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TECHNICAL WRITING REDESIGN AND ASSESSMENT: A PILOT STUDY

by

Gaye Bush Winter

Abstract of a Dissertation
Submitted to the Graduate School
of The University of Southern Mississippi
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy

May 2010

ABSTRACT

TECHNICAL WRITING REDESIGN AND ASSESSMENT: A PILOT STUDY

by Gaye Bush Winter

May 2010

The purpose of this study was to compare scores on writing assignments from traditional, fully online courses in technical writing to pilot, hybrid courses at a southern university. A total of 232 students' assignments were compared in this study. All writing assignments were scored by six trained instructors of English using the same five point rubric.

The pilot, hybrid classes had a total of 97 writing assignments. The students were divided into three disciplines including business, humanities, and sciences. In the pilot, hybrid classes, there were 18 students (or 19%) enrolled in a business major. Five students were enrolled in humanities, 5% of the 97 total and 74 students (or 76% were enrolled in the sciences.

The traditional, fully online classes had a total of 135 scored writing assignments. Thirty-nine students (or 29%) of the total enrolled were business majors. Nineteen students were humanities majors, 14% of the 135 student total. And 77 students were enrolled in science majors, 57% of the 135 student total for the traditional, fully online technical writing classes.

Descriptive statistics were used to identify each set of responses. A MANOVA was used to compare writing assignment scores in the traditional, fully online classes to the pilot, hybrid classes. The results were significant in the concerns and organization categories. The study showed that the traditional, fully online classes already in place at

ii

the university had a higher percentage of students scoring in the very good and excellent rubric scores than the pilot, redesigned hybrid classes. The category of concerns of which the traditional class scored higher was determined by the question: In terms of attending to the needs and concerns of its readers, how successful is this document overall? The category of organization of which the traditional class scored higher was determined by the question: In terms of overall organization and following the conventions of the memo/email genre, how successful is this document? No significant findings were identified for expression or overall quality.

DEDICATION

This dissertation is dedicated to my husband, Karl, for his never-ending support. It is also dedicated to my daughters, Kathryn and Kristina, in hopes that they will fulfill their dreams whatever they may be. I also want to thank my mother who instilled a love of learning into my life. I love you all!

ACKNOWLEDGMENTS

TABLE OF CONTENTS

            Introduction
            Theoretical Foundation
            Problem Statement
            Research Questions
            Research Hypothesis
            Definition of Terms
            Assumptions
            Delimitations
            Limitations
            Justification

            Overview
            History of Curriculum
            Curriculum and Teaching
            Curriculum and Assessment
            Curriculum and Student Learning
            Curriculum and Technology
            Problems with Curriculum Redesign

            Overview
            Treatment
            Data Analysis

LIST OF TABLES

Table

CHAPTER I

PROBLEM

Introduction

As we move into the 21st Century, there are many problems in higher education (Diamond, 1998). With the integration of technology, some of the problems in higher education can be helped or solved. For example, the use of technology in college and university classrooms can help education reach more minorities and/or non-traditional students by creating long distance learning communities and making education more accessible. On the other hand, some problems have been created by technology because it changes so rapidly and places of higher learning cannot keep up because of costs, space, and varying knowledge of technology among faculty, administrators and students (Diamond, 1998). Some courses have fossilized in the 20th century mode because the curricula have not kept up with technology and its use in the classroom. In order to progress and reach the students of today, we must bring our curricula into the 21st century using technology with updated teaching and learning methods to better serve the students (Diamond, 1998).

The English Department at a southern university received a monetary award for the amount of $50,000.00 to fully redesign the technical writing curriculum. The goal of the redesign was to produce quality improvements in curriculum, to produce cost savings, and ultimately, to produce a total transformation of the current technical writing curriculum. This initiative includes working with the National Center for Academic Transformation (NCAT, n.d., para. 1).

NCAT is an independent non-profit organization dedicated to the effective use of information technology to improve student learning outcomes and

reduce the cost of higher education. NCAT provides expertise and support to institutions and organizations seeking proven methods for providing more students with the education they need to prosper in today's economy. (NCAT, 2008, para. 1)

According to NCAT (2008), in order to understand a redesign of a curriculum, students, faculty, and outcomes associated with the redesign must be considered in order to make the redesign process and outcomes successful. Professors have long discussed and been assessed individually by their research, teaching and service; however, Ernest Boyer (1990) defines four (instead of three) types of scholarship in his book, *Scholarship Reconsidered:*

Scholarship of Discovery—this is most like what is meant when professors speak of research. This whole process gives meaning to human knowledge and creates the intellectual climate of the university. (p. 17)

Scholarship of Integration—this can be defined as making connections across disciplines to form creative ideas incorporating other departments along with understanding data and using it effectively. (p. 18)

Scholarship of Application—this can be seen as engagement. The scholar might ask how knowledge can help an individual or a community. This concept turns into service. It is important to remember that the service must pertain to scholarship. (p. 21)

Scholarship of Teaching—knowledge must be dispersed to others to achieve, as Aristotle says, the highest form of understanding. Pedagogy must be planned and continuously assessed and evaluated. (p. 23)

Boyer (1990) adds integration as a fourth scholarship that should join the scholarship of teaching, research and service. His definition of the scholarship of integration discusses incorporating data and using data assessment effectively across disciplines (Boyer, 1990). John Dewey wrote his landmark book, *Democracy in Education,* in 1916. Dewey's book dealt with the issue of freedom, but he emphasized that "freedom is not just the ability to move or act as one pleases, but it also means intellectual initiative, independence in observation, judicious intervention, foresight of consequences, and ingenuity of adaptation to them" (Dewey, 1916, p. 352). Dewey defines education as a process of growth, and it is through this concept that he links education with democracy. In order for higher education curriculum to progress and share vision, it must take into account our democratic society giving a voice to all involved in a curriculum redesign since a redesign will affect faculty, students and ultimately administrators due to costs associated with a redesign. For a democracy to flourish, it requires individuals who maximize their potential in activity with others. Learning in isolation perpetuates the duality of mind and action, and of the individual and society (Dewey, 1916). In fact, involvement in college life contributes to persistence in college and noninvolvement contributes to students' departures (Astin, 1975). Astin defines student involvement as "the amount of physical and psychological energy that the student devotes to the academic experience" (1984, p, 298). The point Astin is trying to make is that learning benefits our society if it is done with others. Tinto (1993) in his interactionalist model of student departure supported the role of student involvement in positive educational roles; this involvement takes place with peers, faculty, and is directly related to the quality of student effort in learning and persistence. Some curricula are very

structured and do not allow students the freedom to move at their own pace. Thus, if students learn better working with others, social learning must be included as an objective into the redesign. "Learning would be exceedingly laborious, not to mention hazardous, if people had to rely solely on the effects of their own actions to inform them what to do. Fortunately, most human behavior is learned observationally through modeling: from observing others one forms an idea of how new behaviors are performed, and on later occasions this coded information serves as a guide for action" (Bandura, 1977, p. 22).

Diamond (1998) points out in the first chapter of his book that, as faculty, few activities will have greater impact on students than active involvement in the design of a curriculum. He states that learning will occur, and students' attitudes and abilities can be enhanced in a positive way for future jobs. Several scholars agree that courses are currently being designed that have no forethought or relationship to the curriculum already in place and do not enhance critical skills students need to succeed (Briggs, 2007; Diamond, 1998; Kelly, 2004). Therefore, attention must be paid to the future workplace because it will require much more complex abilities from students and in order to redesign curricula in higher education, how students are taught and how students learn must be taken into consideration (Barr & Tagg, 1995; Mentowski et al., 2000). "As educators, each of us must broadly envision the future; the very act of teaching commits us to it" (Mentowski, et al., 2000, p. 145). Also, when designing or redesigning curricula, the curricula must be clearly related to outcomes mandated by the Southern Accreditation of Colleges and Schools (SACS) and the Quality Enhancement Plan (QEP) in place at each university under the SACS umbrella.

The curriculum of technical writing English sections at a southern university must be redesigned because the material in some fully online courses are outdated when using new technology, and students share the "cookie cutter" material because the courses have not changed in quite a while. Instructors are all adjunct which also creates course drift when they set up their own syllabus or choose their own texts, for example. When redesigning a curriculum at a university, the mission of that particular university must be considered (Mentkowski et al., 2000). How institutional transformation works and becomes visible differs for any institution based on its faculty, students, staff, trustees, and graduates. All faculty should be aware of its university's specific mission and goals and how those two issues relate to curriculum when beginning a redesign (Mentkowski et al., 2000).

<div align="center">Theoretical Foundation</div>

Etienne Wenger's theory of Communities of Practice provides the conceptual framework for the complete idea of redesigning curriculum in higher education. Wenger's theory provides a modern view of teamwork with realistic results that can be evaluated and changed as needed for the best possible outcomes (Wenger, 2008).

Wenger expanded the definition of communities of practice, "Communities of practice are groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis" (Wenger, McDermott, & Snyder, 2002, p. 4). Wenger's personal website also states that, "Communities of practice are formed by people who engage in a process of collective learning in a shared domain of human endeavor" (2008, para. 1). For example, a team of scholars working together to bring about change in curriculum or any

other part of higher education would be considered a community of practice. This theory

works well with a curriculum redesign because there are so many stakeholders in a

redesign for example, faculty, students, administrators, and possibly staff become

involved in curricula redesign. Since Technical Writing at a southern university needs to

be redesigned, Wenger's theory (2008) is a modern way of doing group work.

A community of practice manages knowledge effectively keeping people

interested and involved; communities of practice cultivate knowledge as an asset

(Wenger, McDermott, & Snyder, 2002). Managing knowledge, like managing other

systems in a company, means working together to solve problems and create gains for

everyone involved. Wenger explains that there are three essential parts to his theory:

1. *The domain:* A community of practice is not merely a club of friends
   or a network of connections between people. It has an identity defined
   by a shared domain of interest. Membership therefore implies a
   commitment to the domain, and therefore a shared competence that
   distinguishes members from other people.

2. *The community*: In pursuing their interest in their domain, members
   engage in joint activities and discussions and help each other and share
   information. They build relationships that enable them to learn from
   each other. A website in itself is not a community of practice unless
   members interact and learn together. The Impressionists, for instance,
   used to meet in cafes and studios to discuss the style of painting they
   were inventing together. These interactions were essential to making
   them a community of practice even though they often painted alone.

3. *The practice:* Members of a community of practice are practitioners. They develop a shared repertoire of resources: experiences, stories, tools, ways of addressing recurring problems—in short a shared practice. This takes time and sustained interaction. The development of a shared practice may be more or less self-conscious. (Wenger, 2008, para. 4)

The combination and development of the above elements is crucial in forming a community of practice. Wenger (1998) expands the word "design" to mean "a systematic, planned, and reflexive colonization of time and space in the service of an undertaking…which includes the design of social processes such as organizations or instruction (p. 228). The way a curriculum is designed has much to do with organization and instruction. Organizational design and instructional design have become disciplines in their own right" (p. 228). Wenger's theory is a modern look at how learning can be accomplished with a design. He states, "One can design a curriculum but not learning" (Wenger, 1998, p.229).

In juxtaposition, Stark and Lattuca (1997) point out that the study of curriculum has often stressed course renewal in regard to individual faculty members. Understanding this problem, Stark and Lattuca (1997) reported the need to emphasize interactions among students, faculty, materials, and processes. The definitions of curriculum at many universities include terms like courses, instruction, syllabus, and planning. Although these concepts may be important to a whole curriculum, A.V. Kelly (2004) defines a democratic curriculum as one which allows for "continuing development of knowledge and understanding as well as the opportunity for students to be empowered intellectually"

and the ideal curriculum provides "teachers with the scope to achieve these goals through the exercise of their own judgment as professionals" (p. 219). Faculty should take the responsibility for an active role in redesigning curricula for continuous improvement for all concerned in higher education (Briggs, 2007). Higher education has to continuously seek ways to lower costs, increase access, and enhance student learning (Twigg, 2005).

Problem Statement

The following problem statement formed the basis of this study: Would students in Technical Writing Classes improve their writing skills after a discipline specific redesign of the curriculum?

Research Questions

The following research questions guided this study:

1. Would the redesign of technical writing improve the writing skills of students in the sciences?

2. Would the redesign of technical writing improve the writing skills of students in the humanities?

3. Would the redesign of technical writing, improve the writing skills of students in the business disciplines?

Research Hypothesis

There will be a statistically significant difference at the .05 level in students' scores in the fully online technical writing classroom when compared, by disciplines, to students' scores in the hybrid technical writing pilot classroom.

Definition of Terms

For the purpose of this study, the following terminology was used in this paper.

Concerns—In this study, "concerns" refers to the writing assignments being scored and the particular audience the students are writing to while answering this question: In terms of attending to the needs and concerns of its readers, how successful is this document overall?

Curriculum—an academic plan that fosters students' academic development. (Stark & Lattuca, 1997)

Loud Learning--Social learning + deep learning = Loud learning

NCAT—National Center for Academic Transformation

Organization-- In this study, "organization" refers to the writing assignments being scored and the particular organization a student is using when answering this question: In terms of overall organization and following the conventions of the memo/email genre, how successful is this document?

