, users are able to communicate asynchronously (not at the same time) because the computer or server stores messages until others are able to log on and access them. Asynchronous communication is seen as a means of promoting reflection within a learner or a group of learners. Users find that they are able to think
more about their replies due to the time between postings. They are able to ask questions and frame responses, structure their thoughts and then make them public (Salmon, 2002).

Teacher education programs tout reflection as an important aspect of being effective educators because it leads them to act in a deliberate and intentional fashion rather than a blind and impulsive one (Dewey, 1938). However, very few studies in the field of literacy education have explored the role of reflection in teachers’ online discussions (Risko, Roskos & Vukelich, 1999). Bean and Stevens (2002) explored scaffolded reflection with preservice and in-service teachers in two university courses with an online component. Scaffolded is originally a Vygotskian concept based on the idea of providing supportive assistance within the learner’s parameters of the zone of proximal development (Vygotsky, 1978). In the group of preservice teachers, the instructor scaffolded the responses by using an online discussion board to post thoughts and then pointed out the reflections that were most thoughtful and successful in synthesizing various viewpoints. The in-service teachers’ group read and completed projects related to the text. Students kept a reflective response journal that contained their comments on the text and a novel and formed the basis for small group discussions. Since reflection has the potential to engage students in critiques of their beliefs and practices (Anders, Hoffman & Duffy, 2000; Risko et al., 1999), Bean and Stevens (2002) wanted to see if the scaffolded reflections would reveal or help teachers challenge common notions about adolescent literacy.

Overall, they found that the scaffolding helped to focus the students’ reflections, but did not succeed in prompting reflections that challenged discourses of teaching and learning at the local, institutional, and societal levels. Bean and Stevens (2002) cautioned
that numerous opportunities and diverse designs for reflection need to be explored to

determine the success of reflection with preservice and in-service teachers.

In a qualitative case study, Maor (2003) related her roles in developing interaction
and reflection in a higher education online course. She designed her course on a social
constructivist framework using an asynchronous discussion board that was intended to
include activities involving peer-learning, reflective thinking, and the joint construction
of knowledge. Maor encouraged professional as well as personal exchanges and the
creation of a safe environment, and she modeled the informal tone by introducing herself
and sharing her background. Throughout the class, the instructor found that she needed
to provide scaffolding to guide the students to more reflective contributions and to
engage them in peer learning. She found that, although this improved their contributions,
their reflections were not as deep as she hoped and found the need to develop future
strategies, such as debates, role playing, and modeling of reflective thinking to improve
practices. Her findings indicated that higher education needs to provide opportunities,
resources, training, professional development, technical support and must address the
varying roles of the online instructor. The instructor must be a reflective practitioner
along with the students to ensure quality collaborative online learning (Laurillard, 2002).

Wickstrom (2003) investigated the effects of using an online discussion board for
the discourse and reflection of 45 preservice teachers enrolled in a one-semester reading
assessment course. The instructor used the discussion board to replace written reflections
about text assignments and assessment scenarios devised by the instructor. The
hypotheses were that the forum would provide a more authentic environment for
reflection since the students would read each other’s work and would facilitate proactive
participation, collegiality, communication, and professional dialogue, which promotes reflection about teaching (Good & Brophy, 2000).

The interchanges that occurred between the students showed collegiality, more reflection, and a more conversational tone. The instructor attributed this to the authenticity of the concerns, and noted that a key factor is creating what students see as true authentic assignments. If participants can articulate what they know, then they have the opportunity to reflect on it and make changes (Barnes, 1976). The instructor found that overall the hypotheses were supported, but that refinement was needed. The instructor’s experience enabled him to rethink the strategies and recommend plans to: 1) include rubrics for self-assessment, 2) implement social introductions to create more comfort, 3) include more responsibility from students in posing questions, 4) provide students with information related to materials, and 5) give suggestions for topics of interest (Wickstrom, 2003).

Problem Based Learning and Collaboration

The problem-based learning (PBL) method originated in the mid 1960s at McMaster University Medical School, Canada (Aspy, et al., 1993) and has been adapted by medical schools, such as Harvard University, the University of Limburg at Maastricht, The Netherlands, and the University of Newcastle, Australia. PBL involves students working in small, cooperative groups with a faculty facilitator on a brief case presentation. The problem is ill-defined and forces students to create knowledge through interrelation with each other, to recall ideas about various topics, to propose explanations, and to define what they need to know more about (Hendry, Frommer, & Walker, 1999).
Although PBL originated in medical courses, it has become a useful tool in many adult-learning situations.

Orrill (2002) developed an Asynchronous Conferencing Tool (ACT) and used it to support problem-based learning with adult learners in inquiry-based learning. Its purpose was to enhance critical thinking, group problem solving, consensus building, and project management tasks. ACT was a discussion space that used threaded asynchronous messages to simulate normal discussion in face-to-face classrooms.

The researchers found limitations and logistical issues in using ACT to accomplish PBL objectives. Success depended to a large degree upon students’ ability to use the whole process and the instructor’s ability to design and deliver the medium. The researchers found that individual learning was accomplished even though the learning was less effective than desired. They found that perhaps it is easier to support discussion than it is to support group knowledge building; however, individual knowledge bases were developed using the medium. PBL can be successful and worthwhile in an asynchronous learning environment, and even though there are limitations in the medium, students are able to engage in meaningful problem solving (Orrill, 2002).

McConnell (2002) investigated problem-based learning in an open, adult learning context. The students were professionals who worked in small, distributed e-learning groups for extended periods of time, and they were in an online master’s degree program. The program was run as a learning community (ideas were shared) and as a community of practice (members were actively constructing understandings of what it means to be professional). Not only did participants engage in meaningful practice through cooperative and collaborative learning processes, they also demonstrated that knowledge
is developed in the context of the participant’s professional practice. Participants were encouraged to learn by experience, to share with the group, and to reflect on this arrangement as a major source of learning.

PBL learning is based on a philosophy that acknowledges people learn in different ways. Its action learning/research context allows participants to make choices about the management, focus, and direction of their learning. Course participants learned best when they were allowed to choose the focus and context of the problem being investigated, creating a balance between learning and its application. Group identity and the individual identities were developed through this complex negotiation. Throughout the program, participants were invited to act within the group and at the same time act within their respective practices. The participants took responsibility for developing skill in judging the quality of their own and each other’s work. They came to realize that they could produce knowledge using a PBL approach (McConnell, 2002).

Constructivist Formats

Hargis (2001) studied volunteer postsecondary students that were randomly divided into three groups: one taught using a constructivist format with Internet use, one taught using an objectivist format with Internet use, and one was a control group with no Internet use. The constructivist format was defined as one that allowed participants to access several Internet links to build their knowledge of the subject. The objectivist format consisted of material being presented in a traditional linear order. Independent variables included gender, age, racial identity, attitude, and type of format used. The pre- and posttest model allowed for the use of analysis of covariance.
No significant difference was found between the posttest scores of the nonlinear (constructivist) approach and the posttest scores of the linear (objectivist) approach to science instruction. There was significant difference between each group and the control group, respectively. When the above independent variables were tested, significant difference was found in only one variable-age. Younger students fared better with the constructivist approach. Hargis (2001) suggested that this is perhaps due to the younger students’ familiarity with technology and their lack of contamination with historical learning schema, which is predominantly objectivist in nature.

His findings indicated that since both groups fared significantly better than the control group, the Internet has something to offer science instruction. Is it possible that web-based learning forces constructivist principles into the learning scheme, even if the learning scheme is basically linear? Perhaps students are so made responsible for their learning in a web situation that they have no choice but to relate experiences to knowledge in an attempt to cope with the added responsibility of learning on their own.

This study settled few issues, and Hargis (2001) suggested that further study be conducted to determine if a constructivist format is best suited for younger learners only. He wondered if there has been a basic change in instructional philosophy based on the characteristics of the Internet’s constructive environment.

Gilbert and Driscoll (2002) conducted a case study involving a course of 20 graduate students as individuals, groups, and the entire class community. Data were collected during the entire semester from students, the instructor, a teaching assistant, and a student informant (a participant/observer). The effectiveness of the technology used
was directly related to the quality of input by all participants in the process (Gilbert & Driscoll, 2002; Bruning et al., 2004).

Once again, technology is a tool that has tremendous potential in supporting constructivist practices, but it is only a tool. Teachers must introduce appropriate approaches, and students must take responsibility for learning in order for this wonderful tool to be properly used. The authors agreed that a tendency for use of distance education is to reach more students over wider areas. They contended that a collaborative knowledge-building approach should be used in both traditional classrooms and distance learning courses. They concluded that the approaches used are determined by the individual teachers and students in the various courses (Gilbert & Driscoll, 2002).

**Learner-centered Practices**

Churach and Fisher (2001) investigated approaches to Internet teaching and perceptions of students’ awareness of the constructivist nature of the classroom. The research project involved 431 students taking math and science courses. The subjects completed a questionnaire, and 10% of the subjects were also interviewed. The survey consisted of two parts: an inventory of student Internet usage (how much time, location, etc.) and the Constructivist Learning Environment Survey (CLES).

Churach and Fisher (2001) asserted that the web is the technology innovation that is most applicable for constructivist teaching. Teachers are forced to focus on the process of learning and interpersonal relationships, and learners must take the responsibility for learning. Furthermore, knowledge is doubling frequently, and the teacher’s foremost role is to help students make learning a life-long process.
They found that students seemed to use the Internet to find what they needed to know when they needed it (a constructivist concept). The area in which the Internet proved most useful was in offering the student the chance to be in control of her or his own learning. A negative finding was that the lowest overall score was found for shared control. The authors attributed this to the teachers’ tendency to stick to a structured curriculum aimed at preparing the students for standardized, high-stakes exams.

The science classes with higher Internet usage were found more constructivist in nature. Also, the variable with the greatest effect on their students was the teachers’ attitude toward Internet usage. The conclusions in this article support the concept of the web-based environment as applicable to a constructivist approach to teaching and learning.

Hughes and Daykin (2002) evaluated the change from a lecture module to an online module for a third-year nursing course. The staff wanted to move toward a more learner-centered or constructivist approach in general in the nursing program, and they wanted to see if an online approach would mitigate some of the problems arising from use of the lecture method. The staff team-taught the course for the first time in an online environment instead of using their traditional lecture method. Then the students’ online work was evaluated to determine if problems in the lecture method such as content engagement, mode of delivery inhibiting engagement, low lecture attendance, and authenticity of content were alleviated.

The authors found that the staff was only partially successful in developing a more constructivist approach. Furthermore, the authors found no evidence to suggest that students had developed a constructivist approach to learning. Their findings revealed
several weaknesses: the minimal technical skills of the students, minimal online environment skills of the staff, too large class size, and a lack of scaffolding. Scaffolding, the framework provided to support students in their development of knowledge, was not provided by the staff nor created by the students. Probably the lack of progress toward constructivism in this situation is not the fault of the medium, but more a consequence of the staff not making use of the capabilities of the medium (Hughes & Daykin, 2002).

With the increasing occurrence of web-based courses in higher education, Howland and Moore (2002) chose to examine students’ experiences in online courses and to examine learning strategies that students reported using. They used a qualitative methodology of 12 open-ended questions that focused on the students’ perceptions, communication experiences and effects of them, and learning strategies that the students deemed most important. The study focused on 48 students within three online courses that met face-to-face no more than once.

Self-management, self-reliance, and accurate expectations of learner responsibilities are important attributes for self-directed learners, and successful online experiences are easier for those learners who have the ability to direct their own learning than for those who need more direction (Moore & Kearsley, 1996). Students reporting positive attitudes about their experiences reflected learner-centered constructs, such as higher levels of independence, proactive learning, and responsibility for their learning. Students who expressed negative feelings revealed expectations for instructors to provide the same kinds of materials as lecture courses and to supply all necessary information. They expressed more need for feedback and structure from the instructor and seemed less
able to self-assess their learning. Teachers must consider that students learn in different ways, involving different tasks and activities (Speaker, 2001).

The study concluded that instructors should be pedagogically, managerially, technically, and socially active (Howland & Moore, 2002; Berge, 1998; Bonk, Kirkley, Hara & Dennen, 2001). Pedagogically active means that the instructor directly assists some students in being more proactive, critical thinkers and in making the online environment flexible for those who need more scaffolding, advice, and feedback. Managerially, the instructor should include deadlines and correspondence as well as activities such as discussion board, email, virtual chat, and even telephone conversations to provide collaborative and reflective feedback. Awareness of technical problems and issues should be built in to the course. Lastly, students and instructors should reverse roles to experience the course from both perspectives, interact in social actions to increase mutual understanding of each other’s experiences, and even use humor to promote enhanced success in online courses (Howland & Moore, 2002).

Petrides (2002) focused on learner-centered distance learning and posed the questions: does technology-based, learner-centered education have to be interactive; does it need to be collaborative; are we trying to transmit knowledge or to create knowledge, and how might we use technology to accomplish these objectives? Her study examined the ways in which a higher education classroom, which used web-based technology as a supplement to a traditional classroom, addressed issues of learning and learner-centered education. Her study involved a graduate level class in educational administration that met face to face once a week and used a web-based technology platform as a collaborative, yet instructor-facilitated supplement to the course. The supplement
contained four modules: scheduling center, media center, discussion rooms, and student profiles.

These students reported their distributed learning experience as more learner-centered than teacher-centered. They valued the communal access to each other’s ideas and written assignments throughout the semester, which they reported contributed to collaborative inquiry in their online experience. The course allowed them to interact with each other, thereby giving them insight about their own lives and experiences. The study concluded that distance learning still too often incorporates the “delivery” metaphor or presentation of information that was set in place by correspondence courses (Petrides, 2002; Moore & Kearsley, 1996). Instead we must create technology-based, learner-centered educational experiences that produce knowledge and facilitate learning. Teachers should focus on creating learning environments and learning opportunities for their students (Petrides, 2002) and help them discover the meaning of the concepts that they are studying (Stroh & Sink, 2002).

The Professional Development Centre, University of New South Wales, has offered postgraduate studies for university academics since 1991. Hewson and Hughes (2001) evaluated the Information Technology for Teaching and Learning (ITTL) course that prepared university personnel to offer online courses. The course prepared instructors in the center to use the Internet to offer courses, while maintaining their established principles of student-centered learning and reflective practice. Their findings showed that the personal development of these instructors was enhanced in the endeavor. As in a regular classroom, there was a challenge for students to create a presence in the online classroom, and the students were successful in creating an online persona. These
instructors gained confidence in accomplishing online tasks (such as a web page or an explanation of views via a discussion board), therefore, encouraging confidence in the medium as a vehicle for student-centered learning.

Interaction

Different concepts permeate the discussions concerning interaction in distance learning or web-based courses. The first is Moore’s (1996) identification of the types of interaction related to the participants in the process: learner-instructor, learner-content, learner-learner. This framework identifies a key role of learner-to-learner contact and the importance of this addition to a teacher-centered framework (Roblyer & Wiencke, 2003). According to Fulford and Zhang (1993), interaction is a key to success in traditional classrooms, so it is understandable that it has become an essential element of successful distance courses (Roblyer & Wiencke, 2003). As online courses become more common in higher education, instructors and students are reporting a higher degree of interaction in distance or online courses than they have in face-to-face (Edmonds, 1996; Loupe, 2001).

Roberts (2002) used her experience as an online student to understand the relationship between interaction, reflection, and learning in distance education. When asked to discuss interaction in the distance learning environment, she discovered she had constructed a three dimensional space that she could enter, elaborate, and manipulate. She felt she had come to understand interaction from the inside out. In other words, she had, through experience, constructed knowledge of a concept that could not be externally imposed.
Furthermore, seeing how her perspective related to others in the online process aided in the transfer of the online experience to her personal, professional environment. Distance learning is as suitable for experiential learning as is a traditional classroom and has the advantage of allowing the student to spend time outside the classroom in personal contexts that can be integrated with established course content.

Roberts (2002) concluded that enabling students to develop reflective practice can support the understanding of course content and promote awareness of themselves as effective learners. Their own environments and their responses to those environments are acceptable fountains of knowledge and become valuable learning resources.

**Pedagogical Changes**

With these studies comes the realization that web-based instructional technologies are permeating higher education teaching and learning. As early as 2001, the Campus Computing Survey reported that an increasing number of campus administrators had identified course management systems (CMS) as "very important" in their institutional IT planning (5.8, compared to 5.5 in 2000; on a 1-7 scale). The survey data indicated that roughly three-fourths (73.2%) of the institutions surveyed had implemented a "single product" standard for a course management system, up from 57.8 percent in 2000. The 2001 data also revealed that the approximately one-fifth (20.6 percent) of all post-secondary courses were using web-based tools (Green, 2001). As increasing numbers of students and faculty find themselves involved in online learning environments, resulting changes should occur in instructional strategies (Jaffee, 2003).

It is essential to consider the impending implications of a conversion to the diverse environment of online, asynchronous learning. Absent is the synchronous,
physical atmosphere of the traditional classroom space. Since the tradition of the higher education arena dictates that instruction will be delivered in a physical space with desks or chairs directed toward a podium designated for the lecturer (Cuban, 1983), online learning drastically changes this symbolic and social tradition. Not only is the physical space absent, but the learning situation of the student in the passive role with the teacher in the lecture mode will need to be changed as well (Jaffee, 2003) to the more learner-centered approach recommended by experts (Moore & Kearsley, 1996; McCombs, 2003).

According to data collected in the 1998-99 National Study of Postsecondary Faculty, 82.7 percent of all faculty use lecture as the primary instructional method (National Center for Educational Statistics, 1999). Such institutionalized patterns of practice and place are a fundamental part of secondary institutions, and they are slow to change. As the pedagogical teacher-centered practices face demands for more active, student-centered, and outcome-based learning (Speaker, 2001), it may be questioned whether online instructional technologies can contribute to pedagogical revolution in higher education.

Inevitably, teachers must change their teaching practices from a lecture or teacher-centered approach to a learner-centered approach (McCombs, 2003) in the online learning environment, in order to make teaching practice at the college level consistent with learning theory (Thompson, Licklider, & Jungst, 2003). In making pedagogical changes in practices for the purposes of technology and specifically online learning, teachers may reform their teaching practices in the traditional face-to-face environment as well. The social space that enables the traditional roles, relations, and practices of the teacher-centered, lecture-based pedagogy is radically altered. The online environment provides potential opportunities for restructuring classroom roles, relations and practices...
(Jaffee, 2003) to override feelings of isolation much like those in correspondence courses. Researchers have begun to look at the connection between teaching a distance education course and corresponding pedagogical changes in instructional practices, roles, responsibilities, and commitments (Besser & Bonn, 1997).

Chizmar and Williams (1998) described their encounter with pedagogical, administrative, and political issues when designing an online fine arts course and a statistics course. They quickly realized the first and foremost issue was the question of what pedagogy would work over the Internet using a variety of Internet delivery techniques. They noted that the pedagogy must drive the choices of instructional technology, not the other way around. Like the LCPs, the framework that they chose created an environment in which the focus on individual learners was combined with a pedagogical approach that incorporated the best available knowledge about how learning occurred (Lambert & McCombs, 1998). They began their search by considering Chickering and Gamson’s (1987) seven principles for good teaching practices that implore teachers to: 1) Encourage contacts between students and faculty, 2) Develop reciprocity and cooperation among students, 3) Use active learning techniques, 4) Give prompt feedback, 5) Emphasize time on task, 6) Communicate high expectations, and 7) Respect diverse talents and ways of learning.

While they felt that all of the seven principles were important, they began by focusing on the principle, “use active learning techniques” because in the Internet environment that they intended to use, there were no visual cues for human interaction. Each of the courses was set up with many active learning principles in place. The statistics course used a collaborative classroom/laboratory approach that required
students to collect and produce data, make predictions, read about news events, discuss findings, analyze data, access data through the Internet, conduct simulations, and write explanations. These are much like the activities in a social constructivist framework that includes collaboration, opportunities to create multiple perspectives, active learning, and the creation of web reports or reviews (McLoughlin & Oliver, 1998; McLoughlin & Luca, 2002).

The teacher’s role became that of facilitator—a critical factor in contributing to interaction in online courses. The instructor monitored progress, asked and answered student questions, led discussion, and, when necessary, delivered audio “mini-lectures”. In all, the instructor created 42 labs and 21 tutorials to support the course.

The fine arts course was a seminar in developing and designing computer applications. The website held all class materials and activities: syllabus, grading and evaluation, guide sheets and visuals for projects, software and project templates, links to online resources, and specifically designed tutorials for designing web pages for art, music, and theatre activities that can foster interaction through cooperative group projects (Hamza and Alhalabi, 1999). Class sessions were broadcast using RealAudio and archived. Online students submitted questions and comments via email, and responses were broadcast in audio back over the Internet. The course was designed to be project-based with the only exam an Internet literacy exam to be completed to pass the course. The instructor noted that considerable time was involved in creating the course to insure that the students had sufficient resources to make up for the lack of visual communications.
These instructors counted their courses as successful although they had to overcome many administrative hurdles. They noted that sometimes, pioneers must not only change their own pedagogical practices, but must deal with the bureaucracy on campuses and the lack of infrastructure to support Internet teaching from a mindset where rules and guidelines are based on local geography.

Kern (2001) discussed a project that began as a simple, project-based online learning initiative that informed her thinking about classroom-based learning and teaching practices. She began a project in 1991-92 on the Holocaust based on her student’s experiences with reading Elie Wiesel’s (1960, as cited in Kern, 2001) Holocaust memoir, Night. She admits that she knew nothing about computers at the time, and that up front, her students taught her everything she knows. That first step allowed her to take a back seat in the learning process and to begin to understand the facilitation process.

Today, the project involves students in over sixteen countries, and is interdisciplinary, encompassing history, language arts, fine art, music, foreign languages, and critical thinking. They include access to professional authorities, databases of information, publication of an online magazine, and a website. Kern admits that the work in this English class took on a student-driven, not teacher-assigned life. The profound effect was that it changed her way of teaching. Students made most of the decisions, while she made suggestions and gave assistance. Students began to proofread more carefully, help each other in research, welcomed critical inquiry, and involved parents and the community.

As a result of this project, Kern (2001) annually involves students in email exchanges with other schools when reading Night. Students have had contact with a
Holocaust survivors group, have learned how to evaluate websites and properly cite material, have written book reviews, and have been published on websites and in online journals. She notes that this process of integrating technology in her classroom has been a rewarding transition and has made her a happier teacher. She stresses that the growth of technology has brought the world in closer contact with us.

In a recent study, Green and O’Brien (2002, p. 44) focused on two questions. First, “does Internet use result in an increase in constructivist teacher practices?” Second, “what other features of classroom life are impacted when the Internet is used as a source of information for student research projects”. As Internet access and more constructivist teaching practices are called for by national commissions such as The Southern Association of Colleges and Schools (SACS), National Council for Accreditation of Teacher Education (NCATE), and Interstate New Teacher Assessment and Support Consortium (INTASC) and state level commissions and plans, they felt that these issues needed to be addressed. Most educators agree that constructivist practices involve teachers facilitating students who engage in activities that garner their interest and build on their experiences. These practices offer opportunities for higher order thinking and take the students beyond fact-finding to developing opinions about and solutions to open ended or ill-structured problems. Although this study did not involve post-secondary education but five fifth-grade classrooms in two districts, it is relevant to see if well-supported Internet access changes instruction in learner-centered directions.

The data included interviews with teachers, administrators, students, and technology staff, direct observations of classrooms, computer labs, and assessments of student work. Observations were focused on student Internet projects. Initially, it
appeared that the Internet related activities had a constructivist look. Teachers spent little
time giving direction, and the students were active, eager to help each other, and offer
new information to the teachers. Teachers spent most of their time facilitating the student
work. Most of the assignments offered students some degree of choice, increasing their
level of interest and providing opportunity to relate their experiences.

A closer look at the assignments, however, suggested that teacher practice had not
changed in constructivist directions. Generally, the students were still expected to answer
a number of factual questions although some questions did ask for their opinions. In
looking at non-Internet related assignments, there was evidence of fact-finding with some
emphasis on higher-order thinking. The teachers admitted that getting the students to
think was a difficult task, but that the Internet had not increased the frequency with which
students were expected to go beyond fact finding. A look at the districts’ staff
development process revealed that the process merely consisted of demonstrating how
the different technology tools were used, but left the teachers on their own to determine a
process of implementation. What resulted were teachers using computers to improve
what they were already doing.

The very nature of information found on the Internet should provide opportunities
to increase higher order thinking activities. Staff development programs should promote
active students facing cognitive challenges, and give them higher order thinking tasks up
front, while supporting fact finding as a means to support their conclusions. The
outcomes were that students did have greater opportunities to teach teachers and peers,
and girls showed an advantage in information retrieval or communication while using the
Internet. There seem to be some positive aspects to Internet use, and it may ease the
transition to constructivism, but teachers still may need much more staff development to truly develop learner-centered practices (Green & O’Brien, 2002).

In a worldwide study, Kozma (2003) looked at examples of innovative pedagogical practices in the classroom related to technology use in 174 schools. The classrooms were chosen based on innovative changes in practices brought about by technology use and resulting in sustained activities that affected positive student outcomes. Most countries tied the innovations to student-centered learning that engages students in collaborative, project-based learning in which students work on real-world problems.

Kozma’s results indicated that technology-supported innovative classroom practices around the world have many common qualities. Based on the selected cases, teachers are using information and communications technologies to improve classroom learning, change teaching practices, and integrate technology into the curriculum. Students are collaborating in teams and using technology resources to gather information, publish results, and create products. Teachers are using technology to change their roles from that of primary source of information to facilitator of structuring, advising, monitoring, and assessing. The results indicate that when teachers go beyond basic practices and use technology to plan and collaborate, and when students use technology to research, analyze, solve problems, design products, and assess their own work, students are more likely to develop problem-solving, management, collaboration, and communication skills. Although the number of teachers integrating technology may still be small, these practitioners provide basic models for technology integration and instructional changes. The higher education arena may also benefit from these models in
learning to use basic technology and the Internet to initiate pedagogical changes to more student-centered practices.

Summary

This review of studies indicates that teachers may change pedagogical practices when implementing technology, especially when developing online courses or using Internet components. The structure of the online environment is foreign to the normal atmosphere and that change in structure and atmosphere may force the instructor to look at learning in a new light. Redesigning a course for the virtual world produces deep reflection about instruction, learning, and the roles of teacher and student, but does not automatically produce good results (Jaffee, 2003). It seems that indeed the advent of online learning and the call for more constructivist or learner-centered practices are fortuitous phenomena. Furthermore, the accident of these two occurrences may translate into reform efforts in education that with proper guidance could transform higher education practices to better prepare students to be able to collaborate, work in teams, teach others, lead, and negotiate in the real world (Rice & Wilson, 1999).