*Pilot, hybrid redesigned course*s—the redesigned technical writing course (3 sections) that encompasses hybrid learning, podcasting, an online resource center, and state-of-the-art lab and work stations for students.

QEP—Quality Enhancement Program--a carefully designed and focused course of action that addresses a well-defined topic or issue related to enhancing student learning through an institutional initiative. (SACS, 2009, para. 2)

Replacement Model—One of six NCAT models that a department can use to redesign a curriculum in order to qualify for a grant.

SACS—Southern Association of Colleges and Schools.

Technical Writing—Stresses writing in student's major field.

*Traditional, fully online course—*courses already in place in the English Department before the redesign. This Technical Writing course consisted of 8 sections taught by adjuncts that chose their own texts, created their own syllabi, and created personal resource centers without ever meeting in work stations or meeting face-to-face with the students.

Assumptions

Certain basic assumptions were made in order to assess accurately the results of the present study:

1. The researcher expected students to do their own work when writing according to assignment guidelines.

2. The researcher assumed that college instructors would administer the writing assignment in an efficient, ethical, and impartial manner.

Delimitations

The following delimitations were imposed:

1. This study was limited to only students in technical writing classes in the English Department.

2. The analyzed data was limited to the traditional classroom and pilot classroom for spring 2009 according to grant guidelines.

Limitations

Differences existed in the teaching styles of the technical writing instructors.

Justification

The following details from the submitted grant accurately justify the study.

Because students learn differently, they need different methods of learning available to them to help them learn. Technical Writing, a general writing intensive education course that is required by many departments, is part of an NCAT redesign. Professional writing seeks to provide students with the advanced writing strategies, problem-solving, and critical thinking skills essential to becoming more effective communicators in their respective fields of study. Each term approximately 300 students from across the disciplines enroll. The course has been offered in multiple online sections (with a few lecture sections), of approximately 20-25 students per class, 8-12 sections per term, with most sections taught by adjunct faculty.

The course suffered from a variety of problems, the most serious of which included the following: the course lacked clearly articulated learning outcomes, and no mechanism for assessing student learning or teacher effectiveness; course drift and inconsistent learning occurred because instructors designed the course to suit their individual interests, with little or no departmental supervision; course content and assignments were ineffective and often irrelevant, failing to address the actual demands students face in many disciplines and professions; and, finally, students with highly variable learning styles were inefficiently served by a single fixed-menu course delivery strategy. This redesign used the Replacement Model to implement the new curriculum. The Replacement Model encompasses one or more of the following criteria:

- Reduces the number of in-class meetings but does not eliminate all in-class meetings.

- Replaces (rather than supplements) some in-class time with online, interactive learning activities.

- Gives careful consideration to why (and how often) classes need to meet face-to face.

- Assumes that certain activities can be better accomplished online-individually or in small groups.

- May keep remaining in-class activities more or less the same.

- May make significant changes in remaining in-class meetings.

- May schedule out-of-class activities in 24*7 computer labs or totally online so that students can participate anytime, anywhere. (NCAT, n.d., para. 1)

The Replacement Model was used to supplant the current Technical Writing course with a hybrid Professional Writing course that more effectively addresses writing in a range of disciplines, and also addressed all of the problems noted above. The course now consists of an online lecture component staffed by one full-time faculty member specializing in professional writing and digital literacy; coupled with face-to-face computer-lab sections (staffed by three graduate teaching assistants). These sections will eventually be grouped in three broad discipline-based areas (business, science, and the humanities), in which students will complete projects geared to writing in their respective fields.

This redesign should result in a course that is more relevant and pedagogically sound, helping students learn to write more effectively using a range of technologies, and providing them with highly marketable, discipline-specific, "real world" skills. The effectiveness of the redesigned course was assessed through the use of similar writing assignments strictly graded according to specific rubrics which were calculated into a

composite score for each student. The use of these writing assignments were used to assess student learning gains/outcomes within the course in the fully online traditional sections and the hybrid redesigned sections and will compare the results of the fully online traditional sections to the hybrid redesigned sections (during its initial pilot semester and once it is fully implemented). Cost savings were produced by teaching the same number of students with fewer instructors, significantly reducing faculty time in the classroom, eliminating adjuncts, employing GTAs for supervising lab sections and providing individual assistance to students, and shifting course management to Blackboard. This study showed how a discipline specific redesign of a technical writing curriculum at a southern university will improve students' writing.

CHAPTER II

REVIEW OF RELATED LITERATURE

Overview

This study compared writing assignment scores of traditional, fully online technical writing classes to writing assignment scores of the redesigned pilot, hybrid classes. The students in each group will be sub-grouped according to their disciplines.

The idea of educational planning is not a new one in higher education; however, the way we think about it can be new in the sense of revitalizing curricula to meet 21st century needs. "Historically, society's influence on educational planning has resulted in very a gradual adaptation of the curriculum to a changing world" (Stark & Lowther, 1986, p.331). This redesign will encompass all student disciplines and compare differences in scores by administering the same writing assignment to the fully online, traditional technical writing classes and the hybrid, pilot redesigned technical writing classes.

One problem with the topic of curricula is that there is difficulty defining a curriculum because "not everyone agrees what curriculum is or what is involved in curriculum development and implementation" (Lunenberg & Ornstein, 2004, p. 477). After interviewing students, faculty, and others, Stark and Lowther (1986) noted that there was a consistency in elements included in each of the definitions:

1. A college or program's mission, purpose, or collective expression of what is important for students to learn.

2. A set of experiences that some authorities believe all students should have

3. The set of courses offered to students

4. The set of courses students actually elect from those available

5. The content of a specific discipline

6. The time and credit frame in which the college provides education. (p. 7)

It is difficult to define curriculum unless the mission, programs and types of students at a particular college is known. The curriculum will vary at any college depending on the purposes of that college. The above elements give a basic knowledge to help to define curriculum. This particular study will adopt the definition given by Stark and Lattuca (1997) referring to curriculum as an academic plan. Curriculum redesign must also encompass an awareness of influences within the university setting and outside of the university setting.

The plan devised by Stark and Lattuca (1997) has 8 elements:

1. Purpose: Setting educational goals and objectives

2. Content: selecting subject matter

3. Sequence: Organizing content appropriately

4. Learners: Considering characteristics, goals, and abilities of learners

5. Instructional Resources: Selecting learning materials

6. Instructional Processes: selecting learning and teaching activities

7. Evaluation: Assessing student outcomes, and appraising learner and teacher satisfaction with the plan

8. Adjustment: Making improvements in both the plan and the planning process. (p.10)

The steps of this plan work well with higher education as Carol Twigg (1995a), the President of NCAT, believes in student--centered learning:

Tomorrow's students will resemble today's research faculty and will possess

qualities of increased independence and self-reliance. No longer will

students be passively taught by teachers who organize the learning

experience for them. Students will learn how to find and use learning

materials that meet their own individual learning needs, abilities,

preferences, and interests; they will learn how to learn. Faculty will

encourage and guide students to use the rich information resources available

to students and to work collaboratively when appropriate. (para.4)

The history of curriculum and how it has evolved will help in understanding curriculum

in higher education and the idea of student—centered learning.

History of Curriculum

To understand how curriculum has evolved, researchers must look at its

beginnings. The word curriculum is actually from a Latin word currere meaning to run,

and curriculum is defined as an "action of running, course of action, race, or chariot"

(Random House, 2009). Historian Frederick Rudolph characterized the curriculum as "a

battleground for society" (as cited in Stark & Lattuca, 1997, p. 44). He also believes that

curriculum history is American history because of the continual interaction between

curriculum and society. There is a history of curriculum dealing with two schools of

thought: the humanistic or classical approach and the traditional or professional approach

(Lucas, 2006).

The classical approach has its roots after the Dark Ages when all that was left was

a handful of Greco-Roman readings and very few who could read them. The Huns,

Franks, Saxons and Goths and other tribes roamed the lands warring. Around the early

11th century, medieval Europe began to recover from vast takeovers, invasions, and disorganization (Lucas, 2006).   Works were translated from Greek into Latin for students in order to teach religion, philosophy and works of science and mathematics. As medieval society embraced the ideas of the Greeks and Romans, Pope Gregory VII ordered that schools be opened in every cathedral so that the poor would not be deprived of the opportunity to learn to read (Lucas, 2006). Because the churches were reaffirming education, the course of studies (curricula) was to become the Seven Liberal Arts:

A division of subject matter inherited from a traditional classification

system devised by antique encyclopedists. Included were the subjects of

both the trivium (grammar, rhetoric, and dialectic) and the quadrivium

(arithmetic, music, geometry, and astronomy. (Lucas, 2006, p. 37)

The traditional approach in Colonial America had its beginnings with the inclusion of religion and devotional studies. Beginning with Harvard, established in 1636, in America, the curriculum included Greek, Hebrew, logic and rhetoric along with philosophy and Aristotelian metaphysics. The curriculum for the last year consisted of mathematics and classical languages. The curriculum was a body of material to be committed to memory and not questioned. This "traditional" curriculum was a combination of medieval learning garnered from Oxford and Cambridge, religion pertaining to that particular institution of learning, and late Renaissance arts and literature (Lucas, 2006). Most of the early colleges in America were based on religion. Because of this, the colleges' missions were to train men for theology and moral leadership. Eventually, men were trained to serve society and religion. Students consisted of

ministers, court officials and tradesmen. During Colonial times, it is important to note that the focus of that era was on knowing the classics, not creating new material.

The seven liberal arts (trivium and quadrivium) served as a foundation for the study of Aristotle including the natural philosophy of physics, the moral philosophy of ethics, and the mental philosophy of metaphysics. A typical schedule for a student meant classes 6 days a week (all day), mornings were recitation and afternoons gave way to debate. Saturdays were devoted to ethics and divinity. However, eventually, the church influence gave way to science and experimental curricula (Lucas, 2006).

The colonial era, 1636-1789, began with the preparation of clergy for colonies in America to perpetuate knowledge to bring value to the community. During 1790-1870, curriculum expanded to the new frontier. Universities were characterized by disorder and unorganized standards during this time because of the rapid growth of expansion. *The Yale Report of 1828* argued for a higher standard of education (*Yale Report*, 1828). This is referred to by Yale as "The Great Debate":

> One of the most influential documents in the history of American higher education was *The Yale Report of 1828.* It was an impressive defense of the traditional way of teaching a fixed set of topics identically for each and every student in classical language, literature and science – the so-called Trivium and Quadrivium. These topics had been taught to young men (not yet women) with only minor changes for 700 years. Yale would eventually follow Michigan and Harvard and introduce an elective system and a rich diversity of modern scientific, social scientific and humanistic course offerings. (para. 1)

Curricula had become fragmented, and highly specialized with no planning for the future because of the rise of scientific interest, diversity, and democracy. German influence began to take root through the beginnings of the military academies, laboratory methods of teaching and interacting, and technical colleges. The learning methods in Germany embraced science and gave us the research model we still use today (Cohen, 1998).

When our nation industrialized during 1870-1944, along came the birth of the university as we know it today: undergraduate schools, professional schools, graduate departments, and services (Cohen, 1998). The Morrill Act of 1862 was passed during our industrialization which allowed access for students who, otherwise, might not have pursued an education. The Land Grant Act also enabled colleges and universities to educate farmers, technicians and others to serve society. Curricula expanded at several colleges offering majors and minors, using the elective system, and administering training for faculty.

The rise of remediation in order to educate the masses became apparent as students were underprepared for college. Again, curricula had problems of little or no coherence, debates over practical v. theoretical approach to curriculum, and a rise of general education over educated citizenry. At the same time, methods of delivery were changing to include lab teaching, extension classes that were more available for students, growth of libraries, roundtable discussions, and correspondence courses along with written exams (Cohen, 1998). In the 1850s colleges and universities opened their doors to women who were allowed to take "female" curricula including child care, home economics, music and fine arts, and elementary schooling.

The Golden Age of higher education, 1945-1975, was due to the legislation and the passing of the GI Bill to give veterans and military the opportunity to receive an education. Education became all things to all people (Cohen, 1998). The only core required at colleges was the liberal arts courses. Remediation and developmental courses continued and grew rapidly. Faculty became ultra-specialized and professional organizations like the Modern Language Association and the American Psychological Association were formed (Cohen, 1998). The Golden Age also produced interdisciplinary studies for critical thinking. Curriculum delivery consisted of labs and lectures. Student evaluations were not always acted upon, and research on learning led to the development of different learning styles.

Today, in the United States, there are several approaches to curriculum. The behavioral approach seems to be the most popular. It consists of a plan in which goals and objectives are specified in order to coincide with learning outcomes; learning outcomes are assessed according to goals and objectives. Since the behavioral approach has been applied to all subjects for more than two thirds of the twentieth century, it constitutes the frame of reference against all other curriculum approaches (Lunenburg & Ornstein, 2004).

To understand curriculum approaches, it is important to look at what was happening to American culture at the time. During the behavioral approach, business and industry were flourishing, so this curriculum was based on the theories of Frederick Taylor who advocated scientific management. In other words, "efficient operation of the schools (and other social systems), sometimes called machine theory by its critics, became a major goal in the 1920s and 1930s" (Lunenburg & Ornstein, 2004, p. 479).

The managerial approach is based on a curriculum that includes all personnel in the decision-making process by planning the curriculum based on programming, resources, and leadership styles. This approach stresses communication and tends to stress administration in terms of organizing and implementing the curriculum. This was the dominant approach in the 1950s and 1960s because of the emphasis on change and innovation (Lunenburg & Ornstein, 2004).

The systems approach, sometimes referred to as curriculum engineering as parts of a system, is examined in terms of the whole. Social scientists in the 1950s and 1960s developed the principles of the systems approach (Lunenburg & Ornstein, 2004). George Beauchamp (1981) developed the first systems theory of curriculum; he divided the theories of education into five major theories of equal importance: administrative, counseling, curriculum, instructional, and evaluation.

The humanistic approach to curriculum embraces the personal and social aspects of curriculum and includes artistic approaches to learning and takes into account the dynamics of classrooms and schools. This curriculum includes life experiences, group projects, dramatizations and creativity. Even though the humanistic approach was first developed in the 1900s, it moved east in the 1920s and 1930s, but gained further popularity in the 1940s and 1950s because of the humanistic psychology movement (freedom to learn, personal freedom, valuing, psychological health, and ego identity) (Lunenburg & Ornstein, 2004). In the 1970s, some say this approach reinvented itself in the name of school reform. In the 1980s and 1990s curriculum has become a technical/vocational exercise. It is all about job competencies as objectives are written down, plans are made, and outcomes are measured. Franklin Bobbit is credited with

writing the first book about curriculum. His view using scientism greatly affected the field of curriculum. He discusses having goals and objectives, student needs, and learning outcomes and objectives (Hunkins & Hammill, 1994, p. 6). Researchers can see that curricula has come full circle as Franklin Bobbit (1918) explained in his book:

> The central theory is simple. Human life, however varied, consists in the performance of specific activities. Education that prepares for life is one that prepares definitely and adequately for these specific activities. However numerous and diverse they may be for any social class they can be discovered. This requires only that one go out into the world of affairs and discover the particulars of which their affairs consist. These will show the abilities, attitudes, habits, appreciations and forms of knowledge that men need. These will be the objectives of the curriculum. They will be numerous, definite and particularized. The curriculum will then be that series of experiences which children and youth must have by way of obtaining those objectives. (p. 42)

Bobbit's (1918) approach to curriculum is still in use today. He is responsible for the foundation of curriculum theory, and he "noted that the objectives of the curriculum could be derived from the study of needs, something which is still advocated today" (Hunkins & Hammill, 1994, p. 6). From Bobbit's work, Tyler (1949) wrote the book, *Basic Principles of Curriculum and Instruction.* In it, Tyler "epitomized modernism" (Hunkins & Hammill, 1994, p.

7). He presented four basic questions to the field that have become the Tyler rationale for creating curriculum and are still used in education today:

1. What educational purposes should the school seek to attain?

2. What educational experiences can be provided that are likely to attain these purposes?

3. How can these educational experiences be effectively organized?

4. How can we determine whether these purposes are being attained?

   (Hunkins & Hammill, 1994, p. 6)

In the last fifteen years two trends have gained prominence throughout higher education: assessment and accountability. Although the terms "assessment" and "accountability" are often used interchangeably, they have important differences. In general, when we assess our own performance, it is assessment; when others assess our performance, it is accountability. That is, assessment is a set of initiatives we take to monitor the results of our actions and improve ourselves; accountability is a set of initiatives others take to monitor the results of our actions, and to penalize or reward us based on the outcomes. They have very different flavors. Although assessment efforts over the past dozen years have been largely focused on aggregate statistics for entire schools, accreditation review boards recently have been increasing pressure on institutions to actively engage departments and students in the assessment-learning-change cycle (Gentemann, 1994). If learning is our business, how well are we doing at all levels (assessment), and how can we demonstrate that to others (accountability)? This increasing focus on assessment and accountability has powered a shift away from prestige-based concepts of institutional excellence, in which size of endowments,

accomplishments or credentials of faculty, or types of programs, for example, were assumed to be indicators of institutional quality or effectiveness, and also away from curriculum-based models that emphasize what is presented, toward learning-based models which emphasize what students know and can actually do. The emerging measure of institutional excellence is how well institutions develop student talents and abilities, i.e., student learning outcomes (Astin, 1975, 1984). In the 21st century, the emphasis in higher education seems to be with assessment and accountability (Diamond, 1998).

<div align="center">Curriculum and Teaching</div>

What type of approach should faculty take in regard to redesigning curricula? Harry Huball and Neil Gold (2007) argue for a "scholarly approach to curriculum development, implementation, and evaluation" (p. 1). This method of scholarship parallels the scholarship of teaching and learning. For this type of scholarship to survive on its own, it must be well supported by its institution. The authors introduce the concept of the scholarship of curriculum practice (SoCP) defining it as, "an approach to higher education programming that integrates curriculum and pedagogical research in the disciplinary context of a field of study and additionally includes dissemination and peer review as critical components" (Huball & Gold, 2007, p. 1).

This idea is non-traditional as traditional approaches to curriculum usually involve a committee making decisions for an individual course with no thought to integration or students' learning styles. Learning—centered learning must be utilized with our students in this 21st century as technology is being utilized more throughout the university environment (Diamond, 1998).

Learners must have the freedom to control their own learning environments; this is what learning-centered learning is all about (Reynolds, 2006). Instead of focusing on teaching, educators must encourage learning environments that support the students by letting them direct their own learning in hopes that each will become lifelong learners. There are many facets related to the process of learners taking control over their own learning. Educators in the 21st-century should support seeing all learning as multidimensional through learning environments that create intrinsic motivation, accommodate individual learning-style characteristics, and give increased control to individual learners (Reynolds, 2005). There are five learning assumptions that educators must embrace for the 21st century learner:

1. Learning should be fun. The construct of learning-centered learning supports learning environments where learning is viewed as a lifelong process and a natural, developmental process that has value for its own sake. Learning is seen as multidimensional, and therefore affects the learners' cognitive, emotional, and physical being. Learning is an enjoyable and productive learning activity. (Reynolds, 2005, para. 1)

2. Learning should be controlled and directed by the student. The construct of learning-centered learning supports learning environment where understanding, controlling, and directing one's own learning is essential for becoming a lifelong learner. (Reynolds, 2005, para. 7)

1. Learning should accommodate diversity of learning style and environments. The construct of learning-centered learning supports learning environments where an attempt is made to build on the

strengths, interests, and needs of individual learners. (Reynolds, 2005, para. 13)

2. Learning should motivate students. Learning environments should promote a learning culture where the emphasis is on developing the learner's intrinsic motivation to learn and produce a lifelong desire to learn about learning. (Reynolds, 2005, para. 17)

3. Learning resources should be available for all students. Learning environments should support teachers, family members, community people, employers, and others who can act as learning resources to students.

4. Technology should be used effectively to produce information literacy for each learner. (Reynolds, 2005, para. 22)

Understanding differences in disciplines is also essential to understand and improve curricula because disciplines express themselves differently through their subjects and teaching methods. In order to build supportive programs that faculty will support, understanding the differences is essential (Lattuca & Stark, 1994). Since Stark and Lattuca (1997) define curriculum as an "academic plan," then the academic plan can serve as a "to do" list. The "to do" list can be used to help work through a process focusing attention on pertinent issues in higher education in relation to curricula. This list can help with decision making depending on your institution's goals, disciplines, student body, and faculty, etc. "Thinking of curriculum as a plan encourages planners to consider major elements, rather than to advocate inclusion specific content or use of particular instructional strategies" (Stark & Lattuca, 1997, p. 10). This is a definition that helps in a

redesign as it infers action. This can further be related to action research. Planning is what Wenger advocates in his "communities of practice"

Chickering and Gamson (1987) created *The Seven Principles for Good Practice in Undergraduate Education* from a review of 50 years of research on the way teachers teach and students learn:

1. Good Practice Encourages Student-Faculty Contact—professors who encourage student contact both in and out of classes enhance student motivation, intellectual commitment, and personal development.

2. Good Practice Encourages Cooperation among Students—working with others often increases involvement in learning.

3. Good Practice Encourages Active Learning—student-to-student interaction encourages activity and involvement.

4. Good Practice Gives Prompt Feedback—students need feedback on performance to benefit from courses.

5. Good Practice Emphasizes Time on Task—the general consensus is that the more time spent on learning, the greater amount of learning.

6. Good Practice Communicates High Expectations—faculty should engage in setting high but attainable standards for poorly motivated or highly motivated students.

7. Good Practice Respects Diverse Talents and Ways of Learning—respect all students' styles of learning.(p. 1)

According to Barr and Tagg (1995), "students have to be regarded not just as making meaning out of what their teachers say or do or as the receivers of transmitted knowledge but

more as the co-producers of learning"(p. 15). Teachers can be thought of as knowledge communicators, but even though they communicate knowledge, they are expected to transform and extend it; this transformation of knowledge may come from interactions with students (Badley, 2003). Helping students should inspire faculty to reach new heights with their own learning and research. By helping students, faculty may reinvent themselves through new found enthusiasm, and faculty may see old ideas through the fresh eyes of learners.

Curriculum and Assessment

Assessment that requires students to engage with problem solving in social settings will encourage the students to apply learning thus reaching the potential of deep learning. "Deep learning is secured when, through personalization, the conditions of student learning are transformed" (Simms, 2006).

Assessment is part of the curriculum that affects the students' approaches to learning most. Faculty need to construct assessment that gives students opportunity to receive feedback, but faculty must also make the assessment relevant to the real world. The North Central Association of Colleges and Schools states, "Programs to assess student learning should emerge from, and be sustained by, a faculty and administrative commitment to excellent teaching and learning" (NCACS, 2000, p.32). Faculty are the heart of assessment but many fear assessment because they do not understand it; faculty are essential to assessment by creating relevant questions and substantiating student outcomes. "Leading institutional researchers (IR) trumpet the axiom that assessment works best when faculty-driven" (Strada, 2001, p. 42).

The National Center for Academic Transformation (NCAT) is committed to providing the expertise necessary to help higher education faculty and institutions

achieve their student access, success and retention goals while reducing their instructional costs and improving outcomes. NCAT encourages this by emphasizing constant testing and refinement of its course redesign methodology and by working with a diverse group of public and private colleges, universities and community colleges (NCAT, 2008, para. 3-5).

NCAT has implemented a three-part process. Because redesigning large classes can be difficult, NCAT makes sure that faculty and administrators understand the scope of a redesign. Engaging in a well-structured planning process and a comprehensive implementation process assures that all parts of the methodology are of equal importance to the outcome:

Phase 1: Building Commitment

The purpose of this phase is to educate and ensure buy-in from all levels of the organization for the course redesign process—including institutional readiness for course redesign projects, the NCAT methodology, the commitment needed and the expected outcomes. The outcome of this phase is general knowledge of the process, an overview of the tools that have been developed by NCAT, and a pool of potential course redesign teams. In partnership with local leadership, NCAT accomplishes this phase of local leadership through consultation visits, outreach and orientation workshops.

Phase II: Planning

The purpose of this phase is to ensure that course redesign teams are clear about what they are trying to accomplish and how they intend to achieve it. During this phase of course redesign teams consisting of faculty,

administrators, instructional designer and technology staff from the

participating institutions work with NCAT to adapt the course redesign

methodology to meet institutional needs and use the tools NCAT has

created to develop detailed course redesign plans with a high likelihood

of success.

Phase III: Implementation, Capacity Building and Scaling

The purpose of this phase is to take the sound plans that were developed in

Phase Two, implement those plans, and follow through to ensure that

adjustments are made where needed, roadblocks are overcome, and

models of successful redesigns are achieved and shared. The outcome of

this phase is persistence during the redesign process and institutional

experience and capacity to improve quality and reduce instructional costs

for more courses. (NCAT, 2008, para. 5-7)

The planning phases of an NCAT transformation of a curriculum can be linked to

action research in higher education. "Action research aims at feeding the practical

judgment of actors in problematic situations. The aim of action research is to solve

practitioners' immediate and pressing day-to-day problems" (McKernan, 1998, p. 173).

Even though action research has been around a long time, most researchers argue that

Kurt Lewin was the founder of action research through his work with group dynamics. In

the mid 1940s, Lewin explained action research as a form of inquiry based on groups

experiencing problems (McKernan, 1998). Lewin believed in having practitioners from

the real world in all phases of inquiry; he made action research a respectable inquiry for

social scientists (McKernan, 1998).

When redesigning a curriculum, incorporate assessment and evaluation all through the redesign rather than just "tacking" on assessment at the end. "Continual assessment is an activity that we as faculty should be engaging in even without external pressure" (Diamond, 1998, p. 140). In action research, assessment is used throughout a project or redesign to signal to all members involved how students are doing. Learning must be attached to assessment in order to progress and achieve accountability. "Assessments should be meaningful to the individuals assessed and have real value in determining their readiness to move on in the educational system" (Pellegrino, 2006, para. 6). Assessment should be integrated in different forms throughout a student's education. Having "tests" or the traditional approach to evaluation does not measure student learning; students find testing stressful especially when it takes the form of examinations (Martin, 1997).