This review of literature also provided a synopsis of the presiding analytical framework of learner-centered instructional practices and a base of research that is centered on using many of those principles with technology and e-learning. The learner-centered principles are being encouraged and recommended by state and national educational organizations (McCombs, 2003); yet higher education has been slow to move from the teacher-centered lecture environment. Online learning is quickly pervading higher education, and its multi-way technology can assist the evolution of learner-centered or social constructivist models of education in a variety of modes. Whether
online instruction encourages learner-centered practices or whether learner-centered practices improve online learning may not be of consequence so long as some relationship between the two is established. The Learner-centered Principles are applicable to e-learning settings that tend to attract self-directed learners (Wagner & McCombs, 1995). The review of literature offered diverse learner-centered approaches and strategies, such as reflection, collaboration, interaction, problem-based learning, general knowledge construction, and the resulting motivation of the learner to be more responsible for learning. It may be uncertain which type of instructional strategies are most reliable for online learning (Bonk & Cummings, 1998), but determining success or failure of strategies in the online environment and understanding the background theories on which they are based is imperative in establishing appropriate pedagogies and designing well established practices. These strategies are drawn from the APA Learner-centered Principles and are a result of pedagogical changes in instruction in the online environment that have the potential to transform the traditional face of higher education.
CHAPTER THREE  
METHODOLOGY

The purpose of this study was to examine the relationship between learner-centered practices and web-based learning at a chosen university using the methods described in this chapter. The previous literature review summarized studies of learner-centered principles (Churach & Fisher, 2001; Hewsom & Hughes, 2001; Howland & Moore, 2002; Hughes & Daykin, 2002; Petrides, 2002) in relationship to online learning. Each of those studies generally related the application of one concept to the online course, such as reflection, interaction, or problem-based instruction and its effectiveness on the outcomes or attitudes of students. This study related the students’ perceptions of the concepts of the American Psychological Association’s Learner-centered Principles (APA, 1997) in online and traditional courses with the instructor’s perceptions and pedagogical practices. Additionally the investigator’s qualitative analyses of LCPs were compared with these results. The analysis included questions related to changes that may have occurred as a result of having taught an online course or participated in training. The feedback from the students and instructors was analyzed to determine if the current online courses were more or less learner-centered than the instructor’s traditional courses. These data will be used to promote individual faculty professional development as well as changes to the online training modules provided for instructors. This chapter describes the nature of the training module at the university, the participants, the instruments, data analysis, validation, and reliability issues, and the procedures that were used in this study.
Research Questions

1. How do the instructors’ ALCP ratings in each of the five domains in their online course compare with the ALCP ratings in each of the five domains in their traditional course?

2. Is there a significant difference in ALCP ratings in each of the five domains between students in an instructor’s online course and students in that instructor’s traditional course?

3. Is there a correlation between the mean ALCP ratings and the Student Evaluation of Instruction (SEI) ratings between students in each instructor’s online course and students in the instructor’s traditional course?

4. How do each instructor’s ALCP ratings compare with the ALCP ratings of students in each course and overall between instructors and students of those classes?

5. Is there any significant difference in the ALCP scores of students, rating instructors as more or less learner-centered, in the online and in the traditional courses at the beginning and at the end of the course?

Participants

The subjects consisted of three groups at a regional southern university: instructors of online, web-based courses at the graduate or the undergraduate level who participated in training, the students enrolled in those online courses and the students enrolled in those same teachers’ traditional courses. Seven instructors were available for the study and six agreed to participate. The student population consisted of 226 students who completed the first survey and 170 who completed the post survey. There were 139
students who completed both surveys. Additionally, the investigator qualitatively assessed the course pedagogy revealed in the interviews with the instructors. The researcher also had system administrator access through the course management system to all web courses and ultimately all students and instructors in each class with written consent from each participant.

Data Collection

Instruments

The following quantitative instruments were used in the study: The Assessment of Learner-Centered Practices (ALCP) battery, teacher edition and student edition, (McCombs & Pierce, 1999) and the Student Evaluation of Instruction (SEI) used by the university. The E-Learning Advisory Team (ELAT) checklist used by the university to assess online courses provided the basis for the qualitative protocol that was used to interview the instructors.

ALCP. The Assessment of Learner-Centered Practices (ALCP) battery was the primary data collection instrument. The ALCP battery was comprised of one survey that was administered to the instructors and a different survey that was administered to the students in their courses. The purpose of the ALCP instruments was to provide a self-assessment tool and student instrument to evaluate instructor beliefs and practices in the area of learning and development. The surveys are recommended for use in educational reform efforts to identify how practices are perceived by students, to make self-initiated changes, and to help increase student retention (Lauer, McCombs, & Pierce, 1998; McCombs, 2003; McCombs & Lauer, 1997). The ALCP questionnaire (McCombs & Pierce, 1999) consisted of closed-ended questions with a Likert-type scale and was
developed based on information in the APA Learner-centered Principles (APA, 1997). For comparison purposes, one part of the instructor questionnaire addressed the same principles as the student questionnaire. The instruments gathered data to determine the perceptions of the instructors and the students about practices in the courses. Dr. Barbara McCombs, Senior Researcher at the University of Denver Research Institute, who co-authored the ALCP, provided permission for the use of these research-validated instruments.

One ALCP function is to evaluate the perceptions about practices that support the APA Learner-Centered Principles. One section of the students’ and the instructors’ surveys group the questions into five domains of learner-centered practice that have been identified as important for student motivation and classroom achievement (McCombs & Lauer, 1997). The domains are: 1) Facilitates Positive Interpersonal Relationships, 2) Adapts to Class Learning Needs, 3) Facilitates the Learning Process, 4) Provides for Individual and Social Learning Needs, and 5) Encourages Personal Challenge and Responsibility. Items are rated on a scale that assesses the frequency of performing the various practices (McCombs & Pierce, 1999).

Student ALCP. The student ALCP was administered as a pre- and a post-survey given to the students in both the online and traditional courses taught by the same instructor. “Pre” refers to the survey administered within the first third of the courses, and “post” refers to the survey administered to the same groups of students in the last third of the courses. The data reflected any change in the student’s perceptions at the beginning when the teacher presents beginning material and at the end after the student has actually taken the course.
The student questionnaire was designed to examine the students’ perceptions of the practices within the course. The questions are divided into the same five domains included in the instructors’ survey and seven motivational measures. These domains and measures are based on the LCP of the original 14 learner-centered principles. The seven measures include: 1) Self-efficacy, 2) Active Learning Strategies, 3) Effort Avoidance Strategies, 4) State Epistemic Curiosity, 5) Task Mastery Goals, 6) Performance Oriented Goals, and 7) Work Avoidance Goals. The items have a scoring scale of 1 to 4 and provide an assessment of each student’s motivational and learning practices, his or her instructor’s attitudes and include demographic questions at the end. For example, in one section, students are asked to mark the degree of agreement with each statement according to “Almost Never, Sometimes, Often, or Almost Always.” A sample item related to instructor attitudes is “my instructor: ‘helps me feel like I belong in the class’ or ‘encourages me to learn in the ways I feel are best for me’.” A sample of a motivational item is “even when the work is hard, I can learn it” and “in this class I only study things that will be on a test.” (See Appendix B for a sample of the ALCP student survey items).

The results of the surveys were exported via Excel to SPSS and recoded. The data allowed the researcher to evaluate the course according to the perceptions of the students and the instructors related to the use of the LCP. These were compared to determine the connection between the students’ and instructor’s perceived levels of Learner-Centered Principles and will be followed up to provide feedback and reflective data to the instructors.
Instructor ALCP. The instructor ALCP was administered to the instructors who completed the online training modules provided by the university. The instructors completed the surveys in reference to their online courses and their traditional courses. The instructor survey was used to determine the instructor’s perceptions of his or her own practices and beliefs. The score from the ALCP provided specific data that was compiled to answer the research questions. The results were shared with each instructor to identify the areas that are more or less learner-centered. These provided a self-reflective tool to help the instructor complete professional development to improve the course instruction.

The instructor questionnaire addressed the same principles and activities in the five domains of the student questionnaire, but the questions assessed the instructors’ perceptions of the principles or activities in the courses. A sample, again using the four choices of “Almost Never, Sometimes, Often, or Almost Always,” stated that the instructor rated how much “I help all students feel like they belong in the class,” or “I encourage students to learn in the ways they feel are best for them” (See Appendix C for a sample of the survey). Additionally, the instructor ALCP survey assessed the instructors’ learner-centered and non learner-centered beliefs about learning and teaching and the instructors’ self-efficacy and self-awareness.

Student Evaluation of Instruction. The next method of assessment included the current student evaluation of instruction (SEI) that is used each semester by the university to allow the students to assess course instruction. The SEI was administered online for web-based courses and assessed the students’ opinions and their satisfaction with the online components and the interactivity of the course. The SEI was conducted face-to-
face in the traditional classrooms. This study allowed triangulation of the measures by using these different instruments to assess learner-centered data.

**ELAT Checklist.** The ELAT checklist is based on the current administrative policies governing the organization of web-based courses at the university in this study. The E-Learning Advisory Team (ELAT) was formed at this university to assess the web-based courses for compliance with the Web-Based Course Policy. The faculty training modules for online course development and the ELAT checklist reflect the design principles employed in the university’s policy for web-based courses. That policy was originally developed by distance learning personnel and the university administration. The policy was revised by the ELAT group to reflect current recommendations for interaction, attention to varied instructional methods and assessments, and the necessary components required for accreditation by the Southern Association of Colleges and Schools (Southern Association of Colleges and Schools, [SACS], 2003). The investigator used the ELAT checklist as a means of qualitative assessment of the courses related to the goals and objectives of the training modules. The investigator used this instrument to assess the evidence of LCP in traditional and online courses. The ELAT checklist sought information related to learner-centered pedagogical practices, such as interaction, reflection, collaboration, problem-based learning, motivation, and critical thinking that the instructor used in the online and the traditional environment. The responses from this checklist were also used to create an interview protocol with each instructor concerning the activities and differences between online and traditional course practices.
Interview Protocol

The following questions were used to interview the instructors concerning their practices and their comments concerning the training modules.

I. These questions were based on the items in the E-Learning Advisory Team (ELAT) checklist:

   A. Interaction with teacher, content, and other students:

      1. Do you think that it is important for the students in your online and traditional classes to interact with each other? If so, how do you facilitate interaction and a community of learners among the students?

      2. How do you conduct interaction with your students differently in your online course than you do in your traditional course?

      3. How does your interaction with your students show that you care about them and how they are learning?

      4. Describe some of the ways that you address different learner needs. Describe some of the different activities that address different learning styles.

      5. Describe any other ways in which the learner can interact with the content in both the online and the traditional course.

   B. Assessment and Activities:

      6. Do you consider the relevancy of activities to real-life situations-how?

      7. Do you allow your students any input in the direction of the class? Describe any ways in which you allow them to choose alternative activities.

II. These questions were in reference to the training:

      1. When you participated in the training, what were the most useful things that helped you in constructing and teaching the course?

      2. What areas do you feel were not covered well in the training that left you less prepared to teach online?
3. If you had to give advice to someone who is training to teach an online course, what would be the most important points in creating an atmosphere centered around the learner?

4. What other points do you feel contribute to a successful class whether online or traditional?

Procedures

Prior to Study

The researcher met with Dr. Barbara McCombs to outline the use of the ALCP instruments for this study. Dr. McCombs co-authored the surveys and chaired the committee that developed the APA Learner-Centered Principles. Dr. McCombs provided permission to use the instruments (see Appendix F) and gave advice on the proper administration of the instruments online. She provided the recoding that divided the questions from the surveys into domains and measures and that was used within SPSS to assess the feedback from students and instructors. This allowed the researcher to conduct an in-depth analysis of each course and also compare the means of the instructors and students related to each of the domains within the principles.

Pilot Study

An ALCP student survey was conducted in one graduate online course at the end of the fall 2005 semester to estimate problems that may occur and aid in the proper administration for the study. Sixty-two percent of the students enrolled in the course completed the online survey. The survey tool allowed the researcher to determine which students had not participated in the survey, and they were emailed to encourage participation. The data were exported as a .cvs file and saved in Microsoft Excel. The data were then imported into SPSS and recoded, and trial statistical tests were conducted.
The results for the fall semester SEI were also reviewed to assess participation and compared to the ALCP for preliminary findings.

Consent to Participate

The investigator contacted the instructors informing them of the study and obtained their consent to participate through email and a phone call. Secondly, the researcher visited each traditional course. A few online courses had a meeting on campus near the beginning of the course, so those were visited face-to-face. The investigator had system administrator access to each of the online courses. Therefore, a form was posted in each online course site with an explanation of the study that would be conducted, and asked the consent of the students to participate in the ALCP surveys. The students were instructed to read the consent form and were given the option of returning the signed form to the instructor or the E-Learning office, or of responding to a short response survey within the class site. Those that agreed to participate were provided with access and instructions to visit the site containing the questionnaire. The instruments were provided to the same students during the first few weeks and during the last third of the semester to allow appropriate time for activities to take place.

Use of ALCP

To ensure instrument validity, the researcher used the ALCP online test instruments previously designed by Adams University so that the survey would be conducted in the same fashion. The university under study provided a server to house the surveys and gave the investigator a direct link to download the survey results. The researcher noted the students who completed the survey and contacted the remaining students using email and class announcements to encourage them to participate. Only the
researcher had direct access to the results of the survey although the overall results were shared with individual instructors after the end of the semester. The results indicated whether or not the students in each course felt that specific activities in each particular course reflected learner-centered instruction and learning. The pre-survey was concluded within the first third of the semester. The survey was again administered in the last three weeks of the semester as a post survey.

The instructors completed the instructor ALCP questionnaire and rated their online courses based on their perceptions of learner-centered practices. The instructors also completed the ALCP survey for the traditional sections of the courses.

Use of SEI

The SEI for online courses was already being administered online and was given in approximately the same fashion as the ALCPs, but with no individual follow-up. The researcher used class website announcements to encourage the students to participate.

Use of ELAT Checklist

The investigator used the ELAT checklist to create the qualitative protocol to interview the instructors regarding the differences between their online and traditional practices. Primarily, the researcher looked for adherence to the current training module goals and objectives that reflected the learner-centered strategies. The qualitative protocol also addressed each instructor’s views and suggestions for the training modules. The investigator used the information in the checklist to interview the instructors in April 2006. The investigator also electronically observed the content of the online courses throughout the semester.
Following the administration of the instruments, the survey scores were exported, gathered, collated, and tabulated to get appropriate quantitative data. The data from the students were compared to the data from the researcher and the instructors for evidence of the learner-centered principles and a comparison between students’ and instructors’ perceptions of the levels of LCPs.

The qualitative data gathered from the interviews and researcher course observations were coded using Atlas Ti and organized according to trends and the domains within the surveys. The data were discussed in narrative form in Chapter Five.

Data Analysis

Quantitative Data

The data gathered from the questionnaires were analyzed for differences in perceptions of LCP present collectively and in each course. The data consisted of quantitative responses to items on the questionnaires and were compiled in tables as means and percentages. The following states the research questions and the way that the quantitative data were used to answer each question.

1. How do the instructors’ ALCP ratings in each of the five domains of their online courses compare with the ALCP ratings in each of the five domains in their traditional courses?

This question involved the population of instructors of online courses at the selected university. Domain scores of the instructor from the online course were compared to the same instructor’s score from the traditional course. The means were examined in relationship to the domains and also to the instructor’s learner-centered and non-learner-
centered teaching and learning practices as well as their individual self-efficacy and self-awareness.

2. Is there a significant difference in ALCP ratings in each of the five domains between students in an instructor’s online course and students in that instructor’s traditional course?

This question involved the population of students of online courses and traditional courses of the same instructor at the selected university. The dependent variable was each ALCP score on domains (1-5). An independent $t$, pooled variance method, was used to determine significant differences for each domain.

3. Is there a relationship between the mean ALCP ratings and the Student Evaluation of Instruction (SEI) ratings of students in the online courses and students in the traditional courses?

This question involved the population of students of online courses and traditional courses of the same instructor at the selected university. A Pearson $r$ was used to determine the relationship between students’ perceptions of learner-centered practices and their satisfaction with the course.

4. How do each instructor’s ratings compare with the students’ ALCP ratings and overall between instructors and students of those classes?

Data from the students’ and the instructors’ responses supplied some indication of the incidence of these particular items in the five domains of the ALCP surveys. This involved the population of instructors and students in online courses at the selected university. The instructor’s score and the students’ scores were presented in a table for
comparison. Secondly, an overall comparison was made between all instructors and all students.

5. Is there any significant difference in the ALCP scores of students in the online courses at the beginning and at the end of the course?

The ALCP student survey was administered to the population of students in the online courses at the beginning of the course to determine their perceptions. The same survey was administered to the same students during the last two weeks of the course to determine if there were changes in how learner-centered they perceived the course to be after they actually completed the course. This indicated the extent to which students perceived the course to be learner-centered in the beginning due to teacher’s presentation of the course, and if the students perceived it differently once they participated. Using the students’ ALCP scores on the pre and post surveys, a dependent $t$ test was used to determine the differences between the scores at the beginning and at the end of the course. The data were compared for the five domains of the student surveys. The data were also compared using an independent $t$ to measure the differences between the web and the F2F courses during the pre test and during the post test. Finally, a Pearson $r$ was run to determine the nature of the relationship between the students’ perceptions of the instructors and their perceptions of their own motivational and self-efficacy factors in the course.

**Qualitative Data**

The interview protocol was used by the researcher to individually retrieve information from the instructors. The researcher interviewed each instructor concerning their practices in the courses in relationship to the course training objectives and practices.
reflective of the five domains. The data were analyzed and organized according to patterns and strategies that were reflective of the quantitative data. The data revealed much about the individual instructor’s attitudes toward the students and the students’ learning, and about the training modules.

Additional Investigation

Additional investigation included the demographics of the instructors. This evidence was included in the ALCP and was displayed to show the teaching experience and areas of practice of each instructor.

The data were examined in relationship to any areas of learner-centered practices that seem absent in the online or traditional courses. There may have been practices within the principles that were not present within any of the classes. Absences of any items in the online courses were noted and used to make changes or improvements to the online training modules. The students’ perspective supplied feedback to the investigator and the instructor. The investigator’s qualitative review supplied additional data and will also be applied to changes in the modules.

Summary of Data

The data from the instructors’ ALCP survey and researcher’s qualitative evaluations provided evidence of the incidence and perceptions of the constructivist or learner-centered activities and practices. The students’ ALCP surveys revealed whether or not they felt that these practices and activities were present in that course and with that instructor. The data were compared as overall scores and as particular activities within the courses. These scores were compared to determine the relationship between the level of learner-centered practices between instructor, student, and investigator. The
quantitative data were organized into tables with the results of any significant differences or correlations. The qualitative data were organized comparing the courses by activities, interaction, and training. Since the questions for the surveys were derived directly from the APA principles, the results also reflect the influence of the incidence of the principles.

Additional Outcomes

The outcome of these surveys and findings gave the researcher and the course trainer data to improve or modify the individual training modules to represent more learner-centered practices. Additionally, the instructors received their results to reflect upon individual changes that are needed to improve practices in their own courses and the necessary professional development needed.

Validity and Reliability Issues

Procedures for the validity of the instruments had already been conducted. Dr. McCombs provided the validation documentation and an explanation of the procedures that were used. Two validations were completed for the ALCP college level surveys prior to this study (Lauer et al., 1998; McCombs, 2002; McCombs & Lauer, 1997). Twelve institutions in ten states participated in the surveys. There were 2,558 student surveys and 157 instructor surveys that were collected. The reliability coefficients for the Instructor Beliefs and Assumptions scales ranged from .75 to .87. The reliability coefficients for Instructor Perceptions of Classroom Practices ranged from .69 to .82 and for the Student Perceptions of Classroom Practices ranged from .82 to .91. Additional samples consisting of 1,707 students and 70 instructors from two additional universities were administered the survey (McCombs, 2002.) (See Appendix E for the summary of ALCP College Survey Validation Results).
The SEI was validated in its use at the university in the study as the course evaluation of instruction each semester. In the spring of 2004, questions assessing online components were added to the SEIs of the online courses. These specific questions relate to the learner centered instructional domains of web-based courses. The SEIs for web-based courses are now assessed online and the traditional courses use the pencil and paper Scantron surveys.

The researcher’s instrument was validated by the E-Learning Advisory Team (ELAT). The ELAT consists of experienced online instructors from each college in the university. The instrument was initially a checklist developed by the consultant who facilitated the training of the instructors. The items in the checklist corresponded with items in the university’s web-based course policy, which was also reviewed by the team. The team met face to face to discuss the initial checklist and used email communication over the next few weeks to revise and finalize the checklist. The checklist is currently used by ELAT to evaluate all existing online courses and proposed courses developed as the instructors go through the training modules. Evaluations are provided to the instructors with recommendations for changes needed to be in compliance with the checklist and the web-based course policy. For existing courses that are deemed unsatisfactory, the instructor is advised to complete the training module and is required to make the changes before the course is offered online again.

Triangulation techniques such as use of multiple instruments, data sources, and multiple perspectives (Tashakkori & Teddlie, 1998, p. 41) regarding learning-centered online education lent validity to the application of findings to the defined population. Since the courses were not randomly selected, this study used 100 percent of the subjects
identified in the population within the appropriate courses. Follow-up of non-returnees were conducted to achieve adequate participation of the total population. Using this procedure ensured that results of the study can be applied to the population of online students in the selected university.

Summary

The purpose of this study was to examine perceptions of students and instructors in relationship to learner-centered pedagogy and web-based learning. The participants’ perceptions of the incidence of LCPs in a course suggested how successfully the course met the goals of instructional design and training, and the data are being used to make design improvements to the training modules. The results were given to the individual instructor and are being used for reflective purposes and guidance for further professional development. The ALCP surveys, the SEI, and the ELAT checklist and interview protocol were used to gather the needed data. Comparisons were made between the students’ and the instructors’ ratings and the researcher’s qualitative evidence gathered from interviews with regard to perceptions of LCP in each course. The researcher’s data were used to find patterns and to compare with the quantitative data. The researcher’s data were reported in narrative form.

The study was completed over two semesters. During the fall 2005 semester, the ALCP surveys were administered to a pilot group to test the administration techniques and return rate. During the spring 2006, the ALCP was administered in both online and traditional courses being taught by the same instructor. Instructors and the students in their courses responded to the instruments and provided the research data.
The investigator used the ELAT checklist instrument during the semester to investigate the traditional and online course materials. The results from the spring 2006 semester SEI were gathered for review of the selected courses in the study. Pearson r correlations were run to determine the relationship between the students’ perceptions of learner-centered practices from the ALCP and their motivational factors and their perceptions of LCPs and their satisfaction with the course. An independent t test was used to investigate differences in the students’ ALCP ratings in the online course versus the student ratings in the traditional class. This indicated whether or not the students perceived that learner-centered practices were more prevalent in the online courses than in the traditional courses. Additionally, the relationship between instructor perceptions and student perceptions were examined to see in which domains learner-centered and non-learner-centered practices existed.

Evidence of LCP in the courses allowed evaluation and will allow continual improvement of the training modules used for online professional development for instructors in this university. Individual instructors received feedback from the instruments to evaluate practices and to encourage any changes needed to increase learner-centered instruction within their online and traditional courses.
CHAPTER FOUR

RESEARCH FINDINGS

The purpose of this study was to examine the perceptions of students and instructors in regard to learner-centered pedagogy and web-based learning at a regional public university in southwestern Louisiana. The study included a parallel/simultaneous mixed methodology design (Tashakkori & Teddlie, 1998) to collect and analyze data and was divided into five research questions and a qualitative protocol. This chapter presents several tables and figures describing the research questions, quantitative data analysis, and the findings. Chapter Five will include the qualitative data. Table 4.1 lists the research questions and the source of data gathered to answer each.

Table 4.1
Research Questions and Sources of Data

<table>
<thead>
<tr>
<th>Research Question</th>
<th>Source of Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>How do the instructors’ ALCP ratings in each of the five domains in their online courses compare with the ALCP ratings in each of the five domains in their traditional courses?</td>
<td>The ALCP surveys administered to the instructors for both the online and the F2F course.</td>
</tr>
<tr>
<td>Is there a significant difference in ALCP ratings in each of the five domains between students in an instructor’s online course and students in that instructor’s traditional course?</td>
<td>The ALCP surveys administered to the students in both the online and the F2F course of the same instructor.</td>
</tr>
<tr>
<td>Is there a relationship in the mean ALCP ratings and in the Student Evaluation of Instruction (SEI) ratings between students in each instructor’s online course and students in the instructor’s traditional course?</td>
<td>The ALCP surveys administered to the students in the online and F2F course of each instructor and the SEI surveys administered by the university to those same students.</td>
</tr>
<tr>
<td>How do each instructor’s ALCP ratings compare with the ALCP ratings of students in each course and overall between instructors and students of those classes?</td>
<td>The ALCP surveys administered to the students and their instructors in both the F2F and the online course.</td>
</tr>
<tr>
<td>Is there a significant difference in the ALCP scores of students in the online and in the traditional courses at the beginning and at the end of the course?</td>
<td>The ALCP surveys administered to the students in the F2F and the online courses of each instructor at the beginning and at the end of each course.</td>
</tr>
</tbody>
</table>
Demographics

The demographic information was gathered from each instructor to compare teaching experience, age, subject area, and class size at beginning and end of the semester. These areas are distinguished by each instructor according to Table 4.2 below, in which the instructors are identified by pseudonyms.

<table>
<thead>
<tr>
<th>Instructor</th>
<th>Years Teaching F2F</th>
<th>Years Teaching Web</th>
<th>Age</th>
<th>Highest Degree</th>
<th>Subject Area/Class Type</th>
<th>Class Size F2F</th>
<th>Class Size Web</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Nola Hickman</td>
<td>24</td>
<td>4</td>
<td>47</td>
<td>Ph.D</td>
<td>History</td>
<td>52/47</td>
<td>22/15</td>
</tr>
<tr>
<td>2 Emily Hill</td>
<td>2</td>
<td>1.5</td>
<td>37</td>
<td>Ph.D</td>
<td>Education C&amp;I</td>
<td>16/15</td>
<td>15/12</td>
</tr>
<tr>
<td>3 Camille Lin</td>
<td>16</td>
<td>2.5</td>
<td>40</td>
<td>M.Ed</td>
<td>Family &amp; Consumer Science</td>
<td>35/31</td>
<td>35/27</td>
</tr>
<tr>
<td>4 Becky Stevenson</td>
<td>18</td>
<td>2</td>
<td>59</td>
<td>M.B.A</td>
<td>Educational Technology</td>
<td>17/15</td>
<td>14/12</td>
</tr>
<tr>
<td>5 Gregory Thomas</td>
<td>29</td>
<td>1.5</td>
<td>49</td>
<td>M.Ed, MA + 30</td>
<td>Art Education</td>
<td>18/18</td>
<td>23/20</td>
</tr>
<tr>
<td>6 Andrew Wildman</td>
<td>25</td>
<td>2</td>
<td>66</td>
<td>Ph.D</td>
<td>Geography</td>
<td>17/11</td>
<td>29/16</td>
</tr>
</tbody>
</table>

There was a range of instructional areas, years of teaching experience and ages within the group. These factors were displayed to show differences in the individual instructors and to assess any bearing on the instructors’ differences in their learner-centered practices.