There are other ways to assess students' progress and learning; some include performance, projects and portfolios. The complete understanding of assessment, evaluation, and curriculum redesign can lead to better faculty teaching and better student learning. "Schools, teachers, and parents need to focus on students' achieving true understanding and real learning--so they develop abilities, skills, and conceptual frameworks that will prepare them for productive and successful lives" (Geraint, 2004, p.8).

Performance assessments may be short-answer or extended responses including tests, oral exams, open-ended discussion or quizzes. Performance assessment is a "way to document and evaluate the work that students have accomplished during some fixed period of time. It tends to take the form of lengthy, multidisciplinary problem-solving

activities. Experts frequently judge the results, which are often used for promotion, distinctions, and graduation" (Geraint, 2004, p.8). Students' performance of real tasks can be documented and assessed. For example, rather than just testing, faculty should take into account multiple types of evidence; these may range from simply observing the student to project completion. Understanding how students learn may help faculty motivate different types of learners (Bentz, 1974).

Project-based learning allows the student to be independent or social (working in groups) to solve problems while gaining knowledge. Projects can vary according to topic and be as creative as the teacher allows. Projects can help students reach very real goals. "When students can have a choice of topic, have time to really investigate something of interest, can be given responsibility and can see an authentic (at least to them) goal and rationale, intrinsic motivation and a heightened sense of alertness and interest becomes a natural by-product" (Newell, 2003, p. 7).

Portfolios are collections of all students' work. The portfolio has a purpose agreed upon by the teacher and the student. Portfolios can used to evaluate effort, proficiency and the application of real world skills. Rowntree (1987) argues that assessment should help prepare students for life. Faculty have always administered evaluation and assessment, but researchers are realizing that evaluation and assessment must be integrated into the curriculum. Faculty must realize that they should begin with the end in mind when redesigning a curriculum. Several questions might be asked when redesigning a curriculum keeping the end in mind first. What should students learn and what are the possible outcomes?

This means that in terms of assessment, student approaches to learning are a function of the following:

- How the intrinsic qualities of the form of assessment is being used;

- How the assessor translates the material to be assessed into the given format and selects assessment tasks appropriate for the subject and the specific learning goals, and most importantly;

- How the student *interprets* the task at hand and the context of the assessment. The latter interpretation is not just dependent on the form of the assessment process, but on how these tasks are embedded within the total context of the subject and within the total experience of the course and of university life. The perceptions and interactions of a student are more important to learning than what staff take for granted as the 'reality' of the assessment. (Boud, 1995, para. 7)

Faculty should involve students in as many phases of assessment as possible, and, as in action research, findings from methods of evaluation should help determine other strategies for learning to meet the needs of students. For example, a student could be assigned to the committee to help make choices and surveys to investigate the needs of the students could be implemented. Curriculum has its multiple interacting elements, and should be seen as a dynamic process rather than a static set of structures; educators are challenged to understand the nature of curriculum change and to ask how and why they are continually reshaping it (Mentkowski et al., 2000).

Some current assessment practices have features that encourage longer-term learning; some current assessment practices also do not prepare learners for the contemporary world of work in a global society. Curricula must take into account

assessment and lifelong learning and the engagement of students in the role of self-assessment (Boud, 2000). Sustainable assessment in which preparation for future learning and assessment is incorporated into assessment practices at all levels is a key element when designing assessment for curriculum (Boud, 2000). Most important in this is the need for a view that considers teaching, learning and assessment as a whole and does not treat assessment as separate from the processes of learning. Some approaches propose that learning must be integrative and lasting, and that the overall system of education must be coherent (Mentkowski et al., 2000). Alignment of teaching, learning and assessment is important, but assessment must be aligned not only to immediate learning outcomes, but also with what is expected for all types of learning

(Boud, 2000).

Findings should also help prepare faculty for better teaching. Incorporating self-assessment for the students can help them monitor their own learning. By frequently updating the curriculum and paying attention to outcomes, students will achieve success. Faculty must make sure the redesign is approved by the university or college academic council and/or governing board before implementation. There are guidelines that must be followed that will vary from university to university (Mentkowski et al., 2000). Assessment always leads to learning, and assessment is the most significant prompt for learning (Boud, 1995). One of the most important outcomes of research on student learning is the recognition that learning must fundamentally be seen as relational (Ramsden 1987).

One difficulty encountered with assessment can be the attitude of the faculty. Michael Strada discusses assessment according to faculty: 1) assessment as *faculty-*

driven; 2) assessment as *faculty-supported;* 3) assessment as *faculty-tolerated;* 4) assessment as *faculty-denigrated.* (Strada, 2001, para. 26)

Even though most committees strive for faculty driven assessment, it is rare. The second type might be feasible if assessment coordinators involve all faculty members in decisions of relevance to advance the redesign. The third type of faculty seems to be the most prevalent because not all members of a committee are thinking creatively and critically. The fourth type of faculty is realistic, but as Michael Strada (2001) states, "Realistic faculty know that the age of accountability will not soon disappear, but unless assessment is constructively linked to the courses they teach, even their acquiescence cannot be taken for granted" (para. 26).

<div align="center">Curriculum and Student Learning</div>

"Ideally, those who are affected by curriculum should be involved in the process of planning and then in the process of implementation and evaluation" (Lunenburg & Ornstein, 2004, p. 485). If you ask any college student what college curriculum is, chances are, she will say a set of courses listed in the catalogue that you have to take to graduate (Stark & Lattuca, 1997). It is important to know how students learn in order to redesign a curriculum. Albert Bandura (1977) created a theory of learning called social learning. If people had to rely solely on the effects of their own actions to inform them what to do, much learning would not take place. "Fortunately, most human behavior is learned observationally through modeling: from observing others one forms an idea of how new behaviors are performed, and on later occasions this coded information serves as a guide for action" (p. 22). Bandura (1977) also argued that people can learn new information and behaviors by modeling or watching other people. His theory focused on

the fact that direct reinforcement could not account for all types of learning and that humans can learn through observation, (live, verbal, or symbolic), that mental states are important to learning, and that learning does not always mean a changed behavior (Bandura, 1977).

Students also need to reach their own potential of "deep learning" (Houghton, 2004, para. 2) which is the analysis of new ideas and the process of thinking critically. "Deep learning involves the critical analysis of new ideas, linking them to already known concepts and principles, and leads to understanding and long-term retention of concepts so that they can be used for problem solving in unfamiliar contexts" (Houghton, 2004, p. 2). Deep learning can promote an understanding for life; surface learning is learning accomplished through acceptance of information and memorization as isolated facts, (Houghton 2004) and promotes only short- term retention of knowledge and information.

Experiential learning involves "direct encounter with the phenomena being studied rather than merely thinking about the encounter, or only considering the possibility of doing something about it" (Borzak, 1981, p. 9). This sort of learning might be used for professions such as social work and teaching or in social administration or geography courses. The second type of experiential learning is "education that occurs as a direct participation in the events of life" (Houle ,1980, p. 221). This is learning that is not sponsored by some formal educational institution but by people themselves. It is learning that is achieved through reflection upon everyday experience and is the way that most of us do our learning (Houle, 1980). Students learn by "doing". Experiential learning addresses the needs of the learner, and self-evaluation will also be required of the learner; the learner is generally self-motivated.

A new concept in education is that social learning + deep learning = loud learning (Winter, 2009, copyrighted for website/publication). Loud learning takes place when done with others (social learning) but comes from within. In the Technical Writing redesign, students were placed with others in groups in state of the art work stations with the latest technology including Mac computers. Students were engaged in discussing issues, and maybe the students were even arguing, but students were not passive during learning. Another professor might hear a class engaged in loud learning and think it is not very well-managed, when, in fact, it is very well--managed. In this age of "fast" technology and zip drives, students do not want to waste time on trivial subjects that will not help them further their goals. Faculty need to have students prove to themselves why and how a particular course can be helpful. The following definition of loud learning would work with any subject, including technical writing.

The definition of loud learning follows:

- Learning by doing—get all students involved in a group project and discuss it in a very positive way.

- Learning is fun—let the students be creative.

- Learning is self-directed—after a few guidelines, learning should take place as the students start to associate their own experiences to some aspect of the project.

- Learning is self-evaluation and feedback – students must evaluate themselves and other members of the group. Students can even make up the evaluation as part of the assignment/project.

- Learning is active and should be heard. You may want to get at the end of a hall so as not to interrupt others.

- Learning is respectful of others--go over guidelines of "being nice to others". Include nice ways to say something is not a good idea, like "Wow, that might be good for our next project."

- Learning is preparing for the future--The old lecture classroom is dead. The teacher is not a god anymore. It is time to get our students prepared for the workforce.

- Learning is group—centered. Students will be on committees or in groups or meetings with other people the rest of their careers.

- Learning can be guided. The teacher acts as a guide when problems arise but motivates students to encourage problem solving and achievement of goals.

- Learning (loudly) has students call out goals at the beginning of the project. They write the rules. (Winter, 2009)

Students are usually involved in a curriculum redesign by filling out a survey or taking a test, but students should be involved in the total redesign from the very beginning. Faculty who take into account a curriculum design that includes student perspectives and relationships are more likely to attend to student learning outcomes in their teaching and course designs" (Mentowski et al., 2000). If students are involved in a curriculum redesign from the beginning, they will become part of the community of practice or a community of interest (Wenger, 1998). The undergraduate students in this technical writing redesign did not get to help create the initial projects, but they are in

communities of practice in the work stations with their independent groups. They share

ideas and engage in dialogue (Wenger, 1998).

Faculty need to give students enough guidance and information for them to seek

out what they need for themselves. You cannot teach a student everything—only a part of

many things—it is up to the students to add to their knowledge base. "Students can

provide accurate information about the value and effectiveness of academic programs"

(Diamond, 1998, p. 34). How students construct their own understanding out of their own

experiences is important for faculty to consider when redesigning a curriculum. "Faculty

understanding of students' purposes, experiences and their learning outcomes stimulates

continuous rethinking of the meaning of the college degree" (Mentowski et al., 2001, p.

34).

<center>Curriculum and Technology</center>

The redesign of the technical writing curriculum embraced technology.

Knowledge is not static according to Wenger (Wenger, McDermott & Snyder, 2002).

How appropriate that technology is also active and not passive learning. Technology can

be used to allow students to continue their education after their university experience and

throughout their lives. A recent report, prepared by a commission of 24 executive officers

from state universities (McCollum, 1999), describes a 21st century classroom as a

"learning society in which education would be universally accessible and lifelong

learning would be promoted among young children and working adults alike. Information

technology, particularly for distance education, makes such universal access possible"

(McCollum, 1999, para. 7). Along with investing in new technologies, institutions should

teach students problem-solving skills using collaborative, interactive teaching methods

including traditional and distance learning education (McCollum, 1999). Each year the

Horizon Advisory Board researches, identifies and ranks key trends affecting the practice

of teaching, learning, research, and creative expression. The report is produced as

collaboration between the New Media Consortium and the EDUCAUSE Learning

Initiative (ELI), an EDUCAUSE program.

The Board reviews current articles, interviews, papers, and new research to

discover emerging or continuing trends. The trends are ranked according to how

significant an impact they are likely to have on education in the next five years

(*Educause*, 2007). The six key trends in *The Horizon Report*, 2007, are made up of the

following:

1. The environment of Higher Education is changing rapidly.

2. Increasing globalization is changing the way we work, communicate,
    and collaborate.

3. Information literacy increasingly should not be considered a given.

4. Academic review and faculty rewards are increasingly out of sync with
    new forms of scholarship.

5. The notion of collective intelligence and amateurization are pushing the
    boundaries of scholarship.

6. Students' views of what is and what is not technology are increasingly
    different from those of faculty. (p. 1)

Compare the challenges that were listed from the *2007 Horizon Report* to *the 2009*

Horizon Report:

1. There is a growing need for formal instruction in key new skills, including
   information literacy, visual literacy, and technological literacy

2. Students are different, but a lot of educational material is not.

3. Significant shifts are taking place in the ways scholarship and research
   are conducted, and there is a need for innovation and leadership at all
   levels of the academy.

4. We are expected, especially in public education, to measure and prove
   through formal assessment that our students are learning.

5. Higher education is facing a growing expectation to make use of and
   to deliver services, content, and media to mobile devices. This
   challenge is even truer today than when it first appeared in the Horizon
   Report two years ago. (*Educause*, 2009. p. 5)

Some of the critical challenges have to do with the scholarship of assessment; how can blogs, pod casts, and video work in a portfolio be assessed? Visionary leadership is needed to tackle new demands of the scholarship of research. The faculty reward system is becoming rapidly outdated, but still older faculty cling to the old standards instead of embracing the new (Diamond, 1998).The scholarship of teaching should provide challenges for students of today. Technology must be used wisely and not seen as a deterrent to learning.

Mobile phones are digital connections to the world. This media might be used in the future as a learning tool because keypads, geo-location, ability to record video and audio make this a rapidly growing place for resources and data. Phones will include projection systems making it possible to film movies and interact in creative ways. For

example, the new apple I phone has the ability to function as an I pod, phone, web browser, and a messaging device (*Educause*, 2009).

The new work stations set up for the redesigned course of technical writing include video cameras and laptops. Moving from a fully online class to a hybrid class gave students a greater sense of community since students receive some face-to-face contact with their professors. According to a recent study, students in online classes scored lower in total classroom community and connectedness than did students in face-to-face and hybrid classes. Faculty members should consider developing or modifying their course delivery to include a sense of community in their online classes (Ritter et al., 2010). Face-to-face/hybrid classes help foster that sense of community.

Establishing a healthy classroom community is the responsibility of all professors. When a positive classroom community is established, students know that they belong, and that each student has a significant relationship with the other students in the class. The students also have duties and obligations to the other class members. They believe that their educational needs will be met through their commitment to shared goals which is important for any class, but especially important in online class structures where students' sense of connectedness and ability to communicate with each other can influence their learning (Barr and Tagg, 1995). Establishing this sense of communication and connectedness begins with professors having a positive attitude about the class. It is a teacher's role to have a positive attitude. This comes with believing that all students will be successful.

When developing classroom community, in face-to-face, online, and hybrid classes, the professor takes the role of a manager who is involved in developing the

course, timelines, procedural rules and decision-making norms. The establishment of class norms is crucial to establishing the learning community. This can be done through the discussions of goals, ethics, liabilities, communication styles and expectations. In addition, the professor needs to design both social and content-related assignments that connect students to each other in an interdependent, yet supportive environment (Ritter & Polnick, 2008). Clear communication of expectations using consistent guidelines is essential for face-to-face, hybrid, and online courses. Throughout the community building process, these norms are accepted and become patterns of practice for members of the community. The participation of all class members is an expression of a community membership norm (Berry, 2006).

Time should be allotted to get to know the students and to have them get to know each other in any classroom format, but especially in online and hybrid formats. Activities provide a way for students to drop their guard and work together in a classroom community. Students might do interactive film projects instead of writing or they might have interactive projects along with writing. Students will be able to make mini-documentaries; this could even include the students gathering data for statistics that deal with social problems. A mobile is "a single portable device that can make phone calls, take pictures, record audio and video, store data, music, and movies, and interact with the Internet" (*Educause*, 2009, p. 6). New devices continue to enter the market with new features and new capabilities: one recent feature — "the ability to run third-party applications — represents a fundamental change in the way we regard mobiles and opens the door to myriad uses for education, entertainment, productivity, and social interaction" (*Educause*, 2009, p. 6).

Faculty need to view technology in a positive way as it can expand options for instruction. Today, college students' computer expertise often exceeds that of their professors (Tapscott, 1997). Students may come to college with technology expertise and expect the professors to have the same. Students may encounter professors who refuse to use technology for various reasons. William Geoghegan (1994) observes the following:

> Despite massive technology expenditures over the last decade or so, the widespread availability of substantial computing power at increasingly reasonable prices, and a growing "comfort level" with this technology among college and university faculty, information technology is not being integrated into the teaching and learning process nearly as much as people have regularly predicted since it arrived on the educational scene three or four decades ago. (p. 1)

Geoghegan (1994) concluded in his report that "technology in the service of ineffective teaching will do nothing to improve the quality of instruction; it will simply perpetuate and even amplify poor teaching. Likewise, good teaching can often be enhanced by even simple technology, wisely and sensitively applied. In either event the process begins with teaching; technology comes second" (p. 21).

Faculty must rethink outdated teaching methods in order to motivate students to learn. Technology is a key to the renewal of higher education (Daniel, 1998) and changes rapidly; faculty must keep up as institutions are challenged to take a leading role in technology.

Technology is redefining higher education. Most universities have a technical department in place to help with student and faculty technology needs. A technology

department is essential for the success of a redesign. When students or faculty think of technology at a university, most think of online learning. Online learning can be defined as distance learning. Students and teachers are separated in different learning communities. As online learning continues to rise, faculty must be learning technology in order to keep up with students. In a new report, *Staying the Course: Online Education in the U.S., 2008*, online learning saw an increase of 12% from 2007. Nearly four million students were enrolled in at least one online course in the fall of 2007. This report is based on the sixth annual survey of more than 2,500 U.S. colleges and universities. Specific findings include:

1. Over 20 percent of all U.S. higher education students were taking at least one online course in fall 2007.

2. Institutions believe that the current economic crisis will have a positive impact on overall online enrollments.

3. Both chief academic officers and online teaching faculty said meeting the needs of the students was the most important motivation for teaching online.

4. The proportion of institutions in fall 2007 declaring that online education is critical to their long term strategy showed a small decline from the previous year.

5. The growth in online program offerings is seen across almost all disciplines. (Allen & Seaman, 2008, p. 1).

Technology is a critical area of change taking place in places of higher education. "Without communities focused on critical areas, it is difficult to keep up with the rapid pace of change" (Wenger, McDermott, & Snyder, 2002, p. 6).

A healthy web-based, collaborative learning community has the following characteristics:

1. Participants post regularly.

2. The online community meets its members' needs, and participants express
    honest opinion.

3. Participant-to-participant collaboration and teaching are evident, and
    spontaneous moderating occurs among the participants.

4. Reasonable venting about technology, content, and even the facilitator is
    acceptable and evident.

5. Participants show concern and support for the community. (Collison, Elbaum,
    Haavind, & Tinker, 2000, p.77)

Technology is changing the way we learn to communicate. Asking ourselves pertinent questions helped in the redesign. "In light of the capabilities of the new technologies, the task before us is to question our basic assumptions about how our institutions function and to re-design them accordingly" (Twigg, 1995b, para. 1). Can the work professors do in the classroom be done via technology? Could campuses have agreements to teach different courses and trade arrangements? Can higher education outsource or blend services on a single campus or multiple campuses? (Ehrmann, 1995).

Because access to higher education has been sought by more and more students, it is hard to keep up with the demand especially with traditional delivery of information. New technology is the answer to access by keeping the costs the same but reaching more students. One advantage of new methodology is moving from passive to active learning (Twigg, 2005). Time and energy must be spent creating or redesigning courses (Chickering & Ehrmann, 1996). Technology makes it possible for students to learn

discerningly; technology gives immediate satisfaction; technology can empower students with independent timetables of learning and education (Chickering & Ehrmann, 1996).

Problems with Curriculum Redesign

Frederick Rudolph calls curriculum a battleground for society (1977). He argues that social change has been more rapid than universities' capacity to respond to curriculum (Rudolph, 1977). Diamond (1998) points out that the decision to create or redesign a curriculum can have a direct impact on a professional career through pay, time and resources.

Diamond (1998) says that there are four major questions that should be addressed when redesigning a curriculum:

1. How important is the project to the department, to you, to other faculty, to the chairperson, to the dean?

2. How will this effort be recognized in the faculty reward system?

3. Are there others who can help and should be involved?

4. Do you and the others who will be involved have enough time? (p. 33)

Many factors including reduced resources, higher student-to-teacher ratios, evolving technology, and renewed emphasis on success skills have made it necessary for continuous curriculum assessment and improvement (Hill, 2007). An earlier Middle States Association survey (MSA, 1996) found that fear of the unknown, plus heavy workloads, contribute to pervasive faculty resistance to assessment. Assessment is an important part of a curriculum redesign: curriculum must constantly be evaluated in order for it to be productive.

Not only do committees need to understand the organizations in which curricula operate, but the cultures surrounding the curriculum must be investigated (Tierney, 1989). All persons involved in a curriculum redesign need to be given the opportunity to help define the mission and understand the specific culture for their institution and their redesign. To foster learning that lasts, understanding curriculum can serve as a tool for thinking through what is currently in place and creating curriculum that will continue to foster learning as a student moves toward graduation (Mentkowski et al., 2000). Perspectives of team members may vary while doing a redesign, and a redesign team must keep these in focus; a design team may act independently or dependently in relation to curriculum. Analyzing various majors of students, planning how students experience scientific experiments, or selecting artistic performances on campus gives perspective of fitting parts of a curriculum into a whole (Mentkowski et al., 2000). A purpose of a university is not to transfer knowledge but to create environments and experiences that help make students members of communities and life long learners that make discoveries and solve problems (Barr & Tagg, 1995).

As faculty members, few activities will have greater impact on students than involvement in a design of a curriculum (Diamond, 1998). Too many times, compromises are made because too many people are involved on a curriculum design committee with too many interests. A curriculum redesign can result in facilitated learning, enhanced attitudes of students, and better preparation for life beyond college (Diamond, 1998). The redesign team must remember that most faculty are slow to change, and motivating faculty for a curriculum transformation is not an easy task. "Designing a strong course or

curriculum is always difficult, time consuming and challenging" (Diamond, 1998, p. 1).

All members of a redesign team should be aware of the different issues involved:

1. Epistemological issues concern the ways in which knowledge is conceptualized in relation to formal education.

2. Informational issues concern the representation of knowledge in curriculum.

3. Developmental issues concern the developmental level of the students for which a curriculum is designed.

4. Outcome issues concern the aims, goals, and objectives of a curriculum.

(Freedman, 1998, p. 43)

Different types of rewards may be effective in motivating faculty. For example, some will be motivated by intellectual stimulation, inventing and exchanging ideas, and discovering classroom resources or avenues for research by participating in a redesign project (Stark & Lattuca, 1997).

Addressing the concerns of assessment is a major part of a curriculum redesign. "In particular, instructors lack confidence in assessments' *relevance* (applicability to classroom teaching and learning), *validity* (truly measuring learning outcomes), *and proportionality* (institutional benefits of assessment commensurate with effort devoted to it), and *significance* (answering the question that comes naturally to academics: So what?)" (Strada, 2001, para. 7).

For professors who fear assessment and data, qualitative methods or soft data can be used (Strada, 2001). This method relies on words more than numbers which might make others on the committee for redesign feel more comfortable. For those faculty and administrators who are resistant to change, having a way of approaching curriculum

redesign that it is systematic and organized will make the process credible and easier for some to swallow (Stark & Lattuca, 1998). Central to the approach is the formulation of behavioral objectives - providing a clear notion of outcome so that content and method may be organized and the results evaluated. The following is an example of one system from Hilda Taba (1962):

Step 1: Diagnosis of need

Step 2: Formulation of objectives

Step 3: Selection of content

Step 4: Organization of content

Step 5: Selection of learning experiences

Step 6: Organization of learning experiences

Step 7: Determination of what to evaluate and of the ways and means of

doing it. (Taba, 1962, p.90)

It is important to note that Taba (1962) mentioned that schools need to think about the kinds of experiences students have so that they would be prepared to cope with "technological, economic, social and political changes which we cannot even dare to forecast" (p. 90). Taba (1962) was the first to argue that instructors should have an active role in the creation of curricula. This idea differed from the previous theories that were grounded in the sciences.

There is a current body of knowledge that has accumulated so that educators can understand the way students think and learn as pertains to a global society. It is important to remember that "the curriculum is not simply a set of plans to be implemented, but rather is constituted through an active process in

which planning, acting and evaluating are all reciprocally related and integrated into the process" (Grundy, 1987, p. 115).

Curriculum should be the interactions between knowledge, teachers and students. Aristotle describes curriculum as a process. With the ability to think critically, teachers enter particular schooling and situations. They have an understanding of their role and the expectations others have of them, and a proposal for action which sets out principles and features of the educational encounter. Encouraging conversations between, and with, people in a situation may bring about thinking and action (Aristotle, 1976). Aristotle's idea of education and group thinking is not unlike Etienne Wenger's community of practice theory (Wenger, 1998). Being part of a community of practice is challenging and Wenger stressed that the most important person in a community of thinkers is the leader. The most interesting point Wenger et al. (2002) makes is that the leader is not usually an expert in his or her field, rather, the leader is personally interested in the community of practice. The community coordinator is a leader who helps the members "stay focused on their domain, maintain relationships, and develop its practice" (Wenger, McDermott, & Snyder, 2002, p. 80). The authors talk about a leader or community coordinator performing some key functions including: identifying the important issues, planning and facilitating community events, communicating appropriately with other members in the community of practice, fostering the development of community members, managing the boundaries between groups in an organization, helping to build the practice, and assessing the practice (Wenger, McDermott, & Snyder, 2002). Some problems with redesigning

curriculum arise because there is no leadership. Faculty are almost always in

leadership roles whether they see themselves as leaders or not (Lunenburg &

Ornstein, 2004).

CHAPTER III

METHODOLOGY

Overview

This dissertation study assessed a redesign of a technical writing curriculum. The study compared the differences of writing scores in assignments from the traditional, fully online curriculum in technical writing, to writing assignment scores in the redesigned pilot, hybrid curriculum in technical writing. This redesign encompasses action research as conceived by Kurt Lewin (1946). The idea of action research as an application theory of methodology is not a new concept. Lewin believed in combining practice with theory. He "combined two components that he was concerned about, the systematic, preferably experimental, study of a social problem, and efforts at its solution" (as cited in Bargal, Gold, & Lewin, 1992, p. 8). Lewin believed in a "cyclical process of planning, action, and evaluation" (Lewin, 1946). The redesigning of technical writing is, indeed, action research. Much of the planning for this research project took place during the prior year. The English Department received a grant to fund the new curriculum design, the *action* (as described in Lewin's cyclical process) took place during the pilot period, and then again, after evaluation, action took place during the implementation phase. Following the second action phase, came the evaluation phase thus completing the "cyclical process."