ALCP Survey Items

There are three areas of the Assessment of Learner-Centered Practices surveys that were used in the study. As described in Chapter Three, both the instructors’ and students’ ALCP surveys had a common area addressing the five domains of learner-centered practices and those domains were used throughout the study. Secondly, the
instructors’ surveys contained items that assessed the instructors’ overall learner-centered and non-learner centered beliefs about learners and teaching. Lastly, the students’ surveys contained several items assessing the students’ levels of their own motivation and self-efficacy.

The data will first be discussed in relationship to the five domains which were divided into 42 items in both the instructors’ and the students’ ALCP surveys. The items were the same on both surveys, but with language relative to the instructor or student. These items were rated in a Likert-type scale with a range from 1 to 4 (strongly disagree, disagree, agree, and strongly agree). Table 4.3 lists the five domains from the survey, an explanation of each, and a sample survey item from the instructors’ survey.

Table 4.3
ALCP Survey Domains

<table>
<thead>
<tr>
<th>ALCP Domains</th>
<th>Definition/Survey Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facilitates Positive Interpersonal Relationships</td>
<td>Teachers give students the opportunity to interact with the instructor and among the class and to show the students that they care about them. “I interact with students as individuals with their own unique personalities.”</td>
</tr>
<tr>
<td>Adapts to Class Learning Needs (cllnld)</td>
<td>The teacher may change instructional strategies or activities depending on the capabilities of the students. “I adapt assignments if necessary to make them more relevant to students’ future goals.”</td>
</tr>
<tr>
<td>Facilitates the Learning Process (fclp)</td>
<td>Promotes activities that make the students responsible for their own learning. “I encourage students to become aware of, monitor, and regulate their own thinking and learning processes.”</td>
</tr>
<tr>
<td>Provides for Individual and Social Learning Needs</td>
<td>Considers diversity among students and encourages collaboration. “I encourage students to collaborate with other students on papers and/or projects.”</td>
</tr>
<tr>
<td>Encourages Personal Challenge and Responsibility</td>
<td>Making students aware of differing perspectives, of respecting the thoughts of others, and of encouraging them to take responsibility for their own learning. “I expect students to listen to, think about, and respect their classmates’ opinions even when they do not agree with them.”</td>
</tr>
</tbody>
</table>
These domains were used for comparison purposes between instructors’ and students’ responses. The domains represented the items on which the instructors were rated according to learner-centered beliefs, practices, and interaction within the courses. The data were discussed according to these domains within all of the research questions. The next section discusses with the data from Question One related to the five domains.

**Question One**

**Domains**

The first research question investigated the instructors’ perceptions of their learner-centered beliefs and practices in their online and F2F courses. The data in this area were collected using the online ALCP surveys administered to each instructor. The instructors completed one survey based on their practices and beliefs for their traditional course and one survey for the online course. The data were compared to ratings from prior studies conducted by Dr. McCombs, co-author of the ALCP surveys. Her first ALCP validation study surveyed 157 instructors and 2,558 students in 12 institutions within 10 states and a second survey collected data from 70 instructors and 1,707 students in two universities in traditional F2F courses. A. (Lauer et al., 1998; McCombs, 2002; McCombs & Lauer, 1997). Those validation ratings were used in the tables and throughout the study to compare traditional and web courses with the work of McCombs.

The next table contains the data related to question one in each of the domains, an overall mean for each domain that is comprised of both web and F2F means and the prior validation means. The means that combined the web and F2F ratings were created to give an overall comparison rate since there were no web course ratings in that prior validation.
In examining the scores of the instructors in each of the five domains, the researcher noted the high and low scores of each instructor. There was no rigor involved but the data in Table 4.4 were descriptions of each instructor’s individual scores.

### Table 4.4
**Instructor Domain Means**

<table>
<thead>
<tr>
<th>Instructor</th>
<th>Type</th>
<th>Positive Interpersonal Relationships</th>
<th>Class Learning Needs</th>
<th>Facilitates Learning Process</th>
<th>Challenge and Responsibility</th>
<th>Individual/ Social Needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Hickman</td>
<td>F2F</td>
<td>1.70</td>
<td>2.30</td>
<td>1.80</td>
<td>2.50</td>
<td>1.33</td>
</tr>
<tr>
<td></td>
<td>Web</td>
<td>3.00</td>
<td>3.20</td>
<td>3.40</td>
<td>3.33</td>
<td>1.67</td>
</tr>
<tr>
<td>2 Hill</td>
<td>F2F</td>
<td>3.80</td>
<td>4.00</td>
<td>3.80</td>
<td>4.00</td>
<td>3.83</td>
</tr>
<tr>
<td></td>
<td>Web</td>
<td>3.60</td>
<td>3.70</td>
<td>3.50</td>
<td>3.83</td>
<td>3.33</td>
</tr>
<tr>
<td>3 Lin</td>
<td>F2F</td>
<td>3.70</td>
<td>3.80</td>
<td>3.30</td>
<td>3.50</td>
<td>3.33</td>
</tr>
<tr>
<td></td>
<td>Web</td>
<td>3.80</td>
<td>4.00</td>
<td>3.80</td>
<td>3.50</td>
<td>3.67</td>
</tr>
<tr>
<td>4 Stevenson</td>
<td>F2F</td>
<td>3.90</td>
<td>4.00</td>
<td>3.80</td>
<td>4.00</td>
<td>3.67</td>
</tr>
<tr>
<td></td>
<td>Web</td>
<td>3.90</td>
<td>4.00</td>
<td>4.00</td>
<td>4.00</td>
<td>3.67</td>
</tr>
<tr>
<td>5 Thomas</td>
<td>F2F</td>
<td>3.90</td>
<td>4.00</td>
<td>4.00</td>
<td>4.00</td>
<td>3.83</td>
</tr>
<tr>
<td></td>
<td>Web</td>
<td>3.40</td>
<td>3.50</td>
<td>3.10</td>
<td>3.33</td>
<td>3.17</td>
</tr>
<tr>
<td>6 Wildman</td>
<td>F2F</td>
<td>2.40</td>
<td>2.40</td>
<td>2.00</td>
<td>3.00</td>
<td>2.00</td>
</tr>
<tr>
<td></td>
<td>Web</td>
<td>2.30</td>
<td>2.40</td>
<td>2.30</td>
<td>2.83</td>
<td>1.50</td>
</tr>
<tr>
<td><strong>Overall Means</strong></td>
<td></td>
<td>3.28</td>
<td>3.44</td>
<td>3.15</td>
<td>3.49</td>
<td>2.92</td>
</tr>
<tr>
<td><strong>Prior Val</strong></td>
<td></td>
<td>3.41</td>
<td>3.54</td>
<td>3.28</td>
<td>3.60</td>
<td>3.04</td>
</tr>
<tr>
<td><strong>S.E.</strong></td>
<td>F2F</td>
<td>0.38615</td>
<td>0.33903</td>
<td>0.39700</td>
<td>0.25820</td>
<td>0.43674</td>
</tr>
<tr>
<td></td>
<td>Web</td>
<td>0.24449</td>
<td>0.24721</td>
<td>0.24597</td>
<td>0.16897</td>
<td>0.40369</td>
</tr>
</tbody>
</table>

It was noted that instructor one, Dr. Hickman, and instructor six, Dr. Wildman, rated themselves lower in both the web-based and the F2F courses than the other four instructors. The following ratings describe the lowest and highest ratings of these two instructors in the web courses only:

- **Dr. Hickman**: lowest mean- Provides for Individual and Social Learning Needs (1.67), highest mean- Facilitates the Learning Process (3.4)

- **Dr. Wildman**: lowest mean- Provides for Individual and Social Learning Needs (1.5), highest mean- Encourages Personal Challenge and Responsibility (2.83).
The remaining four instructors rated themselves more highly and their highest and lowest ratings for the web courses follow.

- **Dr. Hill:** lowest mean - Provides for Individual and Social Learning Needs (3.33), highest mean - Encourages Personal Challenge and Responsibility (3.83).
- **Ms. Lin:** lowest mean - Encourages Personal Challenge and Responsibility (3.5), highest mean - Adapts to Class Learning Needs (4.0).
- **Ms. Stevenson:** lowest mean - Provides for Individual and Social Learning Needs (3.67), highest mean - Adapts to Class Learning Needs, Facilitates the Learning Process, and Encourages Personal Challenge and Responsibility were all (4.0).
- **Mr. Thomas:** highest mean - Adapts to Class Learning Needs (3.5), lowest mean - Facilitates the Learning Process (3.10).

In reviewing the differences between the web and the F2F courses, Dr. Hill and Mr. Thomas rated themselves higher in each of the five domains of the F2F class, and Dr. Hickman and Ms. Lin rated themselves higher in the web class domains. Ms. Stevenson had the same rating in four of the five domains. Dr. Wildman had three lower, one the same and only one higher in the web than in the F2F. The ratings in the current study were compared with the prior ALCP validations. All of the instructors except Dr. Hickman and Dr. Wildman rated themselves more highly than their peers in the prior validation in the majority of the domains. An overall score was created in this study which combined the instructors’ means for all of the courses within each domain. These overall means in each domain were slightly lower than the means from the prior studies (Lauer et al., 1998; McCombs, 2002; McCombs & Lauer, 1997), meaning that as a group, these instructors rated themselves lower than the instructors in the prior studies. In the
following section, the instructors’ overall learner-centered and non-learner-centered beliefs are discussed.

Instructor Learner-Centered Beliefs

In addition to the five domains, the instructors’ survey also contained questions that were grouped in learner-centered and non-learner-centered beliefs, instructors’ self-efficacy and self-awareness. These were overall ratings in which the instructors rated themselves according to their relationship as an instructor to their students’ learning and to their attitudes about students in their teaching methods. An explanation of the categories and an example of a survey item are described below in Table 4.5.

<table>
<thead>
<tr>
<th>ALCP Category</th>
<th>Details</th>
<th>Survey Item Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learner-centered beliefs about learners (lcbelief)</td>
<td>Shows that the instructors believe that the individual is important and addresses their individual needs.</td>
<td>Taking the time to create caring relationships with my students is the most important element for student achievement.</td>
</tr>
<tr>
<td>Non-learner-centered beliefs about students (ncnonstu)</td>
<td>Shows that the instructors have negative feelings about students who don’t fit their idea of the “norm” or may have difficulty learning.</td>
<td>It's impossible to work with students who refuse to learn.</td>
</tr>
<tr>
<td>Non-learner-centered beliefs about teaching (lcnontch)</td>
<td>Shows that the instructor thinks that his or her knowledge is more important than aspects of the students and their contributions</td>
<td>Knowledge of the subject area is the most important part of being an effective teacher.</td>
</tr>
<tr>
<td>Teacher’s self-efficacy (seleff)</td>
<td>The instructor’s confidence in his or her ability to teach effectively</td>
<td>I can deal with almost any learning problem in the classes OR There is little I can do to ensure that all my students make progress.</td>
</tr>
<tr>
<td>Teacher’s self-awareness (refsela)</td>
<td>Instructor’s reflection of himself or herself as a person and instructor.</td>
<td>I reflect about myself OR I examine motives and goals.</td>
</tr>
</tbody>
</table>
These categories were used in the first research question to assess the overall beliefs that the instructors held about their students, their teaching practices, and their self-efficacy and self-awareness. The instructors’ mean ratings of their Learner-centered beliefs, their non-learner-centered beliefs about students, and their non-learner-centered beliefs about teaching are displayed next in Table 4.6. It also includes the teachers’ self-efficacy and self awareness ratings. Each of these categories was compared with peers in this study and in the prior validation. Table 4.6 displayed the data for each of the categories in both the web and the F2F courses. The means of each instructor were measured as being higher or lower than the prior validation means.

<table>
<thead>
<tr>
<th>Table 4.6</th>
<th>Instructor Mean Ratings of Learner-Centered and Non-Learner-Centered Beliefs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category</td>
<td>Type</td>
</tr>
<tr>
<td>L-Centered Beliefs</td>
<td>F2F</td>
</tr>
<tr>
<td></td>
<td>Web</td>
</tr>
<tr>
<td>Non-L-Centered Beliefs:</td>
<td>F2F</td>
</tr>
<tr>
<td>Teaching</td>
<td>Web</td>
</tr>
<tr>
<td>Non-L-Centered Beliefs</td>
<td>F2F</td>
</tr>
<tr>
<td>Learners</td>
<td>Web</td>
</tr>
<tr>
<td>Self-Efficacy</td>
<td>F2F</td>
</tr>
<tr>
<td></td>
<td>Web</td>
</tr>
<tr>
<td>Self-Reflective Awareness</td>
<td>F2F</td>
</tr>
<tr>
<td></td>
<td>Web</td>
</tr>
</tbody>
</table>

The following figures 4.1 through 4.5 display the means of each instructor and the mean from the McComb’s (2002) study in the individual categories that were shown above in Table 4.5. These figures provide comparison of means for the web courses only.

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It is noted that the scores of the learner-centered beliefs were considered high ratings if they were greater than or equal to McComb’s prior validation ratings. However, “good scores” for the non-learner-centered beliefs about learners and about learning and teaching were expected to be lower scores. In that case, it was better if they were less than the ratings from McComb’s studies.

Figure 4.1 below displays each instructor’s perceptions of learner-centered beliefs in the web course as compared to each other and with the prior validation means.

![Bar chart showing learner-centered beliefs](image)

**Figure 4.1**
Learner-Centered Beliefs: Web Courses

Instructors Hill (2), Lin (3), Stevenson (4), and Thomas (5) rated themselves higher than the validation mean for learner-centered beliefs in the web courses. These instructors show a high perception of their learner-centered beliefs. A significant point is that these ratings indicate that these instructors believe that taking time to create caring relationships contributes to their students’ achievement. Instructors Hickman (1) and
Wildman (6) indicated lower perceptions of themselves as learner-centered in the web courses than their peers in the study and in the prior validation.

**Instructor Non-Learner-Centered Beliefs**

Figure 4.2 below displays the instructors’ perception of their non-learner-centered beliefs about students in their web courses and compares the means with their peers teaching traditional courses in the prior studies. In this area, a lower score indicates that the instructors exhibited fewer non-learner-centered beliefs during instruction in the web-based course.

![Non-Learner Centered Beliefs about Students-Web](image)

**Figure 4.2**
Non-Learner-Centered Beliefs about Students: Web Courses

All of the instructors except Stevenson (4) showed higher levels of non-learner-centered beliefs about students in their web courses as compared with prior means. Instructors Hickman (1) and Wildman (6) had the closest means to the prior validation. This is in contrast to the low levels of learner-centered beliefs on which those two instructors rated themselves. So, although instructors Hickman and Wildman rated themselves lower in
learner-centered beliefs than did the other instructors, they did not believe that they showed negative feelings about their students’ importance in the learning process. Questions in this area included items such as “I have to be the authority in my field and can’t allow myself to make mistakes with my students” and “The really effective college instructors always know more than their students.” Therefore, Dr. Hickman and Wildman indicated in their scores that they did not believe that they were the “only true authority” on the subject matter giving the students some credit for prior knowledge.

Figure 4.3 below displayed that Dr. Hickman (1) and Dr. Wildman (6) had higher means in their non-learner-centered beliefs about teaching than the prior mean and their peers in this study.

![Figure 4.3](image)

**Figure 4.3**
Non-Learner-Centered Beliefs about Teaching: Web Courses

Again, in this figure, a lower mean indicated that the instructors exhibited fewer non-learner-centered beliefs about teaching. Each instructor with a higher mean believed that “students’ intelligence and innate ability are fairly fixed” and that “they can’t be
motivated to learn no matter what I do or how hard I try.” Therefore, instructors Hickman (1) and Wildman (6) believed that in those cases that they could not affect the students’ learning and that the students were just not where they needed to be to attend college. The other instructors had lower scores, therefore, showing more positive attitudes about general teaching strategies on the web. The goal in this area is to have a mean at or below the prior mean, which was the case with instructors Hill, Lin, Stevenson, and Thomas.

In the following, Figure 4.4 displays each teacher’s self-efficacy or confidence in his or her ability to teach in the web class and to “help all the students in my class make significant progress.”

![Figure 4.4](image)

Figure 4.4
Instructors’ Self-Efficacy

Again, instructor Hickman (1) with a means of (2.83) and Wildman (6) with a means of (2.0) showed lower perceptions of their self-efficacy in teaching on the web than did their peers in this study and in the prior validation (3.13). The other instructors rated themselves more closely to or more highly than the prior validation group.
Each instructor’s perception of his or her self-awareness is shown next in Figure 4.5. This indicates the degree to which the instructor was aware of the influence of his or her thoughts and feelings on individual actions. A higher score indicates a higher degree of their self-awareness. These instructors tended to analyze and reflect on personal or professional experiences in regard to their web courses.

Figure 4.5
Teachers’ Self-Awareness: Web Courses

Instructor Hickman (1) had a mean rating of (2.07), and instructor Wildman (6) had a mean of (1.93). They displayed the lowest ratings in relationship to the prior means (3.12). Although higher than those two, Lin (3) had a mean of (2.87) and Thomas (5) had a mean of (2.6) which were also lower than the prior validation means. Dr. Hill (2) had a mean of (3.27) and Stevenson (4) had a mean of (3.07) which were higher than the prior validations. Therefore, the majority of the instructors did not have high levels of self-awareness in teaching web courses.
Question Two

The second research question used data from the five domains within the students’ ALCP surveys in both the online and the F2F courses. These data were used to conduct independent $t$ tests to compare the mean scores of the two groups of students divided by instructor. Tables 4.7 through 4.12 show the $t$ ratio and the significance in each of the five domains per course type for each instructor. Descriptive statistics were also included showing the number of students, the means, and the standard deviations.

Table 4.7
Hickman: Student Comparison of F2F vs. Web in ALCP Domains

<table>
<thead>
<tr>
<th>Domain</th>
<th>Type</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>t ratio</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
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<td>.111</td>
<td>.912</td>
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<td>.079</td>
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Table 4.8
Hill: Student Comparison of F2F vs. Web in ALCP Domains

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<th>Std. Deviation</th>
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<th>t-ratio</th>
<th>Sig</th>
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Table 4.9  
Lin: Student Comparison of F2F vs. Web in ALCP Domains

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Table 4.10  
Stevenson: Student Comparison of F2F vs. Web in ALCP Domains

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Table 4.11
Thomas: Student Comparison of F2F vs. Web in ALCP Domains

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<th>Std. Deviation</th>
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Table 4.12
Wildman: Student Comparison of F2F vs. Web in ALCP Domains

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<th>Domain</th>
<th>Type</th>
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<th>Mean</th>
<th>Std. Deviation</th>
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With an alpha =.05, there was no significant difference between the students’ perceptions in the F2F and the web courses in any of the domains with any of the instructors. The students showed no difference in their perceptions of learner-centered
practices of the instructors in the five domains between the web and the F2F courses. Notably, they perceived each instructor’s online course to be as learner-centered as each F2F course. It is important that this finding notes that learner-centered practices are achievable within online courses since the previous studies from McCombs only studied learner-centered practices in traditional courses.

To further examine these results, the findings were combined to create an overall mean for each domain within the web courses and an overall mean for each domain within the F2F courses. An independent \( t \) test was conducted to compare the mean scores of the two groups of students overall per domain. These results reflect the same students and their perceptions, but give an overall mean combining all 170 students who participated in the surveys. Table 4.13 shows the \( t \) ratio and the significance overall in each of the five domains per course type for all students perceptions’ of all of the instructors.

Table 4.13
Overall Student Comparison of F2F versus Web per Domain

<table>
<thead>
<tr>
<th>Domain</th>
<th>Type</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>t ratio</th>
<th>sig</th>
</tr>
</thead>
<tbody>
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</table>
With an alpha = .05 there were no significant differences overall in each domain between the perceptions of the F2F students and the traditional students. Only in the category, Provides for Individual and Social Learning Needs (indsoc), did the test approach significance $t (-1.853)$, with the mean in the web class (3.4242) *higher* than in the mean in the F2F course (3.2051). Although not significantly different, it was noted that the means of all the domains in the web courses were slightly higher than the means of those domains in the F2F courses.

Next, the domain means of the F2F courses were combined with the domain means of the web courses for an overall mean to compare with the prior validation. Again, the means from McComb’s prior studies indicated an overall mean from traditional courses only. It was important for comparison purposes with that mean to have one overall score from both the F2F courses and the web courses combined. The overall scores of this study are displayed below in Table 4.14.

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<th>Prior Validation Mean</th>
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<td></td>
</tr>
<tr>
<td>Class Learning Needs</td>
<td>F2F</td>
<td>104</td>
<td>3.4327</td>
<td>.67656</td>
<td>3.44</td>
<td>3.42</td>
</tr>
<tr>
<td></td>
<td>Web</td>
<td>66</td>
<td>3.4439</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Facilitates Learning Process</td>
<td>F2F</td>
<td>104</td>
<td>3.3962</td>
<td>.70963</td>
<td>3.43</td>
<td>3.28</td>
</tr>
<tr>
<td></td>
<td>Web</td>
<td>66</td>
<td>3.4606</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual /Social Learning Needs</td>
<td>F2F</td>
<td>104</td>
<td>3.2051</td>
<td>.75659</td>
<td>3.29</td>
<td>3.18</td>
</tr>
<tr>
<td></td>
<td>Web</td>
<td>66</td>
<td>3.4242</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Challenge/Responsibility</td>
<td>F2F</td>
<td>104</td>
<td>3.5657</td>
<td>.56823</td>
<td>3.58</td>
<td>3.53</td>
</tr>
<tr>
<td></td>
<td>Web</td>
<td>66</td>
<td>3.6035</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
These overall means of the domains and the combined means were compared. The overall means were slightly higher than means in the prior validations in all domains except in Provides for Individual and Social Learning Needs (indsoc).

Question Three

The third research question examined the relationship between the students’ ratings in each of the five domains in the ALCP as well as an overall mean of the five domains with the overall SEI ratings in those same courses. The question was seeking to determine the nature of the relationship between the perceptions of students’ learner-centered ratings of the domains within the courses and the students’ satisfaction with the courses. Their satisfaction rating was determined by the student evaluation of instruction administered by the university which has a range of 1-5 on a Likert-type scale.

Tables 4.15 and 4.16 below display the means of each of the five domains per instructor and the SEI means per instructor. The first table displays the means for the SEI and ALCP domains for the F2F courses.

Table 4.15
Means of ALCP and SEI of F2F Courses

<table>
<thead>
<tr>
<th>Instructor</th>
<th>Positive Interpersonal</th>
<th>Class Learning</th>
<th>Facilitate Learning Process</th>
<th>Challenge Responsibility</th>
<th>Individual Social</th>
<th>Overall</th>
<th>SEI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hickman</td>
<td>3.2</td>
<td>3.3</td>
<td>3.25</td>
<td>3.51</td>
<td>2.8</td>
<td>3.21</td>
<td>4.86</td>
</tr>
<tr>
<td>Hill</td>
<td>3.6</td>
<td>3.52</td>
<td>3.55</td>
<td>3.63</td>
<td>3.49</td>
<td>3.56</td>
<td>4.65</td>
</tr>
<tr>
<td>Lin</td>
<td>3.93</td>
<td>4</td>
<td>3.99</td>
<td>3.93</td>
<td>3.89</td>
<td>3.95</td>
<td>4.97</td>
</tr>
<tr>
<td>Stevenson</td>
<td>3.52</td>
<td>3.43</td>
<td>3.44</td>
<td>3.54</td>
<td>3.33</td>
<td>3.45</td>
<td>4.5</td>
</tr>
<tr>
<td>Thomas</td>
<td>3.72</td>
<td>3.8</td>
<td>3.62</td>
<td>3.87</td>
<td>3.57</td>
<td>3.71</td>
<td>4.97</td>
</tr>
<tr>
<td>Wildman</td>
<td>3.07</td>
<td>3.04</td>
<td>2.84</td>
<td>3.22</td>
<td>2.93</td>
<td>3.02</td>
<td>4.19</td>
</tr>
</tbody>
</table>

Instructor Lin (3) was at the top of the ratings in both the domains of the F2F courses and in the SEI scores. As noted in the demographic table at the beginning of this chapter, Instructor Lin had a large ending enrollment number of students in her F2F course (31). Instructor Wildman (6) had the lowest scores in the domain means and in the SEI means.
in the F2F courses, and he had the lowest ending number in the F2F course enrollment (11). Apparently, a smaller class size did not increase the ratings in this course.

Table 4.16 below displays the means for the SEI and ALCP domains for the web courses.

Instructor Wildman (6) was only slightly higher than Ms. Stevenson (4) in the web SEI means shown in Table 4.16 above. So, an overall impression was that there seemed to be some consistency in the satisfaction of the course with the students’ perceptions of the learner-centered practices of the instructor.

Next, Table 4.17 displays the correlations between the overall SEI scores of all of the instructors combined and each of the five domains within the web and the F2F courses. It also includes the correlation between the overall SEI scores and the overall domain scores in both the web and in the F2F courses. A Pearson r product moment coefficient was conducted between the students’ SEI ratings and the ALCP student ratings in the five domains.