Research Questions

The following research questions served as a guide for this study:

1. Would the redesign of an English technical writing course improve the writing skills of students in the business fields?

2. Would the redesign of an English technical writing course improve the writing skills of students in the humanities?

3. Would the redesign of an English technical writing course improve the writing skills of students in the sciences?

Research Hypothesis

There would be a statistically significant difference at the .05 level in students' scores in the traditional technical writing classroom when compared to students' scores in the technical writing pilot classroom.

Research Design

This was a quasi-experimental study; it examined student outcomes by comparing writing assignment scores from a control group, technical writing fully online sections, to writing assignment scores from a treatment group, technical writing redesigned hybrid sections. Even though the students were placed into the "traditional fully online" section versus the "redesigned" hybrid section, the writing assignments from the students within each group were selected randomly by using www.random.org. Quasi-experimental studies can be helpful by providing descriptions of a certain population and information about changes occurring in student learning (Shavelson, 1996).

Participants

Since this was a total curriculum redesign, all students, 232 in total participated in either the traditional or hybrid formats of the class. Of the 232 in total, 135 students were enrolled in the fully online traditional sections of technical writing study in the spring 2009 and 97 students from the hybrid pilot sections of technical writing participated in the study. The scores on the same writing assignment in fully online traditional sections

from 135 students were compared to 97 students in the pilot redesigned hybrid course from the spring of 2009. The students were randomly selected by sections to participate in the study. After determining how many students were in each class, random.org was used to randomly select students and alternates from each class section/roster. For spring 2009, there were eight fully online traditional sections and 3 sections for the pilot hybrid redesigned course. The grant mandated that only 100 students' scores had to be compared. Therefore, students were randomly selected from the 8 sections. All 3 sections of the pilot, hybrid classes were included in the study as also mandated by the grant.

Instrumentation

The same instrument or writing assignment was used for the fully online traditional sections and the pilot hybrid sections (Appendix A). The writing assignments were graded according to the same rubric for traditional and redesigned sections on a 1-5 point scale. The rubric consisted of 4 criterions with 5 levels including excellent, very good, okay, poor and very poor. "The internal consistency (K= number of repeated measures on a subject) reliability" of the instrument (Shavelson, 1996, p. 475) was established by training three graduate teaching assistants and three English faculty in a 2-hour afternoon workshop. Grading commenced after reliability had been established during a "test" session. Grading was done in two "rounds" or sessions until all papers were graded. (Due to unforeseen circumstances, two of the graders did not complete their grading, so two new graders were trained and finished scoring those writing assignments). The papers were strictly and anonymously graded according to the same rubrics. The graders entered scores into a web-based instrument in order to maintain anonymity of the students. The graders did not know what sections they were grading

because of the papers being randomly selected. Each writing assignment was assigned a random number by the English Department secretary. The secretary in the English Department also had the section rosters so that after the grading, the papers were separated into appropriate groups.

Procedures

Request for approval from the Institutional Review Board (IRB) at The University of Southern Mississippi was submitted and approval was obtained (Appendix B). Also, a letter was obtained from The Department of English granting the researcher permission to use data from the writing assignments for this study (Appendix C).

To assess the effectiveness of the redesigned course, similar writing assignments strictly graded according to a specific rubric using inter rater reliability were calculated into a composite score.

The writing assignments assessed student learning gains/outcomes within the course in both the fully online and redesigned hybrid sections and the results were compared from the traditional fully online course to the redesigned hybrid course during its initial pilot semester. By using this method, results were compared and the learning outcomes assessed. The most important student outcome, substantive knowledge of professional writing, was measured in both the traditional fully online sections and redesigned hybrid sections in spring 2009. The redesign team, working with the faculty, agreed in advance how student performance was to be judged and the standards for grading the writing assignments. Faculty received training on consistent grading and practiced applying these assessment criteria in advance to familiarize themselves with the grading standards and aligned themselves accordingly.

As there are currently no articulated objectives for the technical writing classes, a rubric defining objectives for each assignment was implemented in the traditional fully online sections and the selected writing assignments were scored accordingly by the specific rubric, thus serving as baseline data which were compared to the same writing assignment in the redesigned hybrid pilot sections in spring 2009. In a follow up study, the baseline data will be used to assess the success of the redesigned sections when full implementation takes place in fall 2009.

<div align="center">Treatment</div>

Traditional

The traditional fully online technical writing classes vary in course content. An instructor can choose any textbook from which to teach the course. This caused course drift. Most of the instructors for this technical writing curriculum were adjunct. In spring 2009, the eight traditional sections were fully online classes and taught by adjunct faculty. Instructors had the opportunity and the ability to learn new technology and apply it to the virtual classroom. It is also important to note that the technological abilities of the instructors varied. In all traditional sections of technical writing, the students never meet face-to-face with the others in the classroom or the instructor.

Pilot

The pilot redesigned hybrid technical writing class had the same course content. The pilot class had an instructor of record along with three sections of classes. The instructor of record was an assistant professor in the department. The three section instructors were made up of three graduate assistants. The instructor of record met with all three sections at one time on Monday nights each week together in an auditorium. The

three teaching assistants met in the lab once a week with their assigned section. The students gathered at state-of-the-art work stations to discuss the class, assignments, and share knowledge. Then, the students met online anytime to get assignments and turn in assignments. Students in the pilot also had a customized text from Cengage Learning. Cengage helped develop the course content for the pilot. The students could access any lecture they missed through the online class via blackboard or they had the option to use other portable media devices. All lectures as well as a resource center containing essays, articles, and speeches were available through blackboard online. Students had instant access to power points and any other information to help them be successful in the course. Assignments were set up according to disciplines so that students might defer to their specific discipline when choosing assignments. The pilot stressed revision of final papers.

Data Analysis

A MANOVA design was used to analyze differences in scores. This was a quasi-experimental study. A chi square test was also used to evaluate how the traditional, fully online classes scored in each rubric component (concerns, organization, expression, and writing overall) compared to the pilot, hybrid classes.

The groups were divided into the three disciplines or majors of the students: humanities, sciences, or business. The alpha values of the studies were .05. This quantitative study was also in line with the indirect and direct measures needed for Southern Association of Colleges and Schools (SACS) accreditation.

CHAPTER IV

RESULTS

Introduction

This study compared scores on writing assignments at a southern university from 8 sections of traditional, fully online courses in technical writing, to 3 sections of pilot, hybrid courses. This pilot course, designed with the improvement of student outcomes in mind was created through a grant secured by the researcher and the grant writing committee. A standard writing assignment for technical writing students was administered to the 8 sections of the technical writing classes already in place in the curriculum; it was also administered to the 3 newly designed pilot sections. The original total number of students in the study was 301; however, sixty-nine students were omitted from the study because of other major or non-specified major (and a major component of this research was to determine differences among the various majors). A final total of 232 students' assignments were compared in this study. Of the 232 students, 135 students were in the traditional, fully online sections of technical writing, and the same writing assignment was administered to 97 students in the pilot, hybrid sections. All writing assignments were scored by six trained instructors of English using the same five--point rubric (see Appendix D). Two of the initial instructors did not finish grading their writing assignments, so two new/additional qualified instructors were hired to finish the grading. The two new instructors were trained and graded the writing assignments using the same five--point rubric.

This study attempted to answer the following research questions:

1. Would the redesign of English 333, technical writing, improve the writing skills of students in the business fields?

2. Would the redesign of English 333, technical writing, improve the writing skills of students in the humanities?

3. Would the redesign of English 333, technical writing, improve the writing skills of students in the sciences?

Sample Characteristics

Although no demographic data was collected specifically when conducting this study, the Technical Writing Course at this southern university is a junior level course required in several fields. The pilot, hybrid classes had a total of 97 writing assignments that were scored. The students were divided into three disciplines including business, humanities, and sciences. In the pilot, hybrid classes, there were 18 students enrolled in a business major which was 19% of the 97 total. Five students were enrolled in a humanities major, 5% of the 97 total, and 74 students were enrolled in the sciences of the 97 student total at 76%.

The traditional, fully online classes had a total of 135 writing assignments that were scored. Thirty-nine students were enrolled in a business major which is 29% of the 135 total. Nineteen students were humanities majors, 14% of the 135 student total. And 77 students were enrolled in science majors, 57% of the 135 student total for the traditional, fully online technical writing classes.

Table 1

Numbers of Majors in Disciplines

	Delivery	Number of Students	Percentage
Business	Pilot	18	19%
	Traditional	39	29%
Humanities	Pilot	5	5%
	Traditional	19	14%
Sciences	Pilot	74	76%
	Traditional	77	57%
Total	Pilot	97	
	Traditional	135	

Descriptive Statistics

Descriptive statistics were used to identify each set of responses. In addition to descriptive statistics, a MANOVA was used to compare writing assignment scores in the fully online, traditional classes to the pilot, hybrid classes. A chi square test was also used to evaluate how the traditional, fully online classes scored in each rubric component (concerns, organization, expression, and writing overall) compared to the pilot, hybrid classes.

Two independent variable categories existed for the study: traditional (fully online class sections) and pilot (hybrid class sections). The student population was divided into three disciplines (independent variables): business, humanities, and sciences. A rubric was created for the pilot redesign writing assignments and included a Likert Scale to rank each component [Appendix D]. The Likert Scale was arranged by *1—very poor, 2—poor, 3—okay, 4—very good, and 5—excellent.* The Likert Scale was applied to four questions:

1. In terms of attending to the needs and concerns of its readers, how successful was this document overall?

2. In terms of overall organization and following the conventions of the memo/email genre, how successful was this document?

3. In terms of the quality and appropriateness of expression, how successful was this document overall?

4. In terms of address the basic requirements of the assignment, how effective was this document overall?

Statistical Findings

This study attempted to show that the pilot (redesign), hybrid students in three different disciplines would score higher on the writing assignments than the students in three different disciplines in the traditional, fully online courses.

Alpha was set at .05. Even though Box's Test of Equality was $p = .045$, the researcher continued with the study because the MANOVA is a reasonably robust test. A MANOVA was used to see if there were differences between types of class (pilot hybrid, and traditional fully online). The results were significant, Hotelling's Trace = .065, $F(4,223) = 3.6$, $p = .007$. Univariate F-tests revealed a significant difference in concerns (which was concern for the audience's needs in the student writing assignment), $F(1,226) = 4.22$, $p=.041$, and organization (which was how the document was organized according to the student writing assignment), $F(1,226) = 10.59$, $p=.001$). No significant univariate F was found for expression or overall quality (See Table 2).

For the areas of concerns and organization, the traditional group scored higher than the pilot group. No significant multivariate F was found for discipline, $F(8,448) = 1.139$, $p=.335$. No significant multivariate F was found for the interaction of traditional or pilot and discipline, $F(8,448) = .257$, $p=.979$.

Table 2

Dependent Variable-Four Rubric Areas

	Delivery Type	Mean	Std. Error	95 % Confidence Interval	
				Lower Bound	Upper Bound
Concerns	Pilot	2.71	0.20	2.30	3.11
	Traditional	3.19	0.12	2.95	3.42
Organization	Pilot	2.59	0.17	2.26	2.92
	Traditional	3.22	0.10	3.03	3.41
Expression	Pilot	3.25	0.15	2.95	3.55
	Traditional	3.33	0.09	3.16	3.51
Writer Overall	Pilot	2.86	0.18	2.51	3.21
	Traditional	3.12	0.10	2.92	3.32

Note. Based on a 5 point scale (1 = very poor, 5 = excellent).

In the concerns category, business majors scored highest in both pilot and traditional classes. Humanities majors scored lowest in both pilot and traditional classes. Overall mean for the pilot was 2.78. Overall mean for the traditional was 3.20. The overall combined (pilot and traditional classes) mean was 3.03 for the concerns category. There were no interactions within disciplines in the concerns category (See Table 3).

Table 3

Descriptive Statistics-Concerns

Delivery Type	Discipline	Mean	Std. Deviation	n
Pilot	Business	2.94	1.06	18
	Humanities	2.40	0.89	05
	Sciences	2.77	1.13	74
	Total	2.78	1.10	97
Traditional	Business	3.41	1.14	39
	Humanities	3.00	1.29	19
	Sciences	3.15	1.25	77
	Total	3.20	1.22	135
Total	Business	3.26	1.13	57
	Humanities	2.88	1.23	24
	Sciences	2.97	1.20	151
Total		3.03	1.19	232

Note. Based on a 5 point scale (1 = very poor, 5 = excellent).

In the organization category, business majors scored highest in both pilot and traditional classes. Humanities majors scored lowest in both pilot and traditional classes. Overall mean for pilot = 2.73. The overall mean for traditional = 3.24. The overall combined (pilot and traditional) mean was 3.03 for the organization category. There were no interactions in the disciplines in the organization category (See Table 4).