### Table 4.16
Means of ALCP and SEI of Web Courses

<table>
<thead>
<tr>
<th>Instructor</th>
<th>Positive Interpersonal</th>
<th>Class Learning</th>
<th>Facilitate Learning Process</th>
<th>Challenge Responsibility</th>
<th>Individual Social</th>
<th>Overall</th>
<th>SEI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hickman</td>
<td>3.18</td>
<td>3.17</td>
<td>3.32</td>
<td>3.5</td>
<td>3.24</td>
<td>3.28</td>
<td>4.85</td>
</tr>
<tr>
<td>Hill</td>
<td>3.6</td>
<td>3.57</td>
<td>3.49</td>
<td>3.77</td>
<td>3.52</td>
<td>3.59</td>
<td>4.25</td>
</tr>
<tr>
<td>Lin</td>
<td>3.97</td>
<td>3.94</td>
<td>3.95</td>
<td>3.88</td>
<td>3.87</td>
<td>3.92</td>
<td>4.99</td>
</tr>
<tr>
<td>Steven</td>
<td>3.63</td>
<td>3.49</td>
<td>3.39</td>
<td>3.62</td>
<td>3.43</td>
<td>3.51</td>
<td>4.18</td>
</tr>
<tr>
<td>Thomas</td>
<td>3.64</td>
<td>3.58</td>
<td>3.5</td>
<td>3.67</td>
<td>3.6</td>
<td>3.6</td>
<td>4.66</td>
</tr>
<tr>
<td>Wildman</td>
<td>2.83</td>
<td>2.93</td>
<td>3.01</td>
<td>3.19</td>
<td>2.89</td>
<td>2.97</td>
<td>4.20</td>
</tr>
</tbody>
</table>

### Table 4.17
Pearson r Correlations between SEI and ALCP in F2F and Web

<table>
<thead>
<tr>
<th>Course</th>
<th>Overall mean</th>
<th>Positive Interpersonal</th>
<th>Class Learning</th>
<th>Facilitate Learning</th>
<th>Individual Social</th>
<th>Challenge Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEIF2F</td>
<td>.739</td>
<td>.683</td>
<td>.815(*)</td>
<td>.789</td>
<td>.520</td>
<td>.883(*)</td>
</tr>
<tr>
<td>SEIWeb</td>
<td>.493</td>
<td>.392</td>
<td>.444</td>
<td>.643</td>
<td>.536</td>
<td>.441</td>
</tr>
</tbody>
</table>
Table 4.17 displayed significant correlations between the SEI scores and two of the domains in the $F2F$ courses. There were significant positive correlations between the students’ perception of the instructor’s ability to adapt to the class learning needs ($r = .815$) and to encourage challenge and responsibility ($r = .883$). There were no significant correlations in the $web$ course domain ratings, but the results did show moderate positive relationships between the SEI and all of the domain ratings. These results revealed a positive relationship between the students’ perceptions of learner-centered practices in the courses and their satisfaction with the courses. This is a significant finding in relationship to instructor incentives to improve learner-centered practices.

**Question Four**

Research Question 4 compared the ALCP mean ratings of the instructors and the ALCP ratings of the students in each of the $F2F$ and the $web$ courses. The ratings are displayed below in Table 4.18.

**Table 4.18**
**Comparison of Student and Instructor Mean Ratings**

<table>
<thead>
<tr>
<th>Instructor</th>
<th>Type</th>
<th>Rating</th>
<th>Positive Interpersonal</th>
<th>Class Learning Needs</th>
<th>Facilitates Learning Process</th>
<th>Challenge Responsibility</th>
<th>Individual Social</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hickman</td>
<td>F2F</td>
<td>Inst</td>
<td>1.70</td>
<td>2.30</td>
<td>1.80</td>
<td>2.50</td>
<td>1.33</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stud</td>
<td>3.20</td>
<td>3.30</td>
<td>3.25</td>
<td>3.51</td>
<td>2.80</td>
</tr>
<tr>
<td></td>
<td>Web</td>
<td>Ins</td>
<td>3.00</td>
<td>3.20</td>
<td>3.40</td>
<td>3.33</td>
<td>1.67</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stud</td>
<td>3.18</td>
<td>3.17</td>
<td>3.32</td>
<td>3.50</td>
<td>3.24</td>
</tr>
<tr>
<td>Hill</td>
<td>F2F</td>
<td>Inst</td>
<td>3.80</td>
<td>4.00</td>
<td>3.80</td>
<td>4.00</td>
<td>3.83</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stud</td>
<td>3.60</td>
<td>3.52</td>
<td>3.55</td>
<td>3.63</td>
<td>3.63</td>
</tr>
<tr>
<td></td>
<td>Web</td>
<td>Ins</td>
<td>3.60</td>
<td>3.70</td>
<td>3.50</td>
<td>3.83</td>
<td>3.33</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stud</td>
<td>3.60</td>
<td>3.57</td>
<td>3.49</td>
<td>3.77</td>
<td>3.52</td>
</tr>
<tr>
<td>Lin</td>
<td>F2F</td>
<td>Inst</td>
<td>3.70</td>
<td>3.80</td>
<td>3.30</td>
<td>3.50</td>
<td>3.33</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stud</td>
<td>3.92</td>
<td>4.00</td>
<td>3.99</td>
<td>3.93</td>
<td>3.90</td>
</tr>
<tr>
<td></td>
<td>Web</td>
<td>Ins</td>
<td>3.80</td>
<td>4.00</td>
<td>3.80</td>
<td>3.50</td>
<td>3.67</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stud</td>
<td>3.97</td>
<td>3.94</td>
<td>3.95</td>
<td>3.88</td>
<td>3.87</td>
</tr>
</tbody>
</table>

Table continued.
Instructors Hickman (1) and Wildman (6) have higher student ratings than the instructors rated themselves. Those two instructors were then seemingly perceived by the students as being more learner-centered than the instructors perceived themselves to be. The instructors who rated themselves higher than the students seemed to have higher perceptions of their learner-centered strategies than the students did. Normally, as determined by McCombs, the instructors usually do rate themselves higher than their students do. Instructor Hill (2) rated herself higher in the F2F courses than the students did. Ms. Lin (3) rated herself lower in almost all domains in both the web and the F2F than did the students. Instructor Thomas (5) rated himself higher in the F2F, but lower in the web than did the students. Instructor Stevenson (4) was the only instructor who rated herself higher across the board in all domains in both the F2F and the web than did the students. These ratings may be due to the differences in each instructor’s comfort with the type of course that they are teaching that will be clearer in the qualitative findings.

The following figures break down the results from Table 4.18 by individual instructor and then show the comparison of the overall means for the students and the instructors for each domain.
Figure 4.6
Hickman Versus Students

Figure 4.7
Hill versus Students
Figure 4.8
Lin versus Students

Figure 4.9
Stevenson versus Students
Figure 4.10
Thomas vs. Students

Figure 4.11
Wildman vs. Students
Figure 4.12 below displays the overall domain means for the F2F courses and the web course for the instructors and for the students. The figure clearly shows that the overall ratings of the students were higher than the overall ratings of the instructors all but one domain.

Figure 4.12 also illustrates that the overall means of the student ratings in web courses were slightly higher than the overall means of the F2F courses. Therefore, the students viewed the web courses overall as somewhat more learner-centered than the F2F courses.

Question Five

The fifth research question investigated whether there was any significant difference in the ALCP scores of students in the online and in the traditional courses at the beginning and at the end of the course. This question used student data from the five domains in the ALCP student surveys as well as the seven motivation factors from the ALCP student surveys which are described in the next figure. Question Five was answered using data from:
• Pre- versus posttests in both web and F2F using the five domains.
• Pre-web tests versus Pre-F2F tests.
• Post-web tests versus Post-F2F tests.
• Post test only between the five domains and the seven measures.

In the previous questions, only the five domains were of concern because they were comparable factors between instructors and students. However, the motivational factors in which the students rated themselves in the surveys may have indicated changes in the students’ work and motivational attitudes in relationship to their perceptions of the instructors’ learner-centered qualities. Table 4.19 describes the seven motivational factors from the students’ surveys that were included in this research question.

Table 4.19
Seven Measures of Motivation

<table>
<thead>
<tr>
<th>ALCP Measure</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Efficacy</td>
<td>Students’ perceptions of their ability to learn and achieve</td>
</tr>
<tr>
<td>Active Learning Strategies</td>
<td>Students’ ability to develop strategies to address their own learning styles</td>
</tr>
<tr>
<td>Effort Avoidance Strategies</td>
<td>Students’ inclination to avoid effort while learning</td>
</tr>
<tr>
<td>State Epistemic Curiosity</td>
<td>Knowledge seeking and curiosity about learning</td>
</tr>
<tr>
<td>Task Mastery Goals</td>
<td>Intrinsic motivation for mastering tasks</td>
</tr>
<tr>
<td>Performance Oriented Goals</td>
<td>Extrinsic motivation to achieve</td>
</tr>
<tr>
<td>Work Avoidance Goals</td>
<td>Inclination to avoid assignments and other work</td>
</tr>
</tbody>
</table>

These motivational factors were correlated with the five domains using a Pearson r to determine if there is a relationship between the students’ domain ratings and their motivational factors. The t tests and the correlation will be described in the next sections of Question Five.
Paired t Test: Pre versus Post

For the first part of Question 5, paired sample t-tests were calculated to compare the ALCP mean scores of students in the five domains at the beginning and at the end of the course in the online and in the traditional courses. These students were matched according to social security numbers and the tests were run only on the matching students from the pre and post tests. Table 4.20 displays the t test results in each of the 5 domains divided by F2F and Web course and instructor.

Table 4.20
Paired t: Scores between Pre and Post for Each Instructor and Domain

<table>
<thead>
<tr>
<th>Instructor</th>
<th>Type</th>
<th>Positive Interpersonal</th>
<th>Class Learning Needs</th>
<th>Facilitates Learning Process</th>
<th>Challenge Responsibility</th>
<th>Individual/Social Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Hickman</td>
<td>F2F</td>
<td>-2.108*</td>
<td>-2.099*</td>
<td>-.857</td>
<td>.109</td>
<td>-2.206*</td>
</tr>
<tr>
<td></td>
<td>Web</td>
<td>-.070</td>
<td>-.210</td>
<td>-.653</td>
<td>-.474</td>
<td>-1.584</td>
</tr>
<tr>
<td>2 Hill</td>
<td>F2F</td>
<td>.490</td>
<td>-.478</td>
<td>-2.19</td>
<td>.933</td>
<td>-.779</td>
</tr>
<tr>
<td></td>
<td>Web</td>
<td>-.244</td>
<td>-.428</td>
<td>-.461</td>
<td>-.921</td>
<td>-.767</td>
</tr>
<tr>
<td>3 Lin</td>
<td>F2F</td>
<td>1.549</td>
<td>-1.333</td>
<td>-.977</td>
<td>.701</td>
<td>-1.159</td>
</tr>
<tr>
<td></td>
<td>Web</td>
<td>-1.290</td>
<td>-1.963</td>
<td>-.763</td>
<td>.228</td>
<td>-.385</td>
</tr>
<tr>
<td>4 Stevenson</td>
<td>F2F</td>
<td>-.937</td>
<td>.528</td>
<td>-.289</td>
<td>.525</td>
<td>.223</td>
</tr>
<tr>
<td></td>
<td>Web</td>
<td>-1.822</td>
<td>-2.823*</td>
<td>-2.008</td>
<td>-1.625</td>
<td>-3.814*</td>
</tr>
<tr>
<td>5 Thomas</td>
<td>F2F</td>
<td>.878</td>
<td>.000</td>
<td>-.289</td>
<td>.000</td>
<td>-2.324</td>
</tr>
<tr>
<td></td>
<td>Web</td>
<td>.000</td>
<td>.851</td>
<td>.380</td>
<td>.303</td>
<td>.000</td>
</tr>
<tr>
<td>6 Wildman</td>
<td>F2F</td>
<td>-.576</td>
<td>-.085</td>
<td>.296</td>
<td>1.015</td>
<td>.178</td>
</tr>
<tr>
<td></td>
<td>Web</td>
<td>1.866</td>
<td>1.650</td>
<td>1.185</td>
<td>.837</td>
<td>1.614</td>
</tr>
</tbody>
</table>

* Difference is significant at the 0.05 level (2-tailed).
- Negative t indicates the post test was higher

The paired sample t tests revealed significant differences in some of the scores between students’ perceptions at the beginning (pretest) of the course and in their perceptions at the end (posttest) of the course in individual areas for each instructor. The majority of the results also showed that the mean scores were higher in the posttests than in the pretests. The significant differences occurred in the scores of students for instructors Hickman (1)
and Stevenson (4). The mean ratings for those two instructors are displayed in the first two tables.

The means for instructor Hickman are displayed next in Table 4.21. Instructor Hickman’s ratings showed significantly higher means on the posttest for several of the categories in the F2F course.

Table 4.21
Hickman: Pre vs. Post Domain Ratings

<table>
<thead>
<tr>
<th>Domain</th>
<th>Type</th>
<th>Pre Mean</th>
<th>Post Mean</th>
<th>Pre S.D.</th>
<th>Post S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive Interpersonal</td>
<td>F2F</td>
<td>2.9097</td>
<td>3.1871</td>
<td>.67397</td>
<td>.68154</td>
</tr>
<tr>
<td></td>
<td>Web</td>
<td>3.2417</td>
<td>3.2583</td>
<td>.73418</td>
<td>.51411</td>
</tr>
<tr>
<td>Class Learning Needs</td>
<td>F2F</td>
<td>3.0129</td>
<td>3.2742</td>
<td>.59874</td>
<td>.65165</td>
</tr>
<tr>
<td></td>
<td>Web</td>
<td>3.1333</td>
<td>3.2000</td>
<td>.81946</td>
<td>.70641</td>
</tr>
<tr>
<td>Facilitates Learning</td>
<td>F2F</td>
<td>3.1161</td>
<td>3.2032</td>
<td>.71512</td>
<td>.72594</td>
</tr>
<tr>
<td></td>
<td>Web</td>
<td>3.2500</td>
<td>3.4083</td>
<td>.77753</td>
<td>.73113</td>
</tr>
<tr>
<td>Individual/ Social</td>
<td>F2F</td>
<td>2.4624</td>
<td>2.7366</td>
<td>.92166</td>
<td>.80482</td>
</tr>
<tr>
<td></td>
<td>Web</td>
<td>2.8611</td>
<td>3.2778</td>
<td>.79720</td>
<td>.63455</td>
</tr>
<tr>
<td>Challenge Responsibility</td>
<td>F2F</td>
<td>3.4892</td>
<td>3.4785</td>
<td>.54081</td>
<td>.53010</td>
</tr>
<tr>
<td></td>
<td>Web</td>
<td>3.5556</td>
<td>3.6389</td>
<td>.51411</td>
<td>.60442</td>
</tr>
</tbody>
</table>

The pretest mean for instructor one in facilitating positive interpersonal relationships (posint) was (2.9097) and the mean on the posttest was (3.1871). A significant increase from pretest to posttest was found (t = -2.108, p<.05). The mean on the pretest for perceptions of the instructor’s ability to adapt to class learning needs (cllnd) was (3.0129) and the mean on the posttest was (3.2742). A significant increase from pretest to posttest was found (t = -2.099, p<.05). The pretest mean for individual and social learning needs (indsoc) was (2.9097) and the mean on the posttest was (3.1871). A significant increase from pretest to posttest was found (t = -2.206, p<.05). Although there were no other areas
of significant differences for Hickman, the mean in every domain for the web course was higher for the posttest than for the pretest, and in all but two for the F2F course.

In contrast, the ratings for instructor Stevenson had lower means in the posttest in three of the five domains of the F2F course. Table 4.22 below displays the pre and post means and the standard deviation of the domains in both the web and the F2F courses.

Table 4.22
Stevenson: Pre vs. Post Domain Ratings

<table>
<thead>
<tr>
<th>Domain</th>
<th>Type</th>
<th>Pre Mean</th>
<th>Post Mean</th>
<th>Pre S.D.</th>
<th>Post S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive Interpersonal</td>
<td>F2F</td>
<td>3.4278</td>
<td>3.5000</td>
<td>.52447</td>
<td>.48628</td>
</tr>
<tr>
<td></td>
<td>Web</td>
<td>3.3800</td>
<td>3.8600</td>
<td>.83785</td>
<td>.26077</td>
</tr>
<tr>
<td>Class Learning Needs</td>
<td>F2F</td>
<td>3.4278</td>
<td>3.3889</td>
<td>.50504</td>
<td>.45360</td>
</tr>
<tr>
<td></td>
<td>Web</td>
<td>3.2800</td>
<td>3.8200</td>
<td>.77266</td>
<td>.40249</td>
</tr>
<tr>
<td>Facilitates Learning</td>
<td>F2F</td>
<td>3.3778</td>
<td>3.4111</td>
<td>.57246</td>
<td>.53456</td>
</tr>
<tr>
<td></td>
<td>Web</td>
<td>3.3000</td>
<td>3.6200</td>
<td>.80000</td>
<td>.84971</td>
</tr>
<tr>
<td>Individual/ Social</td>
<td>F2F</td>
<td>3.2963</td>
<td>3.2778</td>
<td>.60649</td>
<td>.49176</td>
</tr>
<tr>
<td></td>
<td>Web</td>
<td>3.0667</td>
<td>3.7333</td>
<td>.78705</td>
<td>.59628</td>
</tr>
<tr>
<td>Challenge Responsibility</td>
<td>F2F</td>
<td>3.6111</td>
<td>3.5648</td>
<td>.40423</td>
<td>.40880</td>
</tr>
<tr>
<td></td>
<td>Web</td>
<td>3.4000</td>
<td>3.8333</td>
<td>.89443</td>
<td>.37268</td>
</tr>
</tbody>
</table>

Significant differences occurred in two of the domains for the web course of instructor (4) Stevenson. The mean on the web pretest for the ability to adapt to class learning needs was (clln) 3.2800 and the mean in the posttest 3.8200. In providing for individual and social learning needs (indsoc), the pre mean was 3.0667 and the post mean was 3.7333. No significant differences were found in the other three domains in the web or any of the domains in the F2F of Stevenson. However, the means of the web students were higher in all of domains in the posttest than in the pretest. It should be noted that all of the means
for Stevenson were above 3.0 in each domain, which is at or above the average for each domain in previous validation studies.

The differences in mean scores from student pretest to posttest for instructor Wildman were lower in all except three of the domains in the F2F course. The means for instructor Wildman (6) are displayed below in Table 4.23.

<table>
<thead>
<tr>
<th>Domain</th>
<th>Type</th>
<th>Pre Mean</th>
<th>Post Mean</th>
<th>Pre S.D.</th>
<th>Post S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive Interpersonal</td>
<td>F2F</td>
<td>2.7167</td>
<td>2.8667</td>
<td>.76004</td>
<td>.78401</td>
</tr>
<tr>
<td>Web</td>
<td>3.1143</td>
<td>2.3571</td>
<td>.79042</td>
<td>1.04060</td>
<td></td>
</tr>
<tr>
<td>Class Learning Needs</td>
<td>F2F</td>
<td>2.7667</td>
<td>2.7833</td>
<td>.80166</td>
<td>.81588*</td>
</tr>
<tr>
<td>Web</td>
<td>3.2000</td>
<td>2.4857</td>
<td>.73258</td>
<td>1.23346</td>
<td></td>
</tr>
<tr>
<td>Facilitates Learning</td>
<td>F2F</td>
<td>2.6167</td>
<td>2.5667</td>
<td>.69113</td>
<td>.85713</td>
</tr>
<tr>
<td>Web</td>
<td>3.2429</td>
<td>2.6857</td>
<td>1.01793</td>
<td>1.29284</td>
<td></td>
</tr>
<tr>
<td>Individual/Social</td>
<td>F2F</td>
<td>2.7778</td>
<td>2.7222</td>
<td>.62952</td>
<td>.94673</td>
</tr>
<tr>
<td>Web</td>
<td>3.1429</td>
<td>2.4762</td>
<td>.97386</td>
<td>1.12393</td>
<td></td>
</tr>
<tr>
<td>Challenge Responsibility</td>
<td>F2F</td>
<td>3.2778</td>
<td>3.0278</td>
<td>.45542</td>
<td>.60015</td>
</tr>
<tr>
<td>Web</td>
<td>3.4048</td>
<td>3.0000</td>
<td>.64447</td>
<td>1.10972</td>
<td></td>
</tr>
</tbody>
</table>

There were no significant differences in the scores, but there was a greater drop in the means in the web course from pre- to post test in all of the domains except creating challenge and responsibility. Additionally, the post means for four of the domains of instructor Wildman in both web and F2F were all below 3.0, which was lower than McComb’s prior validation means.

Instructors Hill, Lin, and Thomas showed no significant differences between students’ pre and post perceptions in the domains of the F2F or in the domains of the web courses. The means of instructors Hill and Lin increased in the web and in the F2F
posttest in most of the domains. The means and the standard deviation of each of the
domains for these two instructors are displayed next in Tables 4.24 and 4.25.

Table 4.24
Hill: Pre vs. Post Domain Ratings

<table>
<thead>
<tr>
<th>Domain</th>
<th>Type</th>
<th>Pre Mean</th>
<th>Post Mean</th>
<th>Pre S.D.</th>
<th>Post S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive Interpersonal</td>
<td>F2F</td>
<td>3.5824</td>
<td>3.5412</td>
<td>.52825</td>
<td>.75337</td>
</tr>
<tr>
<td>Web</td>
<td></td>
<td>3.5700</td>
<td>3.6000</td>
<td>.38312</td>
<td>.47140</td>
</tr>
<tr>
<td>Class Learning Needs</td>
<td>F2F</td>
<td>3.4353</td>
<td>3.4765</td>
<td>.55895</td>
<td>.74122</td>
</tr>
<tr>
<td>Web</td>
<td></td>
<td>3.4700</td>
<td>3.5700</td>
<td>.52504</td>
<td>.37133</td>
</tr>
<tr>
<td>Facilitates Learning</td>
<td>F2F</td>
<td>3.4882</td>
<td>3.5118</td>
<td>.50853</td>
<td>.76476</td>
</tr>
<tr>
<td>Web</td>
<td></td>
<td>3.3800</td>
<td>3.4900</td>
<td>.45898</td>
<td>.52377</td>
</tr>
<tr>
<td>Individual/Social</td>
<td>F2F</td>
<td>3.3922</td>
<td>3.4510</td>
<td>.67685</td>
<td>.77002</td>
</tr>
<tr>
<td>Web</td>
<td></td>
<td>3.3333</td>
<td>3.5167</td>
<td>.45812</td>
<td>.58505</td>
</tr>
<tr>
<td>Challenge Responsibility</td>
<td>F2F</td>
<td>3.6765</td>
<td>3.5784</td>
<td>.42684</td>
<td>.80605</td>
</tr>
<tr>
<td>Web</td>
<td></td>
<td>3.6833</td>
<td>3.7667</td>
<td>.28814</td>
<td>.23831</td>
</tr>
</tbody>
</table>

Table 4.25
Lin: Pre vs. Post Domain Ratings

<table>
<thead>
<tr>
<th>Domain</th>
<th>Type</th>
<th>Pre Mean</th>
<th>Post Mean</th>
<th>Pre S.D.</th>
<th>Post S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive Interpersonal</td>
<td>F2F</td>
<td>3.9714</td>
<td>3.9429</td>
<td>.07559</td>
<td>.11339</td>
</tr>
<tr>
<td>Web</td>
<td></td>
<td>3.9071</td>
<td>3.9714</td>
<td>.17305</td>
<td>.10690</td>
</tr>
<tr>
<td>Class Learning Needs</td>
<td>F2F</td>
<td>3.9429</td>
<td>4.0000</td>
<td>.11339</td>
<td>.00000</td>
</tr>
<tr>
<td>Web</td>
<td></td>
<td>3.8214</td>
<td>3.9357</td>
<td>.18051</td>
<td>.16458</td>
</tr>
<tr>
<td>Facilitates Learning</td>
<td>F2F</td>
<td>3.8857</td>
<td>3.9857</td>
<td>.26095</td>
<td>.03780</td>
</tr>
<tr>
<td>Web</td>
<td></td>
<td>3.8786</td>
<td>3.9429</td>
<td>.26941</td>
<td>.13425</td>
</tr>
<tr>
<td>Individual/Social</td>
<td>F2F</td>
<td>3.6667</td>
<td>3.8571</td>
<td>.53576</td>
<td>.20250</td>
</tr>
<tr>
<td>Web</td>
<td></td>
<td>3.8571</td>
<td>3.8929</td>
<td>.29131</td>
<td>.26640</td>
</tr>
<tr>
<td>Challenge Responsibility</td>
<td>F2F</td>
<td>3.9762</td>
<td>3.9048</td>
<td>.06299</td>
<td>.25198</td>
</tr>
<tr>
<td>Web</td>
<td></td>
<td>3.8929</td>
<td>3.8690</td>
<td>.18030</td>
<td>.33448</td>
</tr>
</tbody>
</table>
Instructor Thomas showed relatively no difference in the students’ perceptions in
the domains of the F2F or the web courses between the beginning and the end of the
course. He was the only instructor whose scores were this closely rated between the
beginning and the end of the course. This indicates an overall satisfaction with his course,
since his ratings were relatively high for both surveys. The pre-and post means for
instructor Thomas are displayed below in Table 4.26.

Table 4.26
Thomas: Pre vs. Post Domain Ratings

<table>
<thead>
<tr>
<th>Domain</th>
<th>Type</th>
<th>Pre Mean</th>
<th>Post Mean</th>
<th>Pre S.D.</th>
<th>Post S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive Interpersonal</td>
<td>F2F</td>
<td>3.7250</td>
<td>3.6500</td>
<td>.42720</td>
<td>.33166</td>
</tr>
<tr>
<td></td>
<td>Web</td>
<td>3.6375</td>
<td>3.6375</td>
<td>.42067</td>
<td>.48088</td>
</tr>
<tr>
<td>Class Learning Needs</td>
<td>F2F</td>
<td>3.7500</td>
<td>3.7500</td>
<td>.33166</td>
<td>.43589</td>
</tr>
<tr>
<td></td>
<td>Web</td>
<td>3.7250</td>
<td>3.5750</td>
<td>.35757</td>
<td>.54707</td>
</tr>
<tr>
<td>Facilitates Learning</td>
<td>F2F</td>
<td>3.4500</td>
<td>3.5250</td>
<td>.42032</td>
<td>.59090</td>
</tr>
<tr>
<td></td>
<td>Web</td>
<td>3.5875</td>
<td>3.5000</td>
<td>.54625</td>
<td>.54511</td>
</tr>
<tr>
<td>Individual/Social</td>
<td>F2F</td>
<td>3.3333</td>
<td>3.5833</td>
<td>.30429</td>
<td>.28868</td>
</tr>
<tr>
<td></td>
<td>Web</td>
<td>3.6042</td>
<td>3.6042</td>
<td>.47923</td>
<td>.46237</td>
</tr>
<tr>
<td>Challenge Responsibility</td>
<td>F2F</td>
<td>3.8333</td>
<td>3.8333</td>
<td>.19245</td>
<td>.23570</td>
</tr>
<tr>
<td></td>
<td>Web</td>
<td>3.7292</td>
<td>3.6667</td>
<td>.46237</td>
<td>.42725</td>
</tr>
</tbody>
</table>

The next section displays the scores of the web and the F2F courses of the pretests
and then the web and the F2F course of the posttests. The ratings were compared using
independent \( t \) tests to see if differences existed between the web courses and the F2F
courses at the beginning and at the end of the semester.

Students’ Independent \( t \) Pre F2F versus Pre Web

An independent \( t \) test was conducted to test any significant difference between the
students’ perceptions in the pretests for web courses and in the pretests for the F2F
courses. This test only included the matched students who had participated in both the pre and post surveys. The results are displayed below in Table 4.27.

Table 4.27
Pretest F2F Courses versus Pretest Web Courses

<table>
<thead>
<tr>
<th>Domain</th>
<th>Type</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive Interpersonal</td>
<td>F2F</td>
<td>83</td>
<td>3.2747</td>
<td>.68500</td>
<td>-2.171</td>
<td>.032</td>
</tr>
<tr>
<td></td>
<td>Web</td>
<td>56</td>
<td>3.5196</td>
<td>.60073</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class Learning Needs</td>
<td>F2F</td>
<td>83</td>
<td>3.2855</td>
<td>.62725</td>
<td>-1.722</td>
<td>.087</td>
</tr>
<tr>
<td></td>
<td>Web</td>
<td>56</td>
<td>3.4714</td>
<td>.61930</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Facilitates Learning</td>
<td>F2F</td>
<td>83</td>
<td>3.2940</td>
<td>.65729</td>
<td>-1.653</td>
<td>.101</td>
</tr>
<tr>
<td></td>
<td>Web</td>
<td>56</td>
<td>3.4821</td>
<td>.66006</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual/ Social</td>
<td>F2F</td>
<td>83</td>
<td>3.0000</td>
<td>.85579</td>
<td>-2.563</td>
<td>.011</td>
</tr>
<tr>
<td></td>
<td>Web</td>
<td>56</td>
<td>3.3542</td>
<td>.70644</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Challenge Responsibility</td>
<td>F2F</td>
<td>83</td>
<td>3.5964</td>
<td>.46788</td>
<td>-.710</td>
<td>.479</td>
</tr>
<tr>
<td></td>
<td>Web</td>
<td>56</td>
<td>3.6548</td>
<td>.48602</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4.27 displays the results of the tests conducted between the web and the F2F pre surveys. There was a significant difference between the pretest of the F2F and the pretest of the web in two of the domains: Positive Interpersonal Relationships (posint) and Provides for Individual and Social Learning Needs (indsoc). The mean on the pretest in Positive Interpersonal Relationships was 3.519 (sd= .60073) and the mean was 3.274 (sd= .68500) in the F2F. A significant difference was found between the two tests (t(-2.171, p<.05). In the domain Provides for Individual and Social Learning Needs, the mean in the web course was higher (3.354) than the mean in the F2F (3.000). There was a significant difference between these two pretests in this domain (t(139)= -2.563, p<.05).

Two of the other categories had higher student ratings in the web courses than those in the F2F course. Although not all showed significant differences, the means of the four of the five domains in the web course pretest were all higher than in the F2F course pretest.
The only exception was in Providing Challenge and Responsibility. This shows that the students in the web courses had some differences in perceptions from students in the F2F courses at the beginning of the semester. The students showed higher perceptions of the learner-centered practices in the web courses at the beginning of the semester than in the F2F courses at the beginning of the semester.

**Students’ Independent t Web Posttests versus F2F Posttests**

Independent $t$ tests were conducted between the posttest in the web courses and the posttest in the F2F courses for those students who had participated in both the pre- and post surveys. Table 4.28 displays the results of those tests.

<table>
<thead>
<tr>
<th>Domain</th>
<th>Type</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive Interpersonal</td>
<td>F2F</td>
<td>83</td>
<td>3.3904</td>
<td>.66674</td>
<td>-.852</td>
<td>.396</td>
</tr>
<tr>
<td></td>
<td>Web</td>
<td>56</td>
<td>3.4929</td>
<td>.73704</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class Learning Needs</td>
<td>F2F</td>
<td>83</td>
<td>3.3892</td>
<td>.65145</td>
<td>-.672</td>
<td>.502</td>
</tr>
<tr>
<td></td>
<td>Web</td>
<td>56</td>
<td>3.4696</td>
<td>.74880</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Facilitates Learning</td>
<td>F2F</td>
<td>83</td>
<td>3.3470</td>
<td>.72049</td>
<td>-1.204</td>
<td>.231</td>
</tr>
<tr>
<td></td>
<td>Web</td>
<td>56</td>
<td>3.4982</td>
<td>.73472</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual/Social</td>
<td>F2F</td>
<td>83</td>
<td>3.1345</td>
<td>.78453</td>
<td>-2.483</td>
<td>.014</td>
</tr>
<tr>
<td></td>
<td>Web</td>
<td>56</td>
<td>3.4613</td>
<td>.72474</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Challenge/Responsibility</td>
<td>F2F</td>
<td>83</td>
<td>3.5382</td>
<td>.57401</td>
<td>-1.238</td>
<td>.218</td>
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<tr>
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<td>Web</td>
<td>56</td>
<td>3.6607</td>
<td>.57028</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4.28 reveals that the means of all the domains in the web courses were slightly higher in the posttests than they were in the F2F posttests. Only one of the domains showed significant differences between the web and the F2F posttests. There was also less significance between the F2F and web post scores than there was between the F2F and web pre-scores in four of the five domains. In Providing for Individual and Social learning Needs (indsoc) the mean on the web posttest was 3.4613 and the mean on the F2F posttest was 3.1345. There was a significant difference between the F2F and the
web courses was found (t(139)=-.2483, p<.05). The students in the web courses seem to be more satisfied with the level of providing for individual and social learning needs in the web course than in the F2F course. Instructors are making greater efforts to facilitate these relationships in the web course, even though the overall score is lower in this category than in the other domains.

Pearson r Correlation

A Pearson r correlation was conducted between each of the five student domain ratings and the seven self-rated measures of student motivation using the post tests of the all of the students who completed the post survey (N=170). Table 4.29 below displays the Pearson correlation coefficients from this study. This shows a relationship to McComb’s prior validations in which there were also significant relationships between the domains and the motivational factors.

Table 4.29
Pearson r-Correlations of 5 Domains and 7 Measures of Student Post Means.

<table>
<thead>
<tr>
<th>Domain</th>
<th>seleff</th>
<th>actlear</th>
<th>effavo</th>
<th>epist</th>
<th>tasmas</th>
<th>pergoal</th>
<th>wrkav</th>
</tr>
</thead>
<tbody>
<tr>
<td>posint</td>
<td>r</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>.565(**)</td>
<td>.599(**)</td>
<td>.114</td>
<td>.529(**)</td>
<td>.687(**)</td>
<td>.088</td>
<td>-.044</td>
</tr>
<tr>
<td>Sig</td>
<td>.000</td>
<td>.000</td>
<td>.140</td>
<td>.000</td>
<td>.000</td>
<td>.255</td>
<td>.573</td>
</tr>
<tr>
<td>clnnd</td>
<td>r</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>.590(**)</td>
<td>.630(**)</td>
<td>.081</td>
<td>.577(**)</td>
<td>.709(**)</td>
<td>.068</td>
<td>-.027</td>
</tr>
<tr>
<td>Sig</td>
<td>.000</td>
<td>.000</td>
<td>.296</td>
<td>.000</td>
<td>.000</td>
<td>.375</td>
<td>.723</td>
</tr>
<tr>
<td>fclp</td>
<td>r</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>.532(**)</td>
<td>.610(**)</td>
<td>.045</td>
<td>.522(**)</td>
<td>.671(**)</td>
<td>.127</td>
<td>-.057</td>
</tr>
<tr>
<td>Sig</td>
<td>.000</td>
<td>.000</td>
<td>.558</td>
<td>.000</td>
<td>.000</td>
<td>.098</td>
<td>.464</td>
</tr>
<tr>
<td>indsoc</td>
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Four of the measures in Table 4.29 have a direct moderate to moderately strong relationship with the five domains. These four measures relate the students’ perceptions of their positive motivational traits and include: Self-Efficacy (seleff), Active Learning Strategies (actlear), Epistemic Curiosity (epist), and Task Mastery Goals (tasmas). There
was a direct correlation in each of these factors in relationship to all five domains. This was a notable finding in that the students’ positive motivational factors increased in relationship to their perceptions of the instructors’ learner-centered practices.

In each category that contained students’ negative attitudes about learning: effort avoidance strategies and work avoidance goals there was only a weak correlation between the students’ perceptions of the instructors’ learner-centered practices and their motivational ratings of themselves. There was also a weak correlation between the five domains and the extrinsic motivation to achieve in the Performance Oriented Goals measure. This showed that the students’ negative motivational factors only slightly changed in relationship to the perceptions of the instructors’ practices.

Qualitative Analysis

To incorporate a qualitative aspect, each of the instructors was interviewed by the researcher using an interview protocol that was based on the E-Learning Advisory Team checklist (see Appendix D). The checklist pertains to strategies, activities, and components of the web course that meet the university web-based course policy and comply with standards of web-based courses as determined by the committee of experienced web instructors. The protocol focused on interaction, which is seen as a key component of web courses, and activities and assessments that address different learner needs. Other questions pertained to each instructor’s views of the training modules in which they participated while constructing the web version of their course. The researcher assessed each instructor’s attitude about interaction in both the web and the F2F courses to determine any differences voiced by the instructor, and his or her perceptions of the strengths and weaknesses of the training procedures. The researcher
investigated the relationship between the instructors’ attitudes about students and learning and the learner-centered practices.

Prior to each interview, the researcher verbally informed the instructors of the intent to record the interview, and each instructor agreed to participate in the taped interviews. The interviews followed the interview protocol with probing questions applied as needed within each interview session. The instructors were encouraged to verbalize their thoughts, feelings, and attitudes toward instruction and the researcher hoped to reveal corroborative data with the quantitative data. The interviews were transcribed, then loaded into Atlas.ti software program and coded according to quotations and patterns.

Additionally, the researcher had access to the web courses during and after the courses took place. Some of the information in their syllabi and in their activities was discussed in the interviews, but the class sites provided additional evidence to the researcher. The interviews and web site observations combined with the quantitative data allowed triangulation of multiple data sources and assisted the researcher in arriving at a diversity of responses to the research questions. The qualitative findings were not included in this chapter, but were included in Chapter 5. Some of the quantitative findings were further discussed in Chapter 5 as they appropriately fit in with the qualitative analysis.
CHAPTER FIVE

ANALYSIS OF QUALITATIVE SUPPORTING DATA

The purpose of this study was to examine the perceptions of students and instructors in regard to learner-centered pedagogy and web-based learning at a regional public university in southwestern Louisiana. The study focused on the pedagogical practices in the online learning environment and the literature related to constructivist theory, learner-centered practices, and the framework of the American Psychological Association’s Learner-Centered Principles. In this study, quantitative data were obtained using the Assessment of Learner-Centered Practices surveys and the Student Evaluation of Instruction from the selected university. Qualitative data were obtained through informal observation of the web-based environment of the classes and from individual interviews of the instructors. The analysis of the quantitative data combined with the qualitative data has resulted in the following findings and conclusions.

Qualitative Findings

The qualitative findings were sorted and data are reported based upon patterns and themes that emerged from interviews, observations, and comparisons with quantitative data collected. Similarities and differences pertaining to learner-centered principles for both students and instructors are noted along with the instructors’ impressions of the training they received. The qualitative data are being presented to provided insight and support for the quantitative results.

It is important to again note that there were differences in the instructors’ backgrounds, their personalities, their comfort with the two different course types, the subject areas that they teach, and the number of years of teaching experience. In the
demographic information in Chapter Four, the instructors were identified by those individual characteristics. In their interviews, the instructors revealed particular instances in which the subject matter or their lack of confidence in teaching a particular subject on the web may have influenced their learner-centered instruction. For example, Dr. Hickman indicated that she would have answered the interaction question differently in an upper level traditional course, and that she also had more feedback in the web course that she taught in a different subject area. Dr. Wildman noted “…when I try to get interaction in the class going, probably because I am a fairly extreme introvert-I don’t really make an effort to try to get to know them all.” The magnitude of Dr. Wildman’s lack of facilitation of interaction and in getting to know individual students is a key component that is missing in making his classroom more learner-centered. Learning includes the mutual construction of learning and learners need the opportunity to interact with others and the instructor. When they do so, the learners build their own knowledge and share their own knowledge with others (Bruner, 1971). In each of the following areas, differences among the instructors’ attitudes, strategies, and learner-centered practices will be highlighted by using the instructors’ qualitative data and the students’ and the instructors’ quantitative data. As an introduction to the qualitative findings, the next section will discuss the instructors’ ratings of their overall learner-centered beliefs.

Learner-Centered Beliefs

One part of the instructors’ ALCP survey identified each instructor’s overall beliefs about learner-centered and non-learner-centered attitudes and strategies. In data from previous validation, McCombs indicated that a mean greater than 3.0 on the instructor learner-centered beliefs indicated that the course is learner-centered (Vakili,
2003). In reviewing the ratings from the instructors, the overall learner-centered construct for the instructors was 3.14. This was precisely what McComb’s (2002) prior validation study found in regard to instructors’ learner-centered beliefs. These instructors most likely believed that “Students respect their instructors more when they can relate to them not just as teachers but as real people.” Instructors Hickman (1) and Wildman (6) were less likely to agree with that statement since they were the only two instructors who rated themselves lower than the prior validation mean. The lower ratings of these two instructors in learner-centered beliefs were also reflected in the domains within the surveys that will be discussed below. Overall, the ratings of the individual instructors participating in the current study varied between the F2F and the web courses with some higher in the web and some higher in the F2F.

Non-Learner-Centered Beliefs

The ALCP survey also identified each instructor’s overall beliefs about non-learner-centered attitudes and strategies. The mean rating for the non-learner beliefs should be less than 2.5 (Vakili, 2003). The overall mean for the non-learner centered beliefs about students was 2.26, which was a little higher than the prior validation means. The mean of non-learner-centered beliefs about teaching was 2.10. These were both below the 2.5 recommendation. The overall behavior and attitude shows that the instructors in this study are less likely to believe that “If students refuse to learn, there is little that I can do to help them” and “To be an effective college instructor, the most important thing is to know my subject matter really well.”

The mean overall rating of the instructors’ self-efficacy was 3.07 and their self-reflective awareness was 2.93. These two means were lower than the prior validation
means of 3.13 and 3.12, as reported by McComb (2002). Self-efficacy dealt with comments that explained how the instructors felt that they affected students and the differences that they made in their students’ achievement. These instructors may be less likely to agree with statements like “I am good at helping all the students in my class make significant progress” but may instead believe that “Some students are not going to make a lot of progress this year no matter what I do.” Self-efficacy can be an important factor in the confidence of the instructor in the course. Additionally, their low scores on self-reflective awareness showed that they may have been less likely to believe that “I examine my motives and goals.” Self-reflective awareness focused on their knowledge of the processes involved in their reactions, moods, goals, and planning. During interviews some instructors commented on the overall attitudes and the signals that they send out to students. Self-efficacy and self-awareness are two areas that the instructors seemed to be less aware of and that are important in facilitating the right atmosphere, especially in an online course.

Domains

This section compares the overall hierarchy of the data between the instructors and the students in each of the five domains. The five domains will then be discussed in relationship to both qualitative and quantitative data.

Hierarchy of Data in Domains

Five domains were common to both the instructors’ and the students’ versions of the ALCP surveys and these survey results provided a comparison between the instructors’ ratings and the students’ ratings of each domain. In reviewing the quantitative results, the researcher noted that the overall results revealed a hierarchy in the five
domains which instructors in this study rated themselves. The five domains are listed below in relationship to the hierarchy of data in both the students’ and in the instructors’ results. The instructors’ lowest rating was in their perception of their own ability to provide for individual and social learning needs. As a review, the overall means of the instructors’ ratings, combining the web and F2F courses were as follows:

- Provides for Individual and Social Learning Needs: 2.92
- Facilitates the Learning Process: 3.15
- Facilitates Positive Interpersonal Relationships: 3.28
- Adapts to Class Learning Needs: 3.44
- Encourages Personal Challenge and Responsibility: 3.49

The overall data indicated that the instructors perceived that they were better able to encourage personal challenge and responsibility than any of the other learner-centered constructs. Their perceptions revealed that they felt least able to provide for individual and social learning needs.

The overall student ratings combining web and F2F revealed a similar pattern and only two areas were in a different order than the instructors’ overall pattern:

- Provides for Individual and Social Learning Needs: 3.32
- Facilitates the Learning Process: 3.43
- Adapts to Class Learning Needs: 3.44
- Facilitates Positive Interpersonal Relationships: 3.45
- Encourages Personal Challenge and Responsibility: 3.59

In examining the differences in the student and instructor perceptions, the F2F courses had the same hierarchy of scores as did the instructors’ scores. The lowest score
for both the instructors and students was the ability to provide for individual and social learning needs and the highest was encourages personal challenge and responsibility. In the web courses, the student and instructor perceptions also rated providing for individual and social learning needs lowest and encourage personal challenge and responsibility as highest. It seems that overall; the students perceive the instructors’ strongest and weakest areas the same as the instructors do. Why did this particular hierarchy exist within the instructors’ perceptions of their own practices and in the students’ perceptions? Information from the interviews provided insight into why this may have occurred and are discussed in detail in below. The following section divided the interview data in relationship to each of the five domains and the details of at least one prominent strategy used in the courses that reflected each domain. The interview data were organized to give examples of each instructor’s individual performance in each domain and related it to their learner-centered ratings.

**Facilitation of the Positive Interpersonal Relationships and Interaction**

Dr. Hickman. One of the interview questions probed the instructors’ views of the interaction among the students and between the students and the instructors themselves in the F2F versus the web courses. Interaction between instructor and students and among students is a primary factor in the domain reflecting facilitation of *positive interpersonal relationships*. Instructor Hickman felt that interaction between the students and with her was important in the web class, but not in the traditional class. When questioned as to why she felt this way, she considered time to be the most important reason. She stated “I just don’t have time in a survey. This is a survey class.” She defined a survey course as one that surveys or gives an overview of the facts and events for a certain period of time.
Although Dr. Hickman rated herself lower in this domain in her F2F course (1.70) than she did in her web course (3.00), the student ratings were mixed between the web and the F2F, with some higher in the web and others higher in the F2F. The students rated Dr. Hickman fairly high in both courses, and rated her higher than she rated herself in all of the domains in each course. The students’ ratings in the category of creating positive interpersonal relationships were close between the web (3.18) and the F2F (3.20). In comparing these results with the information obtained in the interview, the student data support Dr. Hickman’s view that interaction is important to her in her web courses. In viewing her course throughout the semester, the researcher also noted that the instructor was very explicit in what she expected in the discussion board. In her written comments within the web course, Dr. Hickman mentioned reading and interpreting the material, that disagreement is welcome and expected, and that the students may connect the information with current events. She also explained the rubric that she used to grade the discussion board and described the kind of comments that would warrant the various points on the rubric. The students seemed to benefit from her attitude, since they rated her fairly highly in the web course in facilitating positive interpersonal relationships. The potential for regular feedback from instructors is a positive feature of online learning and students particularly appreciate individual feedback and assistance. When instructors are in recurrent and engaged contact with their students, the student satisfaction with the course is higher (Anderson, 2006). The conclusion is that since interaction was important to Dr. Hickman, and she made an effort to make sure that it happened in the course then the students felt that the instructor was more learner-centered and were more satisfied
with the course. This conclusion will also be reflected in the interviews with the other instructors.

Other aspects of the students’ perceptions about interaction and creating positive interpersonal relationships were noted by examining the differences between the pre- and the posttests. The differences for Dr. Hickman occurred only in the students’ perceptions in the F2F class. The differences were in the instructor’s creating positive interpersonal relationships, in adapting to class learning needs, and in providing for individual and social learning needs. The means for the posttest were higher in all of these instances than they were in the pretest. This relayed a positive attitude about Dr. Hickman’s ability and the students’ satisfaction with her at the end of the course. This change may be explained by her difference in emphasis on interaction between F2F and web. Because she noted that interaction is more important to her in the web than in the F2F, the F2F students may have understood that implication in the beginning of the course. In contrast, Dr. Hickman then strongly noted the importance of the way in which she presents information in her F2F class.

Otherwise, I just try to present the material in a way that shows that I care that they learn it. I am very conscious about my teaching and my lectures. I work really hard on those. I always tell them that if I hand something back and if you have any questions come and talk to me.

Even though interaction was stressed less in her F2F course, her positive attitude toward teaching and her caring manner also fostered personal interaction and seemed to have affected the students in the F2F course. Therefore, as the class progressed, her students may have developed more confidence in her learner-centered qualities and felt that she cared about them as she indicated, therefore rating her more highly. Interaction with the students and caring about them are two of the main traits that create positive
interpersonal relationships. This students’ ratings of Dr. Hickman in creating positive interpersonal relationships was moderate, but lower than the prior validation and the students’ scores of all of the instructors in this study except Dr. Wildman. So, although she was able to create a moderate perception among her students, this was less in comparison to other instructors’ experiences and their strategies with interaction.

**Dr. Wildman.** Instructor Wildman stated that discussion was important overall and rated interaction as a positive part of his own experience of being in a study group in graduate school. However, he felt that the students in his web courses didn’t put enough effort into their discussion board activities and “some do not respond to each other” even though “it works out to about 40 percent of their grade.” Dr. Wildman said that interaction occurred more easily in his F2F class, especially if it was a smaller class.

In comparing Dr. Wildman with Dr. Hickman, several conclusions were apparent. First of all, the students rated Dr. Wildman lower in the web course (2.83) than in the F2F (3.07) course in the category of creating positive interpersonal relationships. Secondly, the ratings for him were lower than the ratings for Dr. Hickman. The courses of Dr. Hickman and Dr. Wildman are both lower level courses and similar in nature, so why did the differences occur? A large part may have been due to less facilitation in the discussion board area. In reviewing the materials and directions for the discussion board within the web course, Dr. Wildman also gave directions to the students. However, there was no rubric used in the course and his description of the discussion requirements was much less specific than Dr. Hickman’s. Dr. Wildman stated the number of responses needed and that he expected there to be serious discussion, but he did not state his expectations of what makes a discussion relevant or what kind of response would be
expected. Again, Dr. Wildman had noted in his interview that he had difficulty getting students to respond to discussion board prompts even though these were a big part of their grade. The researcher can only assume that the students may have been confused or frustrated by not knowing what the instructor expected. Rubrics and detailed directions for the discussion are a specific part of the training, but this instructor gave directions on a much more limited basis than he had been trained.

Dr. Wildman also rated himself lower than the students rated him in both the F2F (2.40) and in the web (2.30) in creating positive interpersonal relationships. It seemed that this instructor had less confidence in his perceptions as a learner-centered instructor. This supported his own rating of (2.0) in self-efficacy in both of his courses. This lack of self-efficacy in learner-centered practices may have been due to personal characteristics, since the instructor did refer to himself as “an extreme introvert”.

In contrast to Dr. Hickman’s attitude toward interaction in her web and F2F courses, Dr. Wildman indicated that he found interaction among the students easier in the F2F course than in the web course. “I have found that in my face-to-face section of the course, there’s more interaction. That’s small…a very small class, and they will talk more about different things.” This was evident in the student ratings for Dr. Wildman in the posttest. Those ratings all dropped below (3.0) in the web courses but remained relatively the same in the F2F course. No domains were significant; but the means were all lower in the posttest than in the pretest for the web course.

The size of the class and the individual instructor’s more positive attitude about interaction in the F2F course may have caused the difference in the students’ perceptions. The students seemed to have developed more sense of community in the F2F class as the
semester progressed than was perceived by the students at the beginning, and slightly lower perceptions for the web course. This supports the instructor’s earlier comments about the lack of interaction in the discussion board and with his limited directions and facilitation.

Ms. Stevenson. Instructor Stevenson felt that interaction between students was important in both F2F and traditional courses, but also like Dr. Wildman, felt that it was more difficult in the web class than in the F2F class. She rated herself very highly in creating positive interpersonal relationships (3.9) in both web and F2F. She commented that the one advantage of interaction in the web class was, “I am able to hear from everyone.” Even though the students rated her lower than her ratings in the F2F (3.5) and in the web (3.6), they gave her ratings that were higher than both the overall ratings and the prior validations.

The students noted a positive significant difference in instructor Stevenson’s ability to adapt to class learning needs, and in her ability to facilitate positive interpersonal relationships from pretest to posttest in the web course.” In contrast, this instructor had lower means in three of the five domains of the F2F course from pretest to posttest. Ms. Stevenson had indicated that she found interaction easier in the F2F than in the web. “I go in prepared, with topics that should enlist students. I go in knowing that I’ve got a topic that I’m going to discuss today and this should be something that everyone can have some kind of input.” However, she also noted that she really stressed the interaction in the web courses.

I try to swing around and think of things that will draw them out, because I’ve gotten some of the really quiet ones—I have gotten some excellent, excellent input. And I guess maybe an advantage in the online course is that you do hear from everybody. That’s it.
Based upon her comments, it is possible that the quieter students felt less interactive in the F2F course than in the web, so that could have led those students in the F2F class to have lower post ratings and the web students to have higher ratings in the posttest. Additionally, she holds two F2F class meetings for the web course:

So by coming in with those two, I think they’re learning about me, and feeling more comfortable with me and knowing that’s probably why I get a fair number of emails, telephone calls, so that they can—They know that I’m going to respond.

This demonstrated a caring attitude toward her students, and a greater facilitation of interpersonal relationships. So, it was apparent that Ms. Stevenson understood the impact of getting to know the students and showing them that she cared about them and that they were learning. This was reflective of her high self-ratings (3.79) in learner-centered beliefs in “taking time to get to know the students.”

Apparently the students perceived her enthusiasm during the web course; since there were significant differences and their ratings were higher in all five domains in the web course. Perhaps Ms. Stevenson took the F2F class more for granted since she saw them during every class meeting, and her responses in her interview showed that she essentially worked harder to reach the web students in her discussions and in getting to know them. Therefore, the web students left her class with higher perceptions of her learner-centered strategies than they started and felt more positive after completing the course.

Mr. Thomas. Instructor Thomas also discussed his reactions to discussion board and its impact on instruction. The students’ ratings of Mr. Thomas were higher than his
own ratings and reflected his positive attitude about creating positive interpersonal relationships through the discussion board.

I feel that I am pretty good at getting a discussion going in my F2F courses. I was skeptical about achieving that kind of reaction in the web course. However, I found that I got some of the quieter, yet more experienced students to open up more in the discussion board. Everyone has to contribute, so I heard from some who in the past just sat quietly in the back of the room. Those ladies actually privately told me that they were intimidated by the younger students. Some of these ladies were already working as paraprofessionals and I thought—how much could they shine the light on the misconceptions of some of these wet-behind-the-ears college students!

His students rated him highly in creating positive interpersonal relationships in the F2F (3.72) and in the web (3.63). His own ratings were slightly lower, especially in the web course (3.40). His posttest ratings from the students in the web class were also lower than the pretest. When he discussed the differences in the two courses, he related that he felt less able to give the students as much hands-on interaction in the web course than he was in the F2F course. However, both his ratings and his students’ ratings in his F2F course were higher than the overall means and the prior validation means and relatively the same as those ratings in his web course.