Table 4

Descriptive Statistics-Organization

Delivery Type	Discipline	Mean	Std. Deviation	n
Pilot	Business	2.83	.79	18
	Humanities	2.20	1.10	05
	Sciences	2.74	.80	74
	Total	2.73	.81	97
Traditional	Business	3.46	.97	39
	Humanities	3.00	1.05	19
	Sciences	3.19	1.10	77
	Total	3.24	1.06	135
Total	Business	3.26	.96	57
	Humanities	2.83	1.10	24
	Sciences	2.97	1.20	151
Total		3.03	1.10	232

Note. Based on a 5 point scale (1 = very poor, 5 = excellent).

In the expression category, humanities majors scored highest in the pilot classes. Science majors scored lowest in the pilot classes. Business majors scored highest in traditional classes. Science majors scored lowest in traditional classes. The overall mean for pilot = 3.16. The overall mean for traditional = 3.31. The overall combined (pilot and traditional classes) mean was 3.25 for the expression category. There were no interactions in the disciplines in the expression category (See Table 5).

Table 5

Descriptive Statistics-Expression

Delivery Type	Discipline	Mean	Std. Deviation	n
Pilot	Business	3.22	.81	18
	Humanities	3.40	.55	05
	Sciences	3.14	.82	74
	Total	3.16	.81	97
Traditional	Business	3.44	1.05	39
	Humanities	3.32	.95	19
	Sciences	3.25	.87	77
	Total	3.31	.93	135
Total	Business	3.37	.98	57
	Humanities	3.33	.87	24
	Sciences	3.19	.84	151
Total		3.25	.88	232

Note. Based on a 5 point scale (1 = very poor, 5 = excellent).

In the writer overall category, business majors scored highest in both pilot and traditional classes. Humanities majors scored lowest in both pilot and traditional classes. The overall mean for pilot = 2.93. The overall mean for traditional = 3.14. The overall combined (pilot and traditional classes) mean = 3.05 for the writer overall category. There were no interactions in the disciplines in the writer overall category (See Table 6).

Table 6

Descriptive Statistics-Writer Overall

Delivery Type	Discipline	Mean	Std. Deviation	n
Pilot	Business	3.06	1.01	18
	Humanities	2.60	.55	05
	Sciences	2.92	.96	74
	Total	2.93	.95	97
Traditional	Business	3.38	1.21	39
	Humanities	2.89	1.10	19
	Sciences	3.08	.98	77
	Total	3.14	1.07	135
Total	Business	3.28	1.15	57
	Humanities	2.83	1.01	24
	Sciences	3.00	.97	151
Total		3.05	1.02	232

Note. Based on a 5 point scale (1 = very poor, 5 = excellent).

Ancillary Findings

A rubric was created for the pilot redesign and included a Likert Scale to rank each component. The Likert Scale was arranged by *1—very poor, 2—poor, 3—okay, 4— very good, and 5—excellent*. The Likert Scale was applied to four questions:

1. In terms of attending to the needs and concerns of its readers, how successful was this document overall?

2. In terms of overall organization and following the conventions of the memo/email genre, how successful was this document?

3. In terms of the quality and appropriateness of expression, how successful was this document overall?

4. In terms of addressing the basic requirements of the assignment, how effective was this document overall?

The researcher also used a chi square analysis for each rubric component by delivery type. There were significant differences between rubric scores in the areas of organization, X^2 (N = 232, df = 4) = 34.21, p < .001 and concerns, X^2 (N = 232, df = 4), = 11.85, p < .001. The ancillary findings confirmed the findings of the MANOVA by indicating statistically significant differences in the areas of concern and organization in traditional v. pilot sections.

The area of concerns answered the rubric question about the writing assignment that dealt with the concerns of the audience: In terms of attending to the needs and concerns of its readers, how successful is this document overall?
This means that even though the pilot had higher writing assignment scores in the very poor, poor and okay categories, the traditional, fully online courses scored higher in the very good and excellent categories when dealing with the concerns of the audience or writing for a specific audience (See Table 7).

Table 7

Concerns

	Delivery Type		
	Pilot	Traditional	Total
Very Poor	11	10	21
% within delivery type?	11.3 %	7.4%	9.1%
Poor	31	37	68
% within delivery type?	32.0%	27.4%	29.3%
Okay	30	25	55
% within delivery type?	30.9%	18.5%	23.7%
Very Good	18	41	59
% within delivery type?	18.6%	30.4%	25.4%
Excellent	7	22	29
% within delivery type?	7.2%	16.3%	12.5%
Total	97	135	232
	100%	100%	100%

Note. Based on a 5 point scale (1 = very poor, 5 = excellent).

Organization answered the rubric question about the writing assignment that dealt with the organization of the writing assignment: In terms of overall organization and following the conventions of the memo/email genre, how successful is this document? This means that even though the pilot had higher writing assignment scores in the very poor and okay categories, the traditional, fully online courses scored higher in the poor, very good and excellent categories when dealing with the organization of the document in memo/email form (See Table 8).

Table 8

Organization

	Delivery Type		
	Pilot	Traditional	Total
Very Poor	8	5	13
% within delivery type?	8.2%	3.7%	5.6%
Poor	21	31	51
% within delivery type?	21.6%	22.2%	22.0%
Okay	60	45	105
% within delivery type?	61.9%	33.3%	45.3%
Very Good	5	37	42
% within delivery type	5.2%	27.4%	18.1%
Excellent	3	18	21
% within delivery type	3.1%	13.3%	9.1%
Total	97	135	232
	100%	100%	100%

Note. Based on a 5 point scale (1 = very poor, 5 = excellent).

Summary

This study attempted to show that the pilot (redesign), hybrid students in three different disciplines (sciences, humanities, and business) would improve their writing skills when same writing assignments were compared to the students in three different disciplines in the traditional, fully online courses.

In summary, the results showed statistically significant differences for the areas of organization and concern for students in the traditional sections of the technical writing

course. Students in the traditional sections showed significantly higher means than those in the pilot, redesigned sections for the areas of organization and concern. In both the concerns and organization categories, business majors scored highest in both pilot and traditional classes while humanities majors scored lowest in both pilot and traditional classes. No other statistically significant differences or interactions were found in this study.

CHAPTER V

SUMMARY

In this chapter, the researcher will discuss the findings of the study, their implications, possible limitations, and implications for future research as well as policy and practice. This purpose of this study was to analyze scores from the same writing assignment given in traditional, fully online technical writing sections (8) to redesigned hybrid pilot sections (3) at a southern university in three different academic areas to determine if significant differences might exist between the two types of delivery and three disciplines.

In the spring of 2009, a writing assignment (see Appendix A) was given to 232 students in technical writing sections of a southern university. From 8 sections, 135 students were randomly selected in fully online technical writing classes to participate in this study by doing a writing assignment and the same writing assignment was given to 97 students randomly selected to participate from 3 redesigned pilot sections. The study began with 301 student papers; however, sixty-nine student assignments were omitted because of having specified "other major or non- specified major" and majors were needed as an important part of this study. Random numbers were assigned to each paper for the purposes of anonymity while scoring. The only identifying information from each student was class standing, major, and other English courses previously taken. Students were also asked to report when and where the prior English classes were taken. The students were divided into two groups: 8 sections were traditional, fully online sections and 3 sections were hybrid (the hybrid is part face-to-face, part on-line). The hybrid sections had one instructor of record and 3 graduate assistants (GA's) as instructors. The traditional classes are typically taught by adjuncts and this semester in particular was all

taught by adjunct faculty. The faculty were allowed to use a text of their choosing. For the pilot, hybrid sections, the classes met every Monday night as a group with the instructor of record in an auditorium and then the GA's met with the students on a regularly scheduled class meeting, for example, they met with students on Wednesdays from 2pm-3pm. All of the class meetings were required. The students could access the class and assignments online, and they could watch videos of the lectures from the instructor of record. The students in the hybrid also had access to a virtual library of sources and speakers available. The hybrid class is the redesigned technical writing class.

The required writing assignment for the assessment of writing improvement was given toward the end of the course after most of the work for the semester was completed. All instructors were notified of its importance. The semester of this study, there were 9 sections of the traditional, fully online classes. One instructor did not give the writing assignment which means that only 8 sections participated in this study. There were 3 sections of the pilot, hybrid classes and all of the 3 sections participated in this study.

The English Department chose papers to score from the 8 sections using random.com. The purpose of this study was to analyze the scores from students using the same writing assignment from the fully online sections and to analyze scores from students using the same writing assignment from the redesigned hybrid sections to see the differences in scores. The students in the redesigned sections should have performed better because moving from a fully online class to a hybrid class will give students a greater sense of community since students receive some face-to-face contact with their professors (Ritter et al., 2010).

In a perfect community learning environment, students believe that their educational needs will be met through their commitment to shared goals which is important for any class, but especially important in online class structures where students' sense of connectedness and ability to communicate with each other can influence their learning (Barr and Tagg, 1995). Establishing this sense of communication and connectedness begins with professors having a positive attitude about the class and students' success especially in online formats since the students cannot see you. It is easier to establish this communication in the hybrid format because of seeing the students face-to-face regularly (Ritter et al., 2010).

Discussion

The analyses of the data were presented in Chapter IV. A summary of the results is presented here. This study attempted to answer the following research questions:

1. Would the redesign of an English technical writing course improve the writing skills of students in the business fields?

2. Would the redesign of an English technical writing course improve the writing skills of students in the humanities?

3. Would the redesign of an English technical writing course improve the writing skills of students in the sciences?

It was the expectation of this researcher that the writing scores in the redesigned section would show that writing improved and knowledge was gained; however, among those professors who have taught or developed an online course, the majority rated fully online classes' effectiveness as being as good as or better than face to face (Parry, 2009).

The findings in this study did not reveal improved writing skills in the disciplines. In fact, the findings revealed there were no interactions between disciplines in this study.

Through an analysis using descriptive statistics to identify each set of responses, a MANOVA was used to compare writing assignment scores in the traditional, fully online classes to the redesigned pilot, hybrid classes. A chi square test was also used to evaluate how the traditional, fully online classes scored in each rubric component (concerns, organization, expression, and writing overall) compared to the redesigned, pilot, hybrid classes (see Appendix D).

Two independent variable categories existed for the study: traditional (fully online class sections) and the redesigned pilot (hybrid class sections). The student population was divided into three disciplines (independent variables): business, humanities, and sciences. A rubric was created for the pilot redesign writing assignments and included a Likert Scale to rank each component [see Appendix D]. The Likert Scale was arranged by *1—very poor, 2—poor, 3—okay, 4—very good, and 5—excellent.* The Likert Scale applied to four questions:

1. In terms of attending to the needs and concerns of its readers, how successful was this document overall?

2. In terms of overall organization and following the conventions of the memo/email genre, how successful was this document?

3. In terms of the quality and appropriateness of expression, how successful was this document overall?

4. In terms of address the basic requirements of the assignment, how effective was this document overall?

The following two questions resulted in significant differences as each scorer used a 5 point Likert Scale to answer each question:

1. In terms of attending to the needs and concerns of its readers, how successful is this document overall? (See Appendix D in order to define the Likert Scale scores).

2. In terms of overall organization and following the conventions of the memo/email genre, how successful is this document?

The findings of this study suggest that continual work needs to be done to the curriculum redesign before fully implementing the new curriculum because significant differences were found in the areas of organization and concerns in favor of the traditional, fully online classes. Pellegrino (2006) sums it up this way, more is known about the competence in curriculum; however, little knowledge has been used to shape our "curricular goals, our instructional processes, or our modes of assessment" (p. 1). A committee must begin a redesign of a curriculum with the end in mind. Pellegrino (2006) says we must understand "the educational process—curriculum, instruction, and assessment" (p. 1).

The traditional, fully online class of technical writing students scored significantly higher than the pilot, hybrid class of technical writing students in the areas of organization (how the students organized the writing assignment) and concerns (how the students addressed the concerns of the audience). The two preceding questions were part of the 5 point Likert scale that scorers used to score the writing assignments. See the Limitations section below for possible reasons that students in the traditional sections

scored higher on the writing assignment in the areas of concern and organization than the pilot, hybrid students scored in the same areas.

Dewey (1916) supported performance that emphasized the person with the situation. Wenger (1998) in his theory of situated learning highlighted the role of complex participation in a "community of practice." "Curriculum is always in progress; a faculty's concern for learning, its assessment and validation, is distinctly individual" (Mentowski et al., 2000, p. 237). Even though we are expected to work with a team for a grant, curriculum change, or assessment, every participant is extremely individual in thought and action. Collaboration must be, then, an effort as individuals, to understand the perspectives of co-participants and to share with them a mutual responsibility for team work and students' learning when redesigning a curriculum. Each faculty and team member comes with his or her own set of ideas in redesigning a curriculum. If the ideas are not all the same concerning the curriculum redesign, tensions can interfere with what is best for the students. Mentowski and associates (2000) suggest talking through a curriculum perspective in order to get on the same page at the start of redesigning a curriculum. Taking a curriculum perspective implies determining student learning outcomes (Stark and Lattuca, 1997). "Unarticulated conflicts can stop conversations about what is in the best interest of the learners, and faculty can miss the opportunity to be more accountable for practice" (Mentowski et al., 2000, p. 327). There is a fear of interdisciplinary committees. Everyone is concerned about what he or she is "getting out" of the redesign and how it will affect his or her discipline. Instead of a cohesiveness and communication, tensions can destroy the sharing of ideas and camaraderie that could take place when redesigning a curriculum.