Dr. Hill. Instructors Hill and Lin seemed even more aware of the importance of communication with the students. Dr. Hill stated, “Yes, I think that it is very important…that it is important to build a community of learners within the classroom, to make sure that students do not feel alone.” Instructor Hill had higher ratings from her students with (3.6) in both the web and the F2F than the overall mean and McComb’s prior validation. Dr. Hill also had a slight increase from pretest to posttest not only in creating positive interpersonal relationships, but in all of the domains. She described her use of the discussion board in her F2F class. “I use the discussion board in my F2F class-
they post their presentations there. So when they give a presentation in class, they post a handout”. She also described using it to finish discussions that were not completed in class. Her comments about discussion board were very positive, and she cared that the students participated. “The most important advice? I think that making sure that the students are involved.” She also added that the grades in her web courses had much less deviation and that there are fewer students that are excluded from the education. She stated,

…They’re in the classroom and they’re not participating and they are not joining in—they can do that in a traditional classroom. They can cut out and just be in class. But online they can’t do that because they have to participate in the forum. You know, I can see what they’ve checked. They have to turn things in the dropbox and there are actually emails. I’m assured of participation. And I really like that they feel included in the instruction.

Dr. Hill had very close scores in her web and F2F courses in each domain, so she seems to be consistent in her learner-centered practices. She was enthusiastic about teaching online and was careful in making the discussion board an important part of not only the web class, but the F2F class also. Importantly, she made other efforts to communicate, “…I check my email, they email me all the time with any questions they have and I let them know they can email if you ever have any questions.” She also specified that she worked hard, expected a lot from them, but created an atmosphere of caring. “I think they really feel that, you know…that I care, that I’m helpful…that I am really there to help them learn.” Again, this kind of relationship with the students was reflected in her own ratings of (3.36) in the F2F course and (3.29) in the web course in learner-centered beliefs.
Ms. Lin. Instructor Lin not only felt that interaction was important, but felt that she worked hard to achieve it. She related how she achieved it in both the F2F and in the web course.

Yes, I do. It’s very important. I notice with my face-to-face class, when I did put them in groups, that some of them really started to open up and after that initial interaction in groups, and then they were much more likely to raise their hand and interject instead.

In the web class Ms. Lin stated that, “There was a lot of interaction as far as the discussion board; they had to respond.” Throughout the interview, this particular instructor’s attitude toward her students was magnified in every aspect of her course and her student’s responses supported the authenticity of her statements. This attitude was also reflected in her ratings of her learner-centered beliefs of (3.14) in the F2F and (3.43) in her web course. Additionally she showed high ratings of self-efficacy (3.33) in both the web and in the F2F.

It is important to note here that the students rated Ms. Lin almost the same in both courses and they also indicated a slight but not significant increase in their perceptions of her learner-centered strategies in both the web and the F2F from pre to posttest. Her high ratings were across the board and the students rated her with (3.9) in both the F2F and the web courses. Additionally, to further illustrate her commitment to facilitating positive interpersonal relationships with her students, she stated that she made a genuine effort to illustrate that she really cared about the students.

Well I always, I just talk to them, like as far as my web class. I do try to guide them and lead them but I think it shows that I care because I tell them “good job” or “I’m very proud of you for your efforts in this area.” They know that I want them to succeed and I do really the same thing with my face-to-face class. I try to be very understanding and I think every one of my students knows that I care. I really do. I don’t know exactly how that happens.
The researcher perceived her attitude as being genuine and warm, and it seemed that the students perceived her in these ways also. In summary, this instructor’s practices in facilitating interpersonal relationships were successful and will be presented as models for excellent learner-centered practices in the classroom in Chapter 6 of this document.

Again, the means for the category of creating *positive interpersonal relationships* as well as three of the other domains in the posttest were higher for four of the six instructors. The difference from pre to post seemed to indicate that the students had a higher perception of these instructors’ learner-centered practices after they actually completed the semester, especially in the web courses. This indicates that the instructors were doing well in learner-centered practices in web courses throughout the semester. These instructors seemed to be rated fairly well overall in this area. This was due to their facilitation in the discussion board, and their individual attitudes that gave the students a sense that they were valued.

**Class Learning Needs and Student Choice**

In looking at the domain category for the instructors, adapts to *class learning needs* the researcher questioned instructors about giving students choices in their assignments or having different methods to complete assignments. Instructor Stevenson, Dr. Wildman, and Dr. Hickman stated emphatically that they did not allow the students to adjust the assignments or to really have any choices. Ms. Stevenson stated,

> I don’t think I give them any. I’m a stickler on instruction sheets. Given that, directions that I’m so meticulous about…those instruction sheets, I would definitely be one who would say, ‘well now it’s not open to how you want to finish this.’

Dr. Hickman stated, “There are a variety of methods in the course, the evaluation, the way that I go about making a lot of methods. But they don’t get to choose. Everybody
does them.” Dr. Wildman stated that he “sticks to the lecture format and everybody does
the same thing.” He did not give them any choices.

The other three instructors described giving students more choices in their topic,
or in choosing the area that the students want to cover “Well, yes, the students have some
flexibility, but mainly with the lesson plans,” stated Dr. Hill. She elaborated,

It comes up as selection of content—they get to select which chapters and which
presentations they want to do. They get to decide which disability they want to
present on. In terms of format, the format or what’s required within those, no.

Mr. Thomas was more flexible. In reply, “Yeah, I just tell them what I want the
outcome to be and how they can get there. But if they are the more creative ones, they
may choose a different medium for a project or go off a little in a more creative style.”
However, again Ms. Lin stood out in her methods, included the most variety in methods
and assessments, and gave the students several choices:

I give them like five different questions to choose from as far as their lesson
plans, and they could choose what kind of area they felt most comfortable with
and what they wanted it to look like. They had some originality, some branching
out on their floor plans. As far as their field experience goes, it was specified as
far as how the hours had to be broken down, but they were allowed to choose
their own teacher within reason.

She admitted however, “that was about all as far as the deviation. Maybe I could do that
at some point, give them an activity where they have a little bit more leeway.”

In summary, three of the instructors do not seem to be flexible about how the
work is created, but the other three seem to build in several choices within certain
parameters. However, the students aren’t generally given any voice in what kind of
activities that they want to do within the semester or what they hope to get from the class.
This may translate to some of the students as the instructors’ giving them fewer choices,
and they may not feel that the instructor is saying, “I am able to teach in different ways when students are having difficulty understanding”.

Therefore, from the reactions of all six instructors, the curriculum of the course content, the size of the class, the time involved, and the level of the class, along with individual instructor characteristics are important factors in having the students interact with each other and in considering different approaches to assignments or the kind of flexibility needed to give the students more choices.

Facilitating the Learning Processes in Assessment Activities

The amount of time that the instructors devoted to various activities that stressed individual learning styles and that allowed students more responsibility for their own learning is an important part of learner-centered practice. In striving to increase variability in presenting material, instructors can increase the changes in engagement and deeper learning (Rehm, 2003). Both Dr. Hickman and Dr. Wildman noted that they adhered to a lecture-oriented format in their courses. The only outside activities that they included were maps that are required by the department and the discussion board within the web courses. The exams counted as the primary source of assessment in the courses. Departmental restrictions caused both Dr. Hickman and Dr. Wildman to cover a specific amount of material during the semester. Dr. Hickman stated, “…sometimes your hands are tied because you have to meet the requirements.” Therefore, these two instructors appeared to be scoring themselves lower in facilitating the learning process because they did not provide activities that made the students more responsible for their own learning. Both Dr. Hickman and Dr. Wildman seemed to understand that their teaching practices were limiting opportunities for interactions in both their F2F and their web courses.
Dr. Hickman also stated, “But that might be my fault, and I’m willing to let someone else try the class. There are a lot of different approaches…” She also stated, “so if somebody else is willing to… willing to do it.” Therefore, she meant that in this particular subject, she doesn’t feel that comfortable about teaching it online and admitted, “I prefer the standard lecture.” She noted that this possibly limits her ability to teach from a more interactive way and to be more cognizant of different activities that may better facilitate the learning process and provide for individual and social learning needs. Even though she perceived herself to be more learner-centered in the web courses than in her traditional courses, she didn’t feel that she was doing as well as someone else might. She also revealed that even though she approached the traditional class in a less learner-centered fashion, she made efforts to provide good structure to the lectures, to prepare the students for the exams and to interact with them individually during office visits.

Although pure lecture of material is not effective for many students and may cause higher dropout rates (Seymour & Hewitt, 1997), her attitude may have impressed her students as was discussed earlier in this chapter when she noted her willingness to work really hard on her lectures.

Dr. Wildman iterated that his approach was basically lectures. He did indicate that he had used videos in the past to supplement the lectures in class but “then that takes up lecture time.” So, as a substitute, the students had to review the videos in the library and answer questions. He admitted that the hurricane damage to the library had prevented him from doing that this semester and he stated that “It’s sad because I know a lot of people—some are more visual. People take notes in different ways and all that kind of stuff, but it’s mainly just videos.” He also realized his shortcomings in dealing with different kinds
of learners, but admitted that he just didn’t have “time to plan alternate activities,” and did not feel that he could adequately assess an activity such as a research paper written by a student.

The other instructors revealed that they spend more time on activities that promote individual and social learning needs and that facilitate the learning process. They all rated themselves more highly than Dr. Hickman and Dr. Wildman in those areas. Also, all of the other instructors rated themselves more highly than the overall means from the prior validation, except for Mr. Thomas, who rated himself lower in facilitating the learning process in his web course. In his interview, he stated that he feels that the students miss out on a lot of “the studio lab part of the class.” The curriculum is designed to be a hands-on, project-oriented class, and he felt that he is not able “to provide as much of that in the web class as in the traditional class.” Even though he stated that he tells students in the beginning in the web class that it will be less project-oriented, that “they still complain about that during the class.”

Dr. Hill described several activities that were part of her class. She related group projects, PowerPoint presentations, and that “they have an article analysis which is in terms of preparing them not just to be able to do research, but to be very critical as teachers of what’s coming in.” They also have research articles, diversity applications, and the final project is a lesson plan that pulls it all together. Her student ratings were again consistently high- (3.49) in the F2F and (3.51) in the web and higher than both the overall and the prior validations. Students seemed to feel that she worked hard to facilitate the learning process by making them responsible for their learning and providing activities that deal with different learning strategies and learning needs.
Ms. Lin, as stated earlier, provided many different activities and assessments. The students are not just graded on discussion board and exams, but submit a variety of projects:

They teach, they peer teach, you know, they learn how to write the lesson plans, I give them a written lesson plan grade and they collaborate, and then they do the oral presentation. They construct a plan based on their area of interest and that’s actually something they turn in on a posterboard. They really have a lot of fun with that. The people that are artsy, they get to experiment and the people that weren’t, it was okay, they didn’t have to do a whole lot there. They do field experience, which they really enjoy, only ten hours per class so it’s not overwhelming for students that are just starting out. Let’s see what else. Oh, they have to develop a philosophy, a personal philosophy of early childhood and many of them have never thought about that before; so I have some specific questions that are online there for them, and I also gave them several websites where I’ve found philosophies and asked them if they could access them to help develop their own, so they do that. They have two exams and a final. They have a reflection piece that they turn in over things due in discussion board at the end to tell me, to tell the class about their most memorable field experience, so that’s kind of interesting.

Ms. Lin shared her means of reaching different kinds of learners and building projects into the course that would make the students more responsible for their own learning. She went to great lengths to include a large variety of activities, and the relevance was shown in the high ratings given by the students.

Ms. Stevenson also explicitly described a variety of activities. She stressed that she works with the other instructors and that they brainstorm:

Pretty much when I work with the other instructors…I throw it out or I say, ‘what could we do differently? Okay, this is what we did last semester, but you know, maybe that’s not the best way to teach with someone who learns primarily as a visual learner. Do we have enough opportunities in here that I’m going to appeal to each one?’ So, we sit together; it’s a mixture. I’m doing brainstorming with people, I’m not relying just on what I say, and I’m open to other suggestions. We look at it, we evaluate it, and we make sure that we are providing those opportunities.
Ms. Stevenson specifically recalled some of the assignments that she included in her course and they related to different software packages and activities that go with each one:

I do have a required textbook, so often I will preface an assignment with “this is in chapter three, read chapter three,” Every piece of software has minimally one project and very often two projects. California has two, Inspiration has only one, because it’s such a simple software and the fact is, it’s brainstorming software. I could run through it and give them the exercise and then they can pretty much see it. Those that come from Microsoft Office, because that’s primarily what I do, Microsoft Office plus Front Page, those various software packages that they have, all of the learning that comes from all of those, they have opportunities to perform

In conclusion, the students’ ratings of these instructors in facilitating the learning process were not that much lower than the students’ ratings in creating positive interpersonal relationships or adapting to the class learning needs. In comparing the domains, this area would actually be higher if the ratings of Dr. Hickman and Dr. Wildman were higher. The other instructors had the students complete activities such as project papers, PowerPoint presentations, multimedia activities, lesson plans, and made assignments relevant to what the students will do in real life. The students seemed to put more stock in the classes that gave them alternate activities other than just discussion board and exams as assessments. Although the students were required to participate more and turn in more work, they seemed to relate that to the learner-centered practices of the instructors.

Adapting to Class Learning Needs through the Relevancy of Assignments

Hill, Lin, Stevenson, and Thomas all taught courses that are part of a teacher education curriculum. Therefore, they could more easily prepare activities that they knew their students would be able to use in a K-12 classroom. Relevancy seemed to be much more important and easier for them to achieve than instructors Hickman and Wildman.
Relevancy was another key component in adapting to class learning needs. The instructors included activities that were related to students’ individual areas, their future goals, and their needs as adult learners.

Dr. Hickman said that in trying to bring in current topics that relate to the specific aspects of the content, students sometimes get upset because they don’t see the relationship. She was cognizant of her inability to provide more relevant activities and stated what the students say to her in those cases,

It’s a history class; I don’t want you to ask me about that, I don’t want to be required to say that, and I don’t want to get in a fight with anybody (laughing), you know. Even though I try to—I have to figure out maybe a better way to approach that.

Dr. Wildman also stated that even though he tries to bring some relevancy to current topics, the students don’t want to take the time to explore it. He also felt less successful in this area in his course.

I try to give them some idea of what kind of effect it is having. Yeah and hopefully they go in and look at it. And I have a bunch of links that I’ve found and that students have found that I hope they check, but probably don’t half the time.

During the interview, Dr. Wildman did not relate any specific activities or requirements for having the students study the relevancy of the course in relationship to current topics. He just provided some information and hoped that they would read it. It was apparent that he did not make any specific effort to facilitate the relevancy of current events to his course.

In contrast, the other four instructors said that they will not ask the students to do any activities unless they can relate it to classroom instruction. Ms. Stevenson summed up the importance of relevancy in her activities,
I want to make sure any student who questions me about the relevancy of why you’re doing an assignment; that I can send them right down the road to St. John’s Elementary. I could sit them down in a classroom and say, ‘This is why it’s important that you learn this skill. Look at what this teacher is doing.’ And I know enough about the teachers that I’ve taught who are now in out in the field who come back and say, ‘I’m so glad you gave us a chance to do this, this, and this; this is what I’m doing in the classroom now.’

Therefore, the course content in each case played an important part in the way that the instructors designed activities that were relevant to students and that made the instructor perceive himself or herself to be more learner-centered. In particular, Ms. Stevenson rated herself as being an almost perfect learner-centered instructor (all of her ratings were high threes and fours). In her interview, she gave several accounts of her planning, of the importance of considering a wide variety of activities and learning styles, and again the relevance to their future jobs. She placed an emphasis on planning, especially in the web courses. She stated that “I’m a stickler on instruction sheets. I work on them diligently; I test them out every time to make sure students aren’t frustrated.”

Ms. Lin rated herself slightly higher in the domains in the web course than she did in the F2F, but the students rated her slightly higher in most of the domains of the F2F course. Again, the student ratings were higher than the instructor rated herself and overall she had very high ratings from the students. Most notably, she had higher ratings from the students in every domain in both the web and the F2F than the students gave any other instructor. Most of her ratings were in the 3.9 range and she was the only instructor who received a perfect 4.0 from the students in a domain. In describing the relevancy of her assignments, she stated:

That’s one of my biggest things; I don’t want to give something just to give it, just to do work stuff. I mean, they have enough to do for everybody else. I just introduced them to what a lesson plan was... because it really kind of takes the fear out of that and it was a relaxed atmosphere and they were learning that it was.
It was fun for them; I had several of them tell me, ‘I was so scared, but you know, now I’m not as scared anymore, and that was very helpful.’ Oh, they also have to develop a philosophy, a personal philosophy of early childhood. I have some specific questions that are online there for them, and I also gave them several websites where I’ve found philosophies to help develop their own, so they do that.

She also stated that the students turn in a reflection piece on the discussion board about their most memorable field experience, and that all of the activities “were something that would be relevant to what they needed in the classroom.” The impact of her planning and her value in creating assignments was evidence of why she was rated so highly by the students.

Dr. Hill also discussed several activities in her course, and she related the relevancy of the assignments. She related how she put this in to their final project,

A big part of their final project is making accommodations again—there is a whole list of resources—it’s learning how to use resources…especially electronically which is very important especially if they are distance learners. They find the research paper electronically and then find out an accommodation that they are going to use for specific disabilities and I ask them to tell me the “what, when and why”. What is the accommodation, when exactly in the lesson plan are you going to use it and why are you using it? So I have some higher order thinking skills because they have to figure out why they are using it.

Mr. Thomas related the importance of finding lessons and projects that the students will be able to use in their classrooms and discussed the lessons that he includes in the web course:

They have to pick 10 sample lesson plans for each studio project. I have them build a portfolio of lessons during the class, so they really need to take this time to find things that are relevant to them down the line.

The researcher reviewed Mr. Thomas’ materials in the web course, and his instructions for each studio assignment included these directions:

If you know that you will be teaching pre-school, collect pre-school level lessons, lower elementary school, collect lessons for K-third or fourth grades, upper elementary, collect lessons for grades three through five. If you are unsure what level you will teach, collect several from each level.
Overall, instructors Hill, Lin, Stevenson, and Thomas made considerable effort in providing activities that were relevant to the students and the subjects in which they will teach. However, it is not impossible to do similar activities in any course—even a survey course. It takes time and planning, but it becomes more meaningful and memorable to the students if they can connect it with current topics or their own experiences and future careers.

Providing for Individual and Social Interaction using Group Activities

The domain in which the students and the instructors rated the lowest overall was in providing for individual and social interaction. The questions in the survey related to this area asked about collaboration, getting to know other students, and creating a community of learners. Although all of the instructors have to include discussion board in their web courses, there is no requirement in their F2F course, nor is the use of a discussion board the only means of creating community. Two of the instructors, Dr. Hill and Ms. Lin, were specific about including group work in some of the assignments, so their activities are discussed first.

Dr. Hill. Dr. Hill was one of the instructors who strongly emphasized the use of group work in both her F2F and online courses, and her students’ ratings in creating providing for individual and social interaction were slightly higher than McComb’s validation scores. This indicated that the students rated her highly in providing for individual and social interaction with (3.6) in the F2F and (3.76) in the web. She described one of her assignments,

I have group assignments. They have assignments that they have to accomplish as a group that they have to turn in as a group. They have individual accountability. In other words, if they do a presentation that is in PowerPoint they have to put their names on the slides that they worked on. There is individual accountability,
but they have to get together as a group, put the presentation together, and decide what goes into the presentation. Decide how many slides they are going to put in there—make sure that they are answering the questions. They have a study guide that they need to answer all of the questions in the study guide within the presentation.

She also indicated that she has other group assignments and that she makes them switch to a different group for each assignment, “It is a multicultural class, and I talk about interacting with people who are different and the fact that they need to learn how to interact with a lot of people who are different.” Dr. Hill provided excellent examples of this important domain and also emphasized that “they have to renegotiate the obstacles that you always get when you try to interact with a new person.” Her course is a good example of balancing all of the elements in creating interactive, community-oriented courses in which students know her and are able to work with the other students in the course.

Ms. Lin. Again, instructor Lin provided excellent examples of several ways that she incorporated group work to help her students become more comfortable with their classmates:

I taught them how to write a lesson plan and that sort of thing and then they were to write their own and collaborate with a partner that I assigned them to in the class. They collaborated through emails or however they wanted to collaborate, but they had to prove to me that they had done so. So most of them used email and forwarded the emails and they critiqued each other’s lesson plans before it was actually due to me. And then there was a lot of interaction as far as the discussion board; they had to respond.

Ms. Lin received very high scores from her students in providing for individual and social interaction. She was the only instructor to receive (3.8) in the F2F course and (3.86) in the web course in this domain. Evidently, the inclusion of the group projects and
the interaction in the discussion board helped students to feel confident in her ability to facilitate their collaboration and in valuing the contribution of classmates.

Ms. Lin’s approach is supported by Rogers and Freiberg (1994) who asked youth to define schools where they love to learn. Students in their study reported that they wanted (a) to be trusted and respected, (b) to be part of a family, (c) teachers to act as helpers, (d) opportunities to be responsible, (e) freedom, not license, (f) a place where people care, (g) teachers who help them succeed, and (h) to have choices.

Mr. Thomas. Instructor Thomas did not specifically assign the students to do projects as a group, but he related “since the students work in a studio environment, they naturally help each other and learn from the others’ examples.” He also mentioned that this kind of class emphasizes that students are part of a moving, growing environment. Two of his assignments addressed classroom management. One was in how to keep the children on task and the second dealt with a classroom design for student workspace. Areas for display of projects are discussed, so it is evident that students will “share” ideas and projects with others. This particular web class uses studio class meetings so the students have an opportunity to see each other and create relationships. This helps to create community in a class, so he does not have to work group projects into the web portion of the course. The instructor and the students rated this domain lower than most of his others, but the students’ ratings at (3.56) for the F2F and (3.6) for web were still above both the overall and the McComb’s scores in creating individual and social interaction. As stated earlier, the students like the studio production part of the class, and he does not feel as though he is reaching them as well in the web course. However, since
his scores were still high, he was evidently successful in creating a sense of community among the web students through the projects and the class meetings.

**Dr. Hickman.** Instructor Hickman was less successful in including group work in her courses and related her experience in trying to incorporate group activities in her web course:

I don’t divide them into groups because the classes are small. I tried group work in a history class and it bombed completely. Well I think the problem was that I didn’t give them enough time. I think if you are going to do that type of assignment, you have to have it due early in the semester or have it due much later in the semester. That was my mistake. I am never prepared enough in advance. There’s no point; there’s just enough to do with them doing individual assignments on the discussion board…so just discussion board.

So, she admitted that she may have not been as prepared as she should have been, and that it does take more planning to include the group activities. She rated herself with a (1.33) in the F2F and (1.67) in the web for providing for individual and social interaction. Again, the discussion board is an important element, but the opportunity for the students to work together is missing from her courses. The students rated her with (2.8) in the F2F and (3.2) in the web. Although her ratings were lower in this domain than most of the other instructors, remarkably, the web course was not that low in this domain. In comparison with the other domains, many of her ratings also included 3.1 and 3.2 ratings. Possibly, her facilitation in the discussion board provides enough social interaction for the students, although no real collaboration was included. Again, this may be what is expected by the students in this subject area, so although they rated her lower than the other instructors, the students seemed to be getting some social interaction through the discussion board.
Dr. Wildman. Instructor Wildman only referred to dividing the students into groups for the discussion board and he did not feel that it was successful. “I divide them into group sections on Bb with questions which ideally they should sort of discuss online but most of the time it doesn’t happen. They should but they don’t really respond to each other.” He did not relate any other group work in the course. His ratings of himself in this area were very low (2.00) in the F2F and (1.5) in his web course. He evidently recognized the lack of collaboration and community in his courses, especially the web course. The students were slightly more generous with (2.9) in the F2F and (2.8) in the web. All of these ratings were much lower than the prior validation (3.53) and the overall (3.32) ratings including the other instructors in this study. It is clear that the students do not feel that the social interaction was strong in this course. They do not feel that they are getting to know the other students, and that element is missing from his courses.

Ms. Stevenson. Instructor Stevenson stated that she only uses the discussion board for interaction in her course and revealed her trepidation about trying other means of interaction between the students:

And what I do—discussion board is what I think of in terms of interaction between students, in the discussion board, that’s about the only one. In Adrianne’s class, she had tried to use the virtual classroom and it didn’t work well. I thought, if Adrianne can’t get it to work well, why would I dare set something up, because as you well know, when you try something in an online environment and it doesn’t work…So I go with the safe alternative that works for me, and the discussion board is one of those.

The students rated her lower in this domain with (3.3) in the F2F and (3.4) in the web than several of the other domains. She realized the importance of this kind of work, but relayed her own experiences in graduate school in which the “laggers” did not contribute to the group. She stated that they said, “Well, a B’s good enough for me, I’ll sit back and
I’ll just wait.” She said that the students in her own graduate studies simply would not show up for the meetings and the conscientious ones did all of the work. Part of her reluctance was due to the inappropriate distribution of work, but that is something that was missing in the way that those group projects were assessed. As demonstrated by instructors Hill and Lin, there were means of including group work that were successful. However, in her comments, Ms. Stevenson realized that group work was important and stressed that she was looking for ways to include it, “between semesters and summer I talk about it again and I ask my people, ‘come on, give me some ways. How could we do that?’ But I am working with other people who don’t like it either.” However, she went on to state, “I recognize that-I know there are benefits to it.” Even more remarkably, she was very specific about why she needs to incorporate it:

And even if we don’t do it in the face-to-face, the online needs to have that because you know we understand the concept of a community of learners and they don’t have enough of that. So, recognize that after coming through, you know, what we did last semester (hurricane), and then this semester...knowing that, I recognize that and I have to do that. I really, I feel the students need to have that. I’ll come up with something—A plan, a way to do it and try it. And even if it doesn’t, even if it requires going back to Adrianne and saying, “Adrianne, this is what I’m planning to do, shoot holes in it; where am I not covering myself, that I’m opening myself up—I really want it to work well when I do it and I know that’s probably why I’m so reluctant. I want them to feel a connection to others in the group and I think there’s a lot of learning that comes from that.

Even though this instructor admitted her reluctance and her reasons for not including group work, she did understand its importance in an online environment, feeling the connection to others. This is an excellent description of its importance, and along with the positive examples provided by instructors Hill and Lin, Ms. Stevenson made an important contribution with her statements that can be a reference point to incorporate into future training.
Creating Challenge and Responsibility

The students rated the instructors more highly in creating challenge and responsibility than in any of the other domains. Most of the questions in the survey from this domain dealt with instructors encouraging the students to take responsibility for their own learning. In any web course, that will be the case with most instruction. The students are working at home or on their own time. They may certainly communicate with the instructors and the other students, but the course should be constructed so that the students may take part in the activities and move from one assignment to the next with relative ease. Activities that promote the individual’s interest, that contain variety, that are relevant, and that encourage their interaction with others support this domain. In contrast, students may also interpret less interaction as being “on their own” and that may also translate to their feeling that they have been made responsible for their own learning. It may be that in some courses, students felt that they are given more responsibility in a web course, even if they were not. In reviewing the categories discussed above, the instructors were well rounded in the inclusion of many of these strategies within their courses. This is a less specific category, and must be part of the overall makeup of the course. Areas that the instructor was weaker in may have been compensated by another area in which the instructor put more effort. Therefore, it seemed that the students were pleased with the amount of responsibility that they were given. However, instructors may need more direction in truly giving students responsibility for their own learning without making the students feel as though they are alienated from the instructor.

The preceding information dealt with specific instances in which the instructors created opportunities, facilitated learning, promoted positive interpersonal relationships,
created challenges and responsibilities, adapted to class learning needs, and provided for individual and social learning needs. The information illustrated the best examples from the instructors’ interviews and evidence in the online courses and highlighted those courses that were lacking in those areas. However, it is imperative to point out again that being learner-centered and having a learner-centered course evolves and changes. Individual situations and circumstances may change the way that strategies are completed. Being learner-centered is a combination of all of these areas, and many of them overlap in different ways. In facilitating interaction, the instructor may be creating independence, showing the students that they care, and making students aware of differing perspectives. Dividing the categories into the specific areas above was to draw out some of the most prominent features of each of the five domains, but they are not exclusive of the other areas. Instructors must have worked to arrange many factors and strategies and if one area was omitted, it most likely affected the other areas or domains.

The next section of this chapter discusses the importance of finding no significant differences between the perceptions of students in the web courses and the students in the F2F courses of the same instructors.

No Differences Phenomenon

The quantitative data showed no significant difference in the students’ perceptions of the learner-centered practices of the instructors the F2F courses and the web courses. Essentially, the students felt that the F2F and the web courses were equally learner-centered. Instructors who were perceived to be more learner-centered in the F2F classes were equally so in the web courses. Those who were perceived as less learner-centered than other instructors in the traditional class were perceived equally less in the web
course. For example, the ratings of the students for Dr. Wildman revealed lower means overall than the other instructors. This instructor however was not perceived to be significantly more or less learner-centered by the students in the F2F versus the web course. Therefore, even though he was less learner-centered than the other instructors in this study, the students did not perceive that he was any less learner-centered in his web course than in his F2F course.

The “no significant difference” phenomenon (Russell, 1999) holds true in the students’ perceptions of their instructors’ learner-centered practices. The literature does not extensively compare learner-centered differences between F2F and online, but Vakili (2003) found that “regardless of the delivery medium, students do not perceive differences” regarding the five domains. Additionally, this finding agrees with the Russell’s general attitude about the effectiveness of online courses. Online courses have been researched and tested for any significant differences from the F2F courses in student achievement. However, this study was significant in showing that in the area of Learner-Centered Practices, which has a strong framework based on the APA Learner-Centered Principles, online courses can be just as effective in that area as F2F courses. One of the fears of the instructors was in their inability to “get to know the students” in their web courses as well as they did in their F2F courses. This finding, along with the information relayed from the interviews, strongly supports the fact that the instructor can be as successful in developing relationships with their students in the web courses as they are in the F2F courses. Learner-centered practices can be highly successful in a web class, if that instructor was highly learner-centered in the F2F course.
Although there were no significant differences between perceptions of students in web versus F2F, in the overall means, the web means were slightly higher in the five domains than the F2F means. This is important in that the students’ perceptions of the instructors show that these instructors are integrating learner-centered practices into their web courses. Many of the instructors gave explicit credit to the resources provided by the trainer. She provided them with methods and strategies for communicating with the students, creating interaction, and facilitating learning. The next section will describe how each instructor felt that the training contributed to their success in the online courses. 

Training

The training was an important part of developing the online courses in this study. The university required that the instructors participated in the training and developed their online courses in accordance with the guidelines of the training and the university’s web-based course policy. One of the instructors who gave a great deal of credit to the training was Instructor Stevenson. In her comments, Ms. Stevenson highly praised the training and talked about the importance of the facilitator,

…she was so helpful. But, for me, knowing that I had someone who had spent so much time researching this, the links that she would send me. I’d tell her; I can’t think of a single question I could ever ask Adrianne through email that she wasn’t right there. It amazed me. I had so many resources at my beck and call and that’s what I aspire to.

This was one of many instances in which the instructors related the effectiveness of the training. The training was required, and some of these instructors did not have a choice about beginning an online course. Two or three of the instructors were chosen by their department heads, but the others were selected because they were the only instructor teaching that particular course at that time. The courses were being promoted to fulfill the requirements for an Associate degree, and were needed to provide options for non-
traditional students. It was expected that some of them would be reluctant to teach online, and some of them actually told the researcher that teaching this class online wasn’t going to work. The differences in the attitudes of the instructors as they progressed was in part due to the training itself, but the instructors’ attitude changes had to come from within. The following information from those instructors reveals their thoughts and attitudes toward the training.

Dr. Hill felt that the training provided valuable insight into how to use more functions within Blackboard. She also thought that the facilitator was helpful and resourceful. “I would email her with specific questions and she would respond…to those specific questions –to any problem that I would have.” She also noted that she would give her specific strategies that she used in her own classes.

Dr. Hickman had fewer positive comments about the training. She had previous experience teaching online, and seemed to have already developed her attitude about how to teach online. “I’m trying to remember. Well, I’m trying to remember what she taught me that I didn’t already know because I came in a little bit more experienced than a lot of the other people. She did not relate her openness to training as did instructors Hill, Lin, and Stevenson. She mentioned that the facilitator showed her how to use groups but that she did not try to use it. She stated,

…she did show me how to do that groups, you know, set up the groups, which I had never, you know, I don’t do that, I don’t use that feature for doing stuff…it’s a lot of work. You know- a lot of work.” I don’t really use many features of Blackboard. I just use Discussion Board. I use Internet exercises from textbook, but I just have them, like basic, you know, write an essay about what you read and put it up on Discussion Board. That’s it. Everybody can read it.

Like Dr. Hickman, Dr. Wildman really stumbled to remember anything from the training that was helpful. He was more critical of the training and felt that he did not receive
enough guidance in “using the gradebook.” Although the training was stressed as being a pedagogical guide, not a technical guide, he did not seem to have grasped that concept as well as the other instructors had.

Mr. Thomas related some very positive comments about the training.

Oh, God yes-I don’t know how I would have done it without Adrianne. I could not have done it without the training. My technology skills were somewhat limited, and besides-I thought that you guys were crazy for asking me to do a studio class online. I did not want to do it.

He said that it really was great the way that she had broken things down step-by-step and that the training was tremendous. It had really helped him move along. Adrianne modeled how to approach designing the instruction and activities and that she was always supportive and always there to help when he bumped against the wall. He stated that “the training really had done a good job.” He also stated that he had to really step back and listen to what she was saying.

Finally, I just realized that I had to look at the web class in a totally different way. Once I did that, I was excited and I was able to jump in and find things that would work and that would substitute for some of the studio work. Also, I was told that it was ok to meet a few times, so I worked in four studio times throughout the semester as part of the course-and that made me relax some. Everything else, I just spent a lot of time researching on the web and looking for new ways to do it. I definitely needed the training to help me get there.

At the beginning of the web training session, Ms. Lin was also reluctant to teach a web course and had questioned the researcher about her ability to teach it successfully. Contrary to her initial reluctance, she followed through quite well, and even though the students in her web classes rated her slightly lower than those in the F2F, students may have been slightly less comfortable with the structure of a web course than they were in a
F2F course. She gave a lot of credit to the training program. “My web class? Well, everything I’ve learned, I learned from you and from Dr. Hunt, but I used her ideas; everything she taught us to do, I’ve used. Every single thing I could find.” Ms Lin also emphasized the importance in being able to experience the training course as a student. “Well, really to me the most useful things…actually, we had to do it; we had to experience it. So, I mean, I think that was very useful. Every part of the course has been useful to me.” She also emphasized that it gave her confidence that she would still get to know her students.

So, I learned that from her, though, and from you. I mean, I didn’t know Adrianne from anyone, but I mean, I know her personality now. And we met, what, once, twice? We didn’t meet a whole lot, but I felt like I really got to know her just through the dialogue and so that was helpful, getting over that little fear, that little hump, you know.

This was a positive reflection on the training modules, the training facilitator, and the instructor. Ms. Lin knew that she needed the training and she made every effort to use it to the fullest extent. Since all of these instructors participated in the online training modules, it was concluded that the modules facilitated the instructors integration of effective learner-centered practices in the web courses. According to students’ perceptions, the instructors were as learner-centered in the web courses as they were in their traditional courses. The conclusion from the evidence of these instructors was that the information and techniques were presented in the training but the instructors needed to value and use that information. The training promoted interaction, a variety of assessments and activities, collaboration, and created a supportive atmosphere so that students did not feel isolated. It seemed that the more that the instructor included these strategies, the more highly that the students rated the instructors’ learner-centered
practices. It was also significant that the instructors such as Mr. Thomas and Ms. Lin were the most intimidated by changing their course to a web format. However, even though they were reluctant to make this change, they openly described how they used the information in the training to lead them to successful learner-centered online courses. This is wholly supported by the high ratings that Ms Lin and Mr. Thomas both received from the students in the domains rating them as learner-centered instructors in the web courses.

Also, since students’ perceptions are a better predictor of the learner-centeredness of the course than the instructors’ perceptions. (McCombs, 2003), these instructors can be assured that the students in their online courses were equally confident of their learner-centeredness in their practices in the online courses as they are in the practices in the web courses. Dr. Hill, Ms. Stevenson, and Mr. Thomas all rated themselves higher in the domains in both the F2F and the web than did their students, and the Dr. Hickman, Dr. Wildman, and Ms Lin rated themselves lower in the domains than did their students. The overall ratings of the students from all of the classes combined showed higher ratings than the instructors’ combined ratings in this current study. In contrast, Vakili’s 2003 study determined that most instructors tended to perceive their practices as more learner-centered than do their students. However, the overall instructor scores and student scores in this study seemed to be fairly close. Weinberger & McCombs (2001) found that the more learner-centered that the instructor becomes, the more the differences between the student and instructor perceptions decrease. This may have accounted for the higher student ratings.
**Student Satisfaction**

A Pearson r correlation was conducted to measure the relationship between the five domains within the ALCP and the Student Evaluation of instruction conducted in the university. The results of the correlation revealed a positive relationship between the two scores. The Pearson correlation coefficients were further examined to determine the strength of the relationship between the two sets of scores. Although there are no official rules regarding the strength of the relationship, Holcomb (2006, p. 112) describes the following guidelines that can be used as rules of thumb in those relationships:

- A value of 0.00 indicates “no relationship.”
- Values between .01 and .24 may be called “weak.”
- Values between .25 and .49 may be called “moderate.”
- Values between .50 and .74 may be called “moderately strong.”
- Values between .75 and .99 may be called “very strong.”

Applying these rules of thumb to the correlations run of the student evaluation of instruction, the F2F courses contained moderately strong (r = .739, r = .683, and r = .520) and very strong relationships (r = .789) including two that had significant positive relationships of (r = 815 and r = .883.)

The web courses had weaker relationships with the SEI than did the F2F courses, but still showed moderate (r = .392, r = .441, r = .444) and moderately strong r = .536, r = .643 relationships in each of the domains. The weaker relationships in the web courses versus the F2F may be explained by students’ reasons for participating in web courses. Students go into web courses specifically for the purposes of convenience and flexibility within their schedules. If they are working full-time, it is easier to participate in a web
course because it allows them flexibility within their own schedule. Whatever their reasons for initially taking classes, students praise the freedom, flexibility, and convenience of learning while also juggling professional and personal schedules (Anderson, 2006). However, even though the correlations were weaker between the SEI and ALCP in the web courses, they were positive, and the SEI revealed that most of the students agreed or strongly agreed that “I would take another course in this format”. Students may expect differences in web courses due to their inexperience in them but they still show a positive relationship between perceptions of learner-centered practices of the instructors and their satisfaction with the web courses.

Therefore, there is a general moderate to moderately strong positive correlation between the students’ perceptions of learner-centered practices within the courses and their overall satisfaction with the courses. The higher that the students rated the instructor in learner-centered practices, the higher they rated their satisfaction with the course. That is a positive note for the importance of promoting learner-centered instruction, especially in the training modules for the web courses. Instructors respond to the Student Evaluation of Instruction as a means to receiving merit pay and therefore relate it with successful teaching practices. If the instructors perceive that high learner-centered ratings will increase SEI evaluation ratings, they may be more motivated to make the pedagogical changes needed in their instruction.

**Student Motivation**

Lastly, a Pearson correlation coefficient was conducted to determine the relationship between the students’ perceptions of the instructors’ learner-centered practices and the students’ self-rated motivational measures. There was a direct
correlation between the students’ perceptions of the instructors’ practices in all five domains with four of the seven measures. These four measures were the students’ self-ratings of their intrinsic motivational factors in mastering goals, curiosity in seeking knowledge, developing strategies to address their learning styles, and confidence in their ability to achieve. Again, r values between .25 and .49 are moderate, .50 and .74 are moderately strong. It seems that there was a direct moderate to moderately strong relationship in all of these positive motivational factors. The more students perceived their instructors’ ability to achieve the learner-centered strategies within the domains, the more that the motivational factors increased. When students perceived that the instructors cared that they learned and that they cared about them as individuals, they were more likely to have confidence in their abilities and in making genuine efforts in their own learning. These findings are supported in the 2001 study at Adams State College, in which the five domains were also positively correlated with those four motivational factors (McCombs, 2003).

Student motivation also increases when they are given opportunities to redo assignments in order to master each stated objective (Pierce, 2003). Only Dr. Hill specifically stated that she included “do-overs” as part of her practices.

I give them a do-over they can do an assignment over. Which I feel really helps me connect with my students. They know that I have high standards for them, but they also know that I’m not one of those people that say this is the standard-if you don’t make it well...tough luck.

In giving them the opportunity to try again, Dr. Hill also described her procedures:

I show them, this is what you need to do. So I am rough on them-but I give them the paper that gave them 2 out of 30-but I explain to them-this is what you missed, this is what you missed, etc. if they need help I will show them exactly where they need to go to get it and I give to them-they bring it back and I find-one that the level of work is much better the second time and secondly I think they
really feel that—you know that I care, that I’m helpful that I’m not there just to be a
test for them; a hurdle that they have to make it over. That I am really there to
help them learn.

Therefore, part of the relationship between student motivation and the students’
perceptions of the instructors may have been due to Dr. Hill’s ability to create an
atmosphere in which the students felt confident that they could learn and succeed.

The importance of student choice in motivation is a factor long emphasized by
theorists (Ames, 1992; Cordova & Lepper, 1996; Deci, Vallerand, Pelletier & Ryan,
1991). When students are presented with choices within boundaries, instructors can
promote student perceptions of independence while targeting individual interests and
learning preferences. As stated earlier, several instructors gave the students some
flexibility to collaborate on assignments, the subject area in which they might complete
assignments, or the media that they might use. Although none of them gave students the
option to create alternative assignments, the students may have responded positively and
intrinsically to the choices that they were given.

Again, there is evidence from studies of over 25,000 students and their teachers
from K12 to higher education that students’ perceptions of their instructors’ learner-
centered practices are the most important predictors of student motivation and
achievement. In those studies conducted with previous ALCP surveys, it was found that
the students perceptions of their teachers’ instructional practices is more significantly
related to student motivation than the teachers’ perceptions of their instructional practices
(Weinberger & McCombs, 2001). In terms of the relationship to student motivation and
achievement, the students’ perceptions that teachers encourage positive interpersonal
relationships and honor student voice are the two most important factors (McCombs,
The students in this study rated their instructors higher than prior validations in creating positive interpersonal relationships, so this area seemed to be an important influence in the relationship to an increase in motivation. Since all of the instructors used some form of interaction within the web courses, these activities seemed to have a positive effect on students’ motivation. However, since the area in which they rated the instructors the lowest was provides for individual and social learning needs, this is one area that needs to be specifically addressed in future training.

The t tests had also compared the differences in student motivational factors at the beginning and end of the course. The students revealed significant differences in their “self-efficacy,” in “task mastery goals,” and in “performance oriented goals” for Ms. Stevenson in the F2F course. These three items deal with the students’ confidence in their abilities and intrinsic and extrinsic motivation to master tasks and to achieve. The students also noted differences again for their perceptions in the class with Dr. Wildman. There they noted differences in their effort avoidance strategies and work avoidance goals. These are two of the negative motivational factors on which the students rated themselves. These differences only occurred between the pre and posttest of that Dr. Wildman’s web course. It is important that the students have a positive attitude at the beginning, but in the case of these instructors, the students at least had a more positive attitude toward learner-centered instruction after finishing the course.

Summary

In summary, the instructors in this study fared well in terms of learner-centered practices. Although they rated themselves lower than did their students, the student ratings showed that these instructors achieved reasonable means of learner-centered
practices in their courses. The only domain in which the students rated the instructors lower than the prior validation was in providing for individual and social interaction. All of the instructors indicated that there were strategies that they needed to pursue or change in their web courses. Even Ms. Lin, who implemented the training procedures better than any of the other instructors, described an area in which she felt she was weak,

Well, I’ve found that, I think something that I might want to change in my web class—I felt like it was more concentrated and intense from the beginning to about the middle of the semester and then it kind of, I felt like even myself that it kind of dropped off a little bit.

Reflection and attention to changes in practices are a significant part of the professional development of instructors teaching web courses. Examining why the students rated the individual instructors in each area will be an important aspect of continuing the process of training and improvement in creating learner-centered e-learning. This is one area that will be addressed in the implications and recommendations in Chapter Six. Specific attention will to be devoted to areas such as provides for individual and social needs which was the lowest area of rating for these instructors. Additionally, the students’ motivational factors showed a positive correlation with learner-centered practices. The students also revealed that there was a positive correlation between their perceptions of learner-centered practices and their satisfaction with the course. The significance of each of these areas will be discussed in Chapter Six and most importantly shared with the individual instructors.
CHAPTER SIX
CONCLUSIONS AND RECOMMENDATIONS

This study investigated the perceptions of students and their instructors in regard to the pedagogical aspects of learner-centered practices in both online and traditional courses. The researcher examined the perceptions of the students in relationship to their teachers, the relationship between learner-centered practices and student satisfaction with courses, and students’ perceptions of instructors teaching the same course in both an online and traditional format. Additionally, the research also studied the relationship between learner-centered perceptions and student motivational factors in regard to the instructors’ training to teach online. The following is a summary of the most significant findings derived from the research.

- Two separate groups of students saw no differences in instructors’ abilities to facilitate learner-centered practices in the online courses from their abilities to do so in the F2F courses.

- Student satisfaction with the course, as measured by the university student evaluation of instruction, is strongly related to the learner-centeredness of the instructor.

- Student motivation and self-efficacy is strongly related to the students’ perceptions of the learner centered practices of the instructor.

- Collaboration among students and between students and the instructor, in one or more forms, is necessary to promote student comfort and satisfaction with the course.
• The nature of web-based courses lends itself naturally to the inclusion of learner-centered practices within those courses.

What does this all mean? The items listed above constitute the most important conclusions of the research in this study, and are described in the next few paragraphs.

Results

No Significant Difference

Most notably, the “no significant difference” finding was a major outcome of examining the relationship of learner-centered practices in online versus F2F courses. The fact that the two separate sets of students saw no difference in the instructors’ abilities to facilitate learner-centered practices in the online courses from their abilities the F2F courses was a remarkable and unexpected finding. It is also interesting to note that the quantitative findings substantiate McComb’s prior work, which focused on learner-centered practices in traditional courses only. Additionally, prior research comparing online and F2F courses (Russell, 1999) was related specifically to the ‘no significance difference” phenomenon in relationship to student achievement in the courses – which makes this finding from this study even more important because it means that these professors are able to create equitable learner-centered environments in both F2F and online environments. This indicates that Learner-Centered Principles can be integrated successfully by faculty and validates the use of training to help them do so.

Kozma (2003) supported the idea that the media is not irrelevant but that the choices made regarding instructional methods are as important as the technology selection. One of the components of learner-centered practices is that instruction should include a variety of practices and strategies, as well as consideration of the technological media, to
approach the learner. Since learner-centered practices are being considered in the literature to be one of the best approaches to teaching and learning, and because online learning is quickly pervading higher education, it is crucial that instructors be trained to successfully integrate LCP into the e-learning environment.

**Student Satisfaction**

The second major finding was that the student satisfaction of the course, as measured by the evaluation of instruction, was strongly related to the learner-centered practices of the instructor. In other words, the more that the students perceived the instructors as learner-centered, the more satisfied that they were with the course overall. This confirms the importance of using LCP within a course, and in training instructors in ways to attain those practices. At this university, student evaluation of instruction contributes significantly to an instructor’s evaluation, merit, and even tenure. Additionally, SEI is the only evaluative tool used by the university that gives students opportunities to voice their opinions and their satisfaction with the teaching practices of each instructor. Therefore, if instructors realized the value of incorporating Learner-Centered Principles into their teaching practices, it is likely that they would be more interested in making the necessary instructional changes needed to reach those ratings. Increases in student ratings/course satisfaction might also be a successful motivational tool for persuading instructors to take greater advantage of opportunities for professional growth and for becoming proactive change agents who rethink their instructional practices to include more learner-centered practices.
Student Motivation and Self-Efficacy

There was a positive relationship between the students’ perceptions of the learner-centered practices in the courses and their own levels of motivation and self-efficacy in those courses. In the courses in which the students rated the instructors more highly in LCPs, their own ratings of motivation and self-efficacy were higher. This agrees with the prior results of the validation studies (McCombs & Lauer, 1997) that showed that the students’ perceptions of their instructors’ teaching practices are significantly related to their motivation, learning, and achievement. Additionally, others recommend that structuring learning by gaining students’ attention, using increasingly difficult skills, active problem solving, relevancy, and giving students confidence in their ability to succeed will enhance motivation in students (Keller, 1987). Therefore, if instructors recognize that students will have more confidence in themselves and will be more highly motivated to achieve if they perceive that the class is highly learner-centered, then instructors will be more prone to investigate pedagogical changes that will result in higher learner-centered practices in their courses.

Collaboration and Group Work

The students who were most highly satisfied with the courses and who rated the courses as most learner-centered did so in the courses that included the most collaboration and interaction with the other students. Students in the online courses interacted through the discussion board, but in order for them to have indicated that they felt part of the classroom community and that they knew their fellow classmates, they must have had the opportunity to interact with other students in some collaborative means. Group work is an area that was important in providing for individual and social
learning needs and interaction among the students. Online instructors are reluctant to create collaborative opportunities among students because they are not experienced in successful online group strategies. Collaborative work or interaction between students can occur in content presentations, project designs, or interpretation of concepts. Collaboration may also include working with individuals outside the online environment (Hirumi, 2002). These practices could include visiting a classroom site, interviewing an administrator, evaluating a business site, or possibly having an outside visitor present in the class discussion board to promote knowledge construction and social discourse (Bonk & King, 1998). The human element is essential in the course and cannot be left out (Weinberger & McCombs, 2001); therefore, interaction will include the students in the course, in the learning process, and will make students feel part of a learning community. Different course content and the level of the students may affect the degree of interaction, but students enjoy and appreciate more opportunity for social interaction (Moore & Kearsley, 1996). These findings can create a positive attitude in the instructors toward developing a means of collaboration in the online courses; therefore, giving students more ownership in their online experience.

Creating Independent Learners

The nature of web courses separates the students from the familiar F2F atmosphere. The e-learning environment causes students to take more responsibility for their own learning, because they are without the instant feedback and expression normally exhibited in the F2F classroom environment. Learner-centered practices fit well within this learning environment and the nature of online courses is conducive to the students comfort, satisfaction, and motivation; thus, promoting the inclusion of those
practices as were researched in this study and as promoted in the training. Learner autonomy is defined as the “potential of distant learners to participate in the determination of their learning objectives, the implementation of their programs of study, and the evaluation of their learning” (Moore & Kearsley, 1996). Although collaboration and group activity promote social awareness, learner autonomy must be considered in giving students choices within the learning environment. Students may be allowed to choose their design plans, the media in which they work, or a choice of format in which a project or concept may be presented. The students need some opportunity to see what works best for them in this learning situation. Instructors must remember that “a successful online course must include both independent work and teamwork…a course is a course precisely because of the collaboration between learners involved” (McIntyre & Elbaum, 2000, Section 8, ¶ 1).

Other Outcomes

Promoting Faculty Awareness

It is interesting to note that in this study, students tended to rate their instructors higher in learner-centeredness than the instructors rated themselves. Normally, this is not the case, and may be an indication that instructors did not realize that the principles they were incorporating were being effective. This is also supported by the finding that there was little difference in the scores between the students and the instructors. Again, this implies that instructors need to be more aware of the types of strategies they intend to incorporate, and then recognize whether or not their own efforts are successful or having their intended-desired effects.
Lecture

Instructors who rely heavily on lecture in their traditional courses may need support for creating a variety of activities for the assessment of the students in the online environment. Instructors who included lesson plans, PowerPoint student presentations, map exercises, reflective pieces, posters, and group assignments were highly rated as learner-centered by the students. Again, specific examples need to be suggested, and more than one assessment assignment needs to be required in the training. Although learner-centered practices can vary greatly, lecture-based courses can be learner-centered, and there are many approaches for developing learner-centered instruction. Therefore, a variety of strategies should be included in the training so that lecture-based instructors can feel comfortable increasing student interactions in both their F2F and online courses.

Interaction and Caring

The results from this study also indicate that interaction and caring are important to students in both online and traditional courses, and that instructors can communicate these attributes to students in the online learning environments. Instructors need to create an atmosphere that illustrates that they care about the students and want to help them learn and succeed. Instructors who specifically made attempts to meet the needs of the students, provided a variety of activities, and stressed interaction and caring received higher ratings. Ms. Lin was a primary example in how to integrate learner-centered practices and she demonstrated all of the qualities and the strategies of a highly learner-centered instructor. For example, she stated “I try to be very understanding, and I think every one of my students knows that I care. They know that I want them to succeed.” The
students rated her as caring about them, knowing them as individuals, and caring that they learned in manners that met the needs of different kinds of learners.

It appeared that her attitude and her perceptions of the training led Ms. Lin to a successful course that was rated highly by the students as learner-centered and as a highly satisfactory course. Some of the more important strategies that she used are listed below:

- Caring about the students and indicating to the students that their success in learning is important.
- Creating opportunities for students to work together in collaborative activities.
- Creating a variety of learning assessments and activities to meet different learner needs.
- Structuring an environment allowing the students to make choices in some of their learning situations.

Several other instructors also integrated some of the sound learning principles that Ms. Lin used and stated the specific activities that they included or the ways that they let the students know that they cared. Dr. Hill and Ms. Stevenson each related the relevance and variety of assignments such as PowerPoint presentations, software projects, lesson plans, and research analysis. Instructors need to understand that the basic principles recommended to facilitate learning in the online environment and those that create community are learner-centered applications (Weinberger & McCombs, 2001).

Instructors also need to pay attention to students’ feelings and motivation. Many students feel anxious about taking an online course but find it difficult to express that anxiety to their instructor. Instructors need practice in recognizing these emotions; therefore they...
need to create a structured and supportive environment to keep the students from feeling isolation and anxiety (Moore & Kearsley, 1996). Since instructor Lin was so highly rated, her course and strategies can be used as models to illustrate good learner-centered instruction to those who participate in the online training.

**Training**

The instructors who indicated in their interviews that they integrated the aspects of the training were rated more highly by their students. The training seemed to convey not only the importance of learner-centered practices, but also that the instructor must be willing to work harder to achieve these results. As instructor Hickman stated:

> It is important that some of the instructors who are teaching on the web to *not* see it as a way *not* to teach. It is a lot of work involved, in some ways more than your regular classes where, I walk in and teach for three hours a week. There’s actually less work in that than in an online class…to interact with them and not just tell them to read the text and take a test.

Although this instructor rated herself lower in her web courses, she realized the importance of interaction in her courses and put forth the efforts to increase opportunities for student interactions. Even though her course may have been less learner-centered than Ms. Lin, she offered some positive feedback in her comments and insight in her interviews concerning her facilitation of interaction and reflection of a caring attitude toward students.

Being learner-centered and teaching online is work; the training is work and changing instructional strategies is work. This stresses the importance of instructors’ getting to know their students and calls for them to reexamine their own practices when students fail to grasp course materials or when students fail entirely. Some of these instructors see it as a failure of the students and do not see it as an opportunity for growth.
and change for themselves. The ALCP surveys can be an important tool in allowing teachers the opportunity for reflection and self-assessment and a change to more learner-centered practices. (Weinberger & McCombs, 2001)

The results from this study indicate that instructors who taught online were successful in achieving learner-centered practices in those courses and were perceived by students as being as learner-centered as they were in a regular classroom. Because the means of the student surveys were slightly higher, it implies that training components that reflect learner-centered situations in the online environment work. Additionally, this study showed positive correlations between the students’ perceptions and their satisfaction with the courses. This provides additional documentation that not only did the students perceive the courses as learner-centered, but they liked what they experienced in that situation. Additionally, it revealed that even in the online environment, the higher the students’ learner-centered perceptions, the more that their motivation and goal achievement increase.

Recommendations for Practice

This study validates the premise that learner-centered practices are important in good teaching methods. It agreed with the prior research from the ALCP surveys concerning levels of student perceptions and its correlation with the students’ levels of motivation and self-efficacy (Weinberger & McCombs 2001; Loser, 2005; Vakili, 2003). The study revealed that these findings are true in e-learning courses as well as in traditional courses. Given that several of the instructors rated themselves lower than did their students, it is recommended that the training modules define and stress the aspects of learner-centeredness. The training modules should also emphasize how instructors’
attitudes, caring about the students, and trying a variety of teaching strategies create more learner-centered environments and are beneficial to student learning. Therefore, the researcher is recommending that all training modules:

- Address individual and social learning needs and stress collaboration and group activities and provide examples of each.
- Use online resources like Merlot to illustrate at least one successful collaboration technique that involves the instructors interacting with the other instructors in the training module.
- Develop at least one collaborative activity in their new course while in the training.
- Stress the importance of interaction, of getting to know the students, and of making the students feel valued.
- Provide examples of a variety of assessment activities for instructors who primarily rely on lecture and require these activities the new courses created during training.
- Define and emphasize learner-centered practices in areas of collaboration, interaction, caring about students, and creating a variety of assessments.
- Include evaluation and self-reflection for the instructors.
- Include mentor teachers to pair with new teachers during training.

Considering this, the researcher has developed the Learner-Centered Faculty Development Model. This four-phase model prioritizes tasks, strategies, assignments, and assessments necessary to help faculty integrate learner-centered practices into instruction.
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<th>Tasks</th>
<th>Strategies</th>
<th>Assignments</th>
<th>Assessments</th>
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<tr>
<td><strong>Getting Started</strong></td>
<td>Introductory Meeting. Instructor Readiness</td>
<td>Powerpoint overview. Online Quiz, visit web sites, Introductory discussion board</td>
<td>Create Staff Information, insert picture. Introductory discussion board</td>
<td>Skills, and personal information</td>
</tr>
<tr>
<td><em>Learner-centered practices</em></td>
<td>Review the APA guidelines Discuss rubrics</td>
<td>Complete the instructor short survey</td>
<td>Complete assessment rubric and reflection of ALCP domains and practices</td>
<td>What is missing in your attitudes/course practices?</td>
</tr>
<tr>
<td><em>Preliminary Online Syllabus</em></td>
<td>Tying objectives to assessments <strong>Introduce ELAT checklist</strong></td>
<td>Visit Merlot to find possible assessment activities</td>
<td>Outline student objectives and possible assessments</td>
<td>Use checklist for items needed in syllabus (objectives, outcomes, integrity, addressing online learning)</td>
</tr>
<tr>
<td><strong>Logistics</strong></td>
<td>Using discussion board, dropbox, and gradebook and copyright.</td>
<td>Have instructors answer questions in DB and submit file to the DD.</td>
<td>Have instructors create a forum in their course, enter gradebook items, and complete a quiz.</td>
<td>Use rubric to assess assignment</td>
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<tr>
<th>Phase Two</th>
<th>Tasks</th>
<th>Strategies</th>
<th>Assignments</th>
<th>Assessments</th>
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<tr>
<td><strong>Interactive Activities and assessment</strong></td>
<td>Review activities from part one. Review Powerpoint</td>
<td>Review and share examples from other courses</td>
<td>Add at least three different types of assessments/activities</td>
<td>Use the rubric to determine if activities are interactive</td>
</tr>
<tr>
<td><strong>Caring and meeting Individual Learners Needs (UDL)</strong></td>
<td>Review websites and journal articles.</td>
<td>Have instructors discuss individual strategies in discussion board</td>
<td>Create and describe a specific way that you can create caring and attend to individual learners. Add as an assignment to your course.</td>
<td>Use rubric to assess your caring and meeting learner needs</td>
</tr>
</tbody>
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Table continued
| *Creating Collaboration | Collaborate with another instructor visit Merlot to choose an activity to complete together | Design at least one activity that will include group collaboration. Design one activity that will include small group discussion. | Outline your group activities in your own course. | Do you have enough collaboration? What problems do you foresee? How can you address those in the beginning? |

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<th><strong>Phase-Interactivity</strong></th>
<th><strong>Tasks</strong></th>
<th><strong>Strategies</strong></th>
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<tr>
<td>Course Models</td>
<td>Review and list selective strategies that are used</td>
<td>Visit others in this class and model classes.</td>
<td>Use DB to discuss activities from other courses that you find useful in yours</td>
<td>Use rubric to assess another course</td>
</tr>
<tr>
<td>Facilitating Discussion</td>
<td>Creating a voice in DB Review websites, articles</td>
<td>Practice facilitation methods</td>
<td>Design and facilitate a discussion forum. Outline remaining discussion forums</td>
<td>Assess levels of interactivity in the discussions</td>
</tr>
<tr>
<td><em>Reflection</em></td>
<td>Repeat instructor survey</td>
<td>Provide ELAT checklist and rubric</td>
<td>Reflect on practices in your course. Use ELAT to self-assess to see if any items are missing</td>
<td>What changes do you need to make before teaching the course? Do you need additional PD?</td>
</tr>
</tbody>
</table>

Table continued
### Recommendations for Further Research

This study and prior research support the theoretical framework of using learner-centered practices in the strategies and practices in traditional courses. This study also found that these practices were as successful in online courses and thereby increased students’ satisfaction with the course and their motivation and self-efficacy. The importance of training instructors to understand the impact of these practices and to implement them into both traditional and online practices will be an important part of professional development. Further research is needed to gauge the impact of the training and of further professional development of instructors toward making a change in paradigms in not only their online courses, but in their traditional courses as well. When instructors change their beliefs about teaching and learning to more learner-centered practices, they open themselves to thinking about new and more effective ways to deliver instruction. Therefore, future research is needed to investigate the changes that occur in teaching practices, student motivation, achievement, and retention when professional
training modules are integrated with best practices for e-learning and learner-centered instruction. Additional research should also assess the differences in the students’ and instructors’ perceptions in the classroom in institutions offering learner-centered online training and the effects on motivation, achievement, and retention. All instructors can be learner-centered if they are given the training, the opportunities, and the reflective practices stressed in this research, and further research can further validate the importance of this approach to instruction.

Summary

This study targeted instructors who were teaching a course in both an online and a traditional format during the same semester. Overall, there are few studies dedicated to measuring the success of online programs using learner-centered practices (Phipps & Merisotis, 1999, p. 11) and even fewer that studied students’ perceptions of their instructors’ practices in relationship to their motivation, satisfaction, and self-efficacy in both the online and the traditional environment. The ALCP surveys were designed to address these issues, but have primarily been conducted in traditional F2F, not in online higher education courses.

The results from this study indicated that instructors who teach online were successful in achieving learner-centered practices in those courses and were perceived by students as being as learner-centered as they were in a regular classroom. Any instructor can achieve learner-centeredness, regardless of age or experience in both F2F and online courses in any subject area. Because the means of these students’ surveys were slightly higher than the prior validations, it implies that the pursuit of training in practices that reflect learner-centered situations in the online environment works. Additionally, this
study showed positive correlations between the students’ perceptions and their satisfaction with the courses. That provides additional documentation that not only did the students perceive the courses as learner-centered, but they liked what they experienced in that situation. Additionally, it revealed that even in the online environment, the higher the students’ learner-centered perceptions, the more that their motivation and goal achievement increase.

Learner-centered practices have provided a theoretical framework for the successful design and integration of web based learning in higher education. This framework has provided both the means and the strategies for learning throughout the K-20 environment. It is imperative that this framework be used in designing training and professional development opportunities for higher education instruction.

Technology has and will continue to have an influence on instruction and the delivery of instruction in higher education. E-learning or online learning and its multi-way technology both needs and can assist the evolution of learner-centered or social constructivist models of higher education in a variety of modes. The positive relationship that learner centered principles have with web based instruction provides an extensive opportunity for enriching both traditional and web based learning at colleges and universities throughout the nation.
REFERENCES


Hughes, M., & Daykin, N. (2002). Towards constructivism: Investigating students’ perceptions and learning as a result of using an online environment. *Innovations


New York: Longman


1. Nature of the learning process. The learning of complex subject matter is most effective when it is an intentional process of constructing meaning from information and experience.

*Schools emphasize the use of intentional processes that enable learners to be active, goal-oriented, self-regulating and responsible for contributing to their own learning.*

2. Goals of the learning process. With support and instructional guidance, the successful learner can create meaningful, coherent representations of knowledge over time.

*Educators should help learner in creating goals that are in touch with the learner’s personal and educational targets and interests to enable them to construct thinking and learning strategies necessary for life-long learning.*

3. Construction of knowledge. The learner can connect new knowledge with existing knowledge in significant ways.

*Learners can create links to their existing knowledge by modifying, adding to, or reorganizing existing knowledge assisted by educators through a number of different strategies including concept mapping and thematic organization and categorizing.*

4. Strategic thinking. The successful learner can create and use a range of thinking and logical approaches to achieve complex learning goals.

*Learners use reflective practices to expand their variety of learning strategies in their approach to learning, reasoning, problem-solving, and concept learning, and by*
receiving feedback and guidance from educators.

5. Thinking about thinking. Creative and critical thinking skills are facilitated by higher order strategies that select and monitor mental operations.

_Instructional methods should help learners develop higher order strategies to reflect on how they think and learn, set reasonable learning goals, select appropriate learning strategies, and generate alternative methods to reach goals._


_Learning does not occur in a vacuum, and the influence of factors such as the cultural or group influences, interaction with teachers, technologies, and the classroom environment need to be appropriate to learners’ level of prior knowledge and thinking strategies and can impact many educationally relevant variables, including motivation, orientation toward learning, and ways of thinking._

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### Motivational and Affective Factors

7. Motivational and emotional influences on learning. Motivation to learn is controlled by the learner’s beliefs, emotional states, interests and goals, and habits of thinking, which in turn influence what and how much is learned.

_Students’ self-efficacy, goals, and beliefs directly affect motivation. Positive emotions and mild anxiety can enhance motivation and facilitate learning. Negative emotions can detract from motivation, contribute to low performance, and interfere with learning._

8. Intrinsic motivation to learn. The learner’s creativity, higher order thinking, and curiosity contribute to motivation to learn.

_Intrinsic motivation is facilitated by real-world tasks that learners perceive as relevant,
9. Effects of motivation on effort. Attainment of complex knowledge and skills requires guided practice and learner effort.

*Educators should facilitate motivation through effective learning activities, guided by practices that learners perceive as relevant and that enhance intrinsic motivation.*

### Developmental and Social Factors

10. Developmental influences on learning. Learning is most successful when different opportunities within and across physical, intellectual, emotional, and social domains are taken into account.

*Individuals learn best when material is appropriate to their developmental level. An understanding of the influences of home, culture, prior education, and community in creating developmental differences among children can facilitate the creation of favorable learning contexts.*

11. Social influences on learning. Learning is affected by social interactions, interpersonal relations, and communication with others.

*Learning is enhanced when the learner has the opportunity to collaborate and interact with others. Positive and stable learning climates should respect diversity, flexible and reflective thinking, and social interactions that increase levels of cognitive, social, and moral development.*

### Individual Differences

12. Individual differences in learning. Learners have different strategies, techniques, and capabilities for learning that are based on prior learning experiences and background.

*Educators need to be sensitive to individual differences, capabilities, and talents and help
learners examine, expand, and modify their learning preferences through varying instructional methods and materials.

13. Learning and diversity. Learning is most effective when learners’ linguistic, cultural, and social experiences are considered.

*Levels of motivation and achievement are enhanced when learners sense that their individual differences in ability, background, cultures, and experiences are valued and accommodated in learning contexts and activities.*

14. Standards and assessment. The learning process should set appropriately high and challenging standards in assessing the learner as well as the learning progress.

*Assessment should include appraisal of the learner’s cognitive strengths and weaknesses, current knowledge and skills, understanding of the curricular material, and standardized assessment of learner progress and outcomes. Performance assessments and self-assessments can provide other measures of outcome attainment and help facilitate motivation and self-directed learning.*
PART I Directions: Please read each of the following statements. Then decide how often your instructor in this undergraduate or graduate class does what is described in each statement - almost never, sometimes, often, or almost always. Read each statement and then, using a pencil, blacken the appropriate bubble on the answer sheet to indicate how you feel in this class. Answer carefully, but don’t think too hard about any one question. PLEASE ANSWER EVERY QUESTION. Mark one answer only. Your responses will be strictly confidential. They will NOT be shown to your teacher. Thank you for your help in this research project. Use the following responses only: Responses: A=Almost Never, B=Sometimes, C=Often, D=Almost Always DO NOT MARK E. (Please ignore the Y and N above the bubbles).

This instructor ...

1. treats me with respect.
2. teaches in different ways when I am having difficulty understanding.
3. encourages me to monitor and regulate my own thinking and learning processes.
4. helps me feel like I belong in the class.
5. expects me to listen to, think about, and respect my classmates’ opinions even when I don’t agree with them.

PART II Directions: A number of statements which students have used to describe themselves are given below. Read each statement and using a pencil, blacken the appropriate bubble on the answer sheet to indicate how you feel in this class. Answer carefully, but don’t think too hard about any one question. PLEASE ANSWER EVERY QUESTION. Responses: A=Almost Never, B=Sometimes, C=Often, D=Almost Always, DO NOT MARK E.

43. I am certain I can do even the hardest work in this class if I try.
44. I try to figure out how new work fits with what I have learned before in this class.
45. When doing work in this class, I guess a lot so I can finish quickly.
46. I do assignments in this class because I learn new things.
A Learner-Centered Self-Assessment for Teachers: In the discussion so far, we have talked about how our personal beliefs about learners, learning, and teaching might agree or disagree with the knowledge base as represented in the Learner-Centered Psychological Principles. The following self-assessment gives you an opportunity to look at your beliefs and compare them with what would be considered “learner-centered” beliefs in the Scoring Guide.

**Directions:** Please read each of the statements below. Decide to what extent you agree or disagree with each statement. Circle the letter that best matches your choice for each statement. Go with your first judgment and do not spend too much time on any one statement. PLEASE ANSWER EVERY QUESTION.

Responses: A=Strongly Disagree, B=Somewhat Disagree, C=Somewhat Agree, D=Strongly Agree

1. In order to maximize learning I need to help students feel comfortable in discussing their feelings and beliefs. A B C D
2. It's impossible to work with students who refuse to learn. A B C D
3. No matter how badly a teacher feels, he or she has a responsibility to not let students know about those feelings. A B C D
4. Taking the time to create caring relationships with my students is the most important element for student achievement. A B C D
5. I can't help feeling upset and inadequate when dealing with difficult students. A B C D
6. If I don't prompt and provide direction for student questions, they won't get the right answer. A B C D
7. I can help students who are uninterested in learning get in touch with their natural motivation to learn.  

Responses: A=Strongly Disagree, B=Somewhat Disagree, C=Somewhat Agree, D=Strongly Agree

8. No matter what I do or how hard I try, there are some students that are unreachable.

9. Knowledge of the subject area is the most important part of being an effective teacher.

10. Students will be more motivated to learn if teachers get to know them at a personal level.

11. Innate ability is fairly fixed and some children just can't learn as well as others.

12. One of the most important things I can teach students is how to follow rules and to do what is expected of them in the classroom.

13. Being willing to share who I am as a person with my students facilitates learning more than being an authority figure.

14. Even with feedback, some students just can’t figure out their mistakes.

15. I am responsible for what students learn and how they learn.
# APPENDIX D

**CHECKLIST FOR COMPLETION OF YOUR ONLINE COURSE**

**Course Name:**
**Course Instructor:**

<table>
<thead>
<tr>
<th>All documents are “clean.”</th>
</tr>
</thead>
<tbody>
<tr>
<td>They are spell- and grammar-checked, throughout.</td>
</tr>
<tr>
<td>They make sense because the teacher “speaks” in clear and direct voice.</td>
</tr>
<tr>
<td>Documents are saved as web pages or as pdfs, rarely as Word or PowerPoint.</td>
</tr>
<tr>
<td>They open on both Macs and PCs.</td>
</tr>
<tr>
<td>They load easily, quickly over a modem.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Navigation on the Blackboard site is easy, logical.</th>
</tr>
</thead>
<tbody>
<tr>
<td>It’s clear where things are and why they are there; student doesn’t get lost looking for pieces of the assignment and the resources that go with it.</td>
</tr>
<tr>
<td>Only the needed buttons (or text links in Bb 6) are used; features that are not used in the course are “turned off” in the Course Settings area of the Control Panel.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Staff Information is complete and it’s clear how students can reach you.</th>
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<tbody>
<tr>
<td>• Though students may e-mail or call instructors, it might be in the instructor’s best interest to hold online office hours through Blackboard or TappedIn.org to allow students time to interact and ask questions to their instructor.</td>
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<table>
<thead>
<tr>
<th>The syllabus and course calendar/outline are posted and are complete.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topics, dates, and deadlines are present.</td>
</tr>
<tr>
<td>The syllabus addresses the fact that this is an online course and offers advice and commentary on the nature of online learning.</td>
</tr>
<tr>
<td>Though it does not have to be fully visible to students, there must be a weekly schedule that shows that the students and instructor are accomplishing something every week to fulfill the course’s obligations.</td>
</tr>
<tr>
<td>Syllabus must contain Student Learner’s Outcomes and Assessments for those outcomes.</td>
</tr>
<tr>
<td>Syllabus makes reference to course confidentiality and academic integrity</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>All course assignments are present and well designed.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete course is created, whether available to students or made not available in the Control Panel.</td>
</tr>
<tr>
<td>There are enough assignments, distributed across the semester.</td>
</tr>
<tr>
<td>All assignments have these parts:</td>
</tr>
<tr>
<td>✔ content (material to be learned),</td>
</tr>
<tr>
<td>✔ ways for student to demonstrate understanding of the content,</td>
</tr>
<tr>
<td>✔ an interactive component that provides a way for students to communicate with each other (discussion board, chat, online assignments/quizzes, etc.),</td>
</tr>
<tr>
<td>✔️</td>
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<tr>
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<td></td>
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### Interactivity is built into the course.

<table>
<thead>
<tr>
<th>Students interact with course’s content.</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Online supplemental readings and exercises</td>
</tr>
<tr>
<td>• Research</td>
</tr>
<tr>
<td>• Quizzes (through Blackboard and the Internet)</td>
</tr>
<tr>
<td>• Presentations</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Students interact with teacher (and vice versa).</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Teachers: Weekly e-mails or announcements to students discussing previous week’s activities and work for upcoming week.</td>
</tr>
<tr>
<td>• Teachers: Weekly reading of discussion board to answer any questions and to grade online participation.</td>
</tr>
<tr>
<td>• Students: Submission of weekly assignments and e-mails to instructor if assistance is necessary.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Students interact with each other.</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Weekly discussion board assignments (which teacher has prepared beforehand on Blackboard).</td>
</tr>
<tr>
<td>• Group activities</td>
</tr>
<tr>
<td>• Creation of student page on Blackboard so that students will get to see and to read about their fellow classmates.</td>
</tr>
</tbody>
</table>

### Assessment decisions are made and are evident in the syllabus and elsewhere. Students know exactly how they’ll be graded.

<table>
<thead>
<tr>
<th>Students must have Learner’s Outcomes and Assessment to Learner’s Outcomes to see what the class entails and to see what will be expected of them in the course.</th>
</tr>
</thead>
</table>

### Course Recommendations:

- Your online course has been approved to go ‘live.’
  - Date: ________________

- It is recommended that you take the online education training course. Please contact Blackboard Administrator, Helen Ware.

- Your online course has **not** been approved to go ‘live.’
  
  *Note: Please take the time to read the Recommendations to Instructor below. It is imperative that you read the recommendations and adhere to them by the following date: ________________.* We will reevaluate your course at this time. Failure to inform us of changes to your course may result in the class being dropped from this semester’s course list.
We have done two validations of our college level surveys over the past 4 years. A total of 157 college instructors and 2,558 college students representing 12 institutions and 10 states participated in the field testing and initial validation of the postsecondary ALCP. For the Instructor Beliefs and Assumptions scales, the reliability coefficients ranged from .75 to .87. The scales for Instructor Perceptions of Classroom Practices had reliability coefficients which ranged from .69 to .82, while the scales for Student Perceptions of Classroom Practices ranged from .82 to .91. The reliability coefficient for the scale which measured instructor reflective self-awareness was .82, and the scales for student motivation ranged from .76 to .87. The measure of instructor self-efficacy had an internal consistency of .57, and subsequently, the wording of these items was changed to apply better to a college setting. Principal Components Factor Analyses were performed on the Instructor Beliefs and the Student Perceptions of Classroom Practices. For the measure of Instructor Beliefs and Assumptions, three factors had a total of 28 items: (1) Learner-centered beliefs about learners, learning, and teaching; (2) Nonlearner-centered beliefs about learning and teaching; and (3) Nonlearner-centered beliefs about learners. For the measure of Student Perceptions of Classroom Practices, there were five factors with a total of 30 items: (1) Establishes positive interpersonal relationships; (2) Adapts to class learning needs; (3) Facilitates the learning process; (4) Provides for individual and social learning needs; and (5) Encourages personal challenge and responsibility.

We have data now on an additional sample of 70 instructors and 1,707 students in two universities. The factors have cross-validated and the reliabilities on the teacher ALCP scales are: (1) learner-centered beliefs, alpha = .86; (2) non learner-centered beliefs about teaching, alpha = .71; (3) non learner-centered beliefs about students, alpha = .76; (4) teacher perceptions of establishes positive relationships, alpha = .79; (5) teacher perceptions of adapts to class learning needs, alpha = .85; (6) teacher perceptions of facilitates the learning process, alpha = .88; (7) teacher perceptions of provides for individual and social learning needs, alpha = .83; (8) teacher perceptions of encourages personal challenge and responsibility, alpha = .70; (9) teacher self-efficacy, alpha = .75; and (10) teacher reflective awareness, alpha = .84. The reliabilities for student ALCP scales are: (1) student perceptions of establishes positive interpersonal relationships, alpha = .89; (2) student perceptions of adapts to classroom learning needs, alpha = .88; (3) student perceptions of facilitates the learning process, alpha = .88; (4) student perceptions of provides for individual and social learning needs, alpha = .80; (5) student perceptions of encourages personal challenge and responsibility, alpha = .71; (6) student self-efficacy, alpha = .81; (7) student active learning strategies, alpha = .80; (8) student effort avoidance strategies, alpha = .69; (9) student epistemic curiosity, alpha = .78; (10) student task mastery goals, alpha = .86; (11) student performance-oriented goals, alpha = .80; and (12) student work avoidance goals, alpha = .76.
October 2, 2006

Helen Ware  
E-Learning Coordinator  
McNeese State University  
4205 Ryan St. Burton Bus Bldg, Room 149  
Lake Charles, LA 70605

Dear Helen,

This letter is to provide you with official permission to use my copyrighted College Level Assessment of Learner-Centered Practices (ALCP) student and instructor surveys in your dissertation study. This permission includes putting the surveys online for the duration of your dissertation data collection.

My permission comes with the understanding that you will share all your data with me for our ongoing validation of the college level ALCP surveys. It also comes with the understanding that the surveys are not to be shared with other users following the data collection period without my official consent or knowledge.

Thanks for being my research partner. Best wishes,

Barbara L. McCombs, Ph.D.  
Senior Research Scientist and Director  
Human Motivation, Learning, and Development Center
Helen Bourgeois Ware grew up as part of a big family of eight children in a small town. She graduated from high school in 1984 and spent the next 13 years as a teacher primarily in the middle school environment. She graduated in 1998 with a M.Ed. and taught for an additional year. She works in a small university in Louisiana, and has spent the last seven years building a new department. Shortly after her current job began, she began working with LSU to offer part of a doctorate degree through e-learning. She was able to complete the first year of courses through e-learning and spent the next four on the road to complete the degree. She is the mother of two children and plans to expand her current department, to continue training instructors, and to teach some online courses. The degree of Doctor of Philosophy was awarded to Helen at the December, 2006 Diploma Ceremony.