Limitations

The following limitations could have impacted this study. Two new scorers were trained to evaluate several papers before the study could be completed. The new scorers might not have been as well--trained or could have been better--trained than the original six scorers, but either way, there was significance difference that the researcher cannot discount in the rubric areas of concerns of audience and organization of writing assignment. Even though the ID numbers were anonymous according to pilot, hybrid and traditional online classes, scorers might have inadvertently figured out that a 1 = pilot, hybrid classes and 8 = traditional, fully online classes and scorers might have graded the pilot writing assignments harder or the numbers could have inadvertently been entered backwards. Grade inflation could certainly be considered a limitation. The traditional, fully online classes could have been easier because the class is "cookie cutter" meaning that all of the fully online students share the same material and the same course syllabi have been around a long time making the traditional, online grades higher.

The researcher is not aware of how the writing assignments were administered including instructions and priority; there was a range of the quality of instruction All sections were not evaluated that were supposed to be i.e. one traditional, fully online adjunct instructor did not give the students this writing assignment. This would have given the researcher more data for this study. Instructors teaching the traditional, fully online classes were not fully aware of the (pilot study) until the semester it was implemented. Pre-planning with current fully online instructors might have benefitted the study. The final limitation is that there was only one assessment; it was not continuous.

Recommendations for Policy and Practice

Based on this study, pilot studies should be advocated; pilot studies are a cyclical process, as promoted earlier by Kurt Lewin (1946). Because this technical writing class is a junior level course, two other basic English classes are required before a student can enroll. The students were asked if they had taken any English before taking the technical writing class. This information could be useful to see if the two other English classes should be required before taking the technical writing class. In other words, some of the students "slip by" and do not take the course requirements or they take the classes out of sequence. How do students who only had Composition I and then take technical writing do in the junior level course? How do students who have had both Composition I and II and enroll in technical writing do in the junior level course? The data can be used to compare scores from students who had the required classes and then took the technical writing course to students who did not have all of the required classes before technical writing to see if the final grades from each group showed significant differences. Redesigning technical writing could also lead to other redesigns in curricula. For example, Composition I and II may need to be more focused to other discipline specific writing for certain majors. Based on this study, similar classes, like business writing, taught in a business department may need to focus on different assignments from the ones in technical writing. Based on this study, dialogue between departments would be informative for setting curricula in all departments. In this age of technology, an article could explore the fact that a traditional, fully online course had higher scores on two rubric points in the writing assignments than a newly redesigned, hybrid course. Based on

this study, faculty and administrators need to examine fully online classes as the impetus of learning in the 21st century.

Recommendations for Future Research

This was a pilot study in the spring of 2009 that only included 3 sections of writing assignments from the pilot, hybrid course. The full implementation of this redesign took place fall 2009 meaning that all classes in technical writing moved to the hybrid format instead of the classes being taught fully online. Based on this pilot study, an in depth assessment needs to take place encompassing more students in the study so as to get a better idea of actual learning gained and needs of students. Assessment must be continuous in order for this redesign to work for all stakeholders involved. Students need to fill out a survey with suggestions for discipline specific learning. Technical writing is a junior level course which indicates some success on the part of the student for nearing graduation from a university. Based on this study, students need to be surveyed about their specific roles in specific jobs and the "new" discipline specific writing course in a hybrid format meeting their needs to attain their personal and professional goals.

The writing assignments for the future classes need to be geared to real writing assignments the students will encounter in their jobs. "Learning should endure beyond graduation and apply to real world settings" (Randolph, et al., 2007). For example, a business major may need to know how to create a sales portfolio or marketing portfolio for consumers. A science major or researcher will have to know how to write hypotheses to prove a point. Humanity majors will need to utilize MLA format when publishing, unlike a science major, who might use APA or CSE style of writing. The researcher proposes that graduate students from each discipline actually teach each section

pertaining to that discipline. From this, the course would become interdisciplinary. Derek

Bok, in his recent book*, Our Underachieving Colleges*, argues that faculty at colleges and

universities need to work in a more coordinated way to build sophisticated learning

outcomes. Based on this study, technical writing would be the perfect class to integrate

the various writing needs of each discipline. Based on this study, it is apparent that a

professor from each discipline should be consulted to gain insight into the needs of that

department. Each professor could give a guest lecture and be used as a resource for other

assignments. Also, before the class begins, each assigned professor could help build an

"online" library of resources that would be available to students in his or her discipline.

Professors from the three different disciplines could also teach the hybrid class

emphasizing writing within that particular discipline. In the future classes, emphasis must

be placed on transferable learning (Mentowski et al., 2000) which is when "faculty are

very explicit about connections between real world need, new information, and skills to

be learned" (p. 245). A discipline specific class leads to a discipline specific job in the

workplace.

<div align="center">Conclusion</div>

In conclusion, the pilot study was a "test" of what worked and what did not work

so that, eventually, a curriculum for technical writing could be fully implemented. The

researcher learned the tasks involved in writing a grant and implementing the grant. The

pilot study was a learning experience for all committee members. The pilot sections

enabled the technology to be set up and underway for the course. An online learning

resource center is now created and constantly being updated. As stated before, a student

survey needs to be implemented to continuously evaluate course needs. Students need to

take a larger role in curricula redesign. Professors from various disciplines need to work together for the good of students and their university. The redesign of the technical writing curriculum is made up of different pedagogical strategies that should eventually help students learn and succeed in their future and the future of our workforce.

APPENDIX A

WEB SITE EVALUATION PROJECT

Purpose
With many companies conducting commerce via the Internet and communicating with employees through an Intranet, the web site has become a common form of workplace communication. The web site evaluation assignment offers you the opportunity to learn about strategies for document design, as well as critical analysis. With this project, we'll build on concepts we've already discussed this term, such as organizing information spatially, balancing text and image, and unifying multi-page texts. At the same time, we'll also learn about the ways in which writing and submitting electronic texts— including web pages and e-mail—differs from composing print documents.

Assignment
Select a web site
Your assignment is to write and submit via e-mail a web site evaluation that will guide a webmaster in making future revisions to a web site. First, you'll select a web site. The assignment will be most interesting to you if you choose a web site centered around a topic that you care about (assuming that topic and web site, which will be cleared by your instructor, is appropriate for the class). In selecting a web site to evaluate, you'll want to find a site with relatively few linked pages. If you select a site that includes over 25 linked pages, for instance, it will be difficult to be thorough in your evaluation. Also, it is important that the site be one that can benefit from the evaluation: a multinational company that employs dozens of individuals to create web content is not likely to be in dire need of recommendations for revision.

Critique the site
Next, you'll spend some time analyzing it in terms of effective design principles. You'll want to examine elements such as the web site's overall design, page layout, navigation, load time, textual content, consistency, color, and graphics, and persuasiveness. You'll certainly also want to consider the rhetorical situation that motivated the creation of the site: intended audience, purposes/intentions of the web site creator, context, etc.

Write an evaluation
You'll then write an evaluation directed to the webmaster, assessing the site's strengths and weaknesses and making suggestions for revisions. The evaluation should be 2-3 pages or 600-900 words long. How you organize the evaluation is up to you. Be sure, however, to discuss both strengths and weaknesses of the site, as well as recommendations for improvement.

Submitting your document
Along with your web site evaluation email itself, please include the following information for programmatic assessment purposes:
• Your student number/EMPLID
• Your class standing (Freshman, Sophomore, Junior, Senior)

- Your major
- What other writing/English classes you've taken at the college level (090? 099? 101? 102? 203?) Please also indicate where you took these classes (USM? Community college? Another 4-year institution?)

Grading Criteria
The following criteria can be used to assess the web site evaluation, should you as an instructor wish to grade this assignment.

Content
Does the evaluation include the following elements? (not necessarily in this order)
- The URL of the site early in the email message (this will serve as future reference for the webmaster and clarification if he/she maintains more than one site; it will also enable your instructor to view the site)
- Strengths of the site
- Weaknesses of the site
- Recommendations for the site
- Are recommendations supported with evidence/explanation? (in other words, rather than simply suggesting the background color be changed, explain why)
- Does the evaluation explore alternative resolutions to any problem before presenting, with supporting arguments, the optimal solution?
- Does the email header contain the pertinent info?
- Is the subject line specific and concise?
- Are the tone, word choice, and level of technical detail used in the document appropriate for the intended audience?
- Is the document free of errors in grammar and mechanics (including spelling, punctuation, and capitalization) that impede understanding and detract from a professional image?

Organization
- Does the evaluation's organization follow a logical sequence?
- Are paragraphs unified (focused on only one main idea), with topic sentences used to state the paragraph's main point and provide a transition from the previous paragraph?
- Does the evaluation avoid unnecessary repetition of information?
- Is wording clear and concise throughout

APPENDIX B

IRB APPROVAL

THE UNIVERSITY OF SOUTHERN MISSISSIPPI

Institutional Review Board

118 College Drive #5147
Hattiesburg, MS 39406-0001
Tel: 601.266.6820
Fax: 601.266.5509
www.usm.edu/irb

HUMAN SUBJECTS PROTECTION REVIEW COMMITTEE
NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Human Subjects Protection Review Committee in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".
- If approved, the maximum period of approval is limited to twelve months. Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: **29070601**
PROJECT TITLE: **Technical Writing Redesign and Assessment: A Pilot Study**
PROPOSED PROJECT DATES: **01/25/09 to 10/10/09**
PROJECT TYPE: **Dissertation or Thesis**
PRINCIPAL INVESTIGATORS: **Gaye Winter**
COLLEGE/DIVISION: **College of Education & Psychology**
DEPARTMENT: **Educational Leadership & Research**
FUNDING AGENCY: **N/A**
HSPRC COMMITTEE ACTION: **Expedited Review Approval**
PERIOD OF APPROVAL: **07/13/09 to 07/12/10**

Lawrence A. Hosman   7-14-09
Lawrence A. Hosman, Ph.D.   Date
HSPRC Chair

APPENDIX C

PERMISSION TO USE DATA

The University of
Southern Mississippi

Department of English

118 College Drive # 5037
Hattiesburg, MS 39406-0001
Tel: 601.266.4319
Fax: 601.266.5757
www.usm.edu/english

June 23, 2009

TO WHOM IT MAY CONCERN:

Gaye Winter, a graduate student in the Department of Educational Leadership and Research, is using data from a course we've redesigned in the Department of English—English 333, Technical Writing—in her dissertation project. I hereby grant Ms. Winter permission to use any data she needs for her study, subject to privacy constraints.

Sincerely,

Michael Mays
Professor and Chair

APPENDIX D

ASSESSMENT

1. Introduction

This online assessment tool has been designed to evaluate and report learning outcomes of students enrolled in English 333 at the University of Southern Mississippi in the Spring of 2009.

This instrument has been divided into three sections: 1) Student Profile Information; 2) Evaluation of Overall Document Quality; and 3) Mastery of Key Course Concepts.

Please note: all questions will require an answer before proceeding. If there seems to be some problem with the student portfolio you are attempting to evaluate (i.e., it appears to be an inappropriate sample), you will have an opportunity to note this at the end of the assessment.

2. Student Profile Information

1. Portfolio ID #

Portfolio ID #

2. Please enter the first digit of the portfolio ID # again here:

Please enter the first digit of the portfolio ID # again here:

3. Student Class Standing/Classification

☐ Student Class Standing/Classification   Freshman

☐ Sophomore

☐ Junior

☐ Senior

☐ Unknown/None Indicated

4. Student's Major

Student's Major

*

5. Other English/Writing Classes Student Has Taken?

	At USM?	At Other School?	Not Specified
090	☐ Other English/Writing Classes Student Has Taken? 090 At USM?	☐ At Other School?	☐ Not Specified
099	☐ 099 At USM?	☐ At Other School?	☐ Not Specified
101	☐ 101 At USM?	☐ At Other School?	☐ Not Specified
102	☐ 102 At USM?	☐ At Other School?	☐ Not Specified
203	☐ 203 At USM?	☐ At Other School?	☐ Not Specified
332	☐ 332 At USM?	☐ At Other School?	☐ Not Specified
Other	☐ Other At USM?	☐ At Other School?	☐ Not Specified

(List other classes)

English 333 Pilot Assessment (Spring 2009)

3. Evaluation of Overall Document Quality

In this section, you will be asked to assess the quality of the sample as a document. That is, how successful is this document as a memo/email overall with respect to four key areas: attending to the needs of its audience, organization and following the conventions of the genre/form, expression, and overall appropriateness in addressing the rhetorical situation of the assignment?

1. In terms of attending to the needs and concerns of its readers, how successful is this document overall?

☐ In terms of attending to the needs and concerns of its readers, how successful is this document overall?   5. Excellent -- the writer seems to be addressing a real set of readers, and employs a variety of techniques aimed at successfully cultivating a good relationship with this audience. The level of detail, tone, and overall approach creates an extremely favorable impression. Where appropriate, potential problems and concerns are anticipated and effectively addressed.

☐ 4. Good -- the writer seems to have a sense of who he or she is writing to, and employs some techniques to cultivate a good relationship with his or her audience. The writer anticipates likely objections/concerns, and makes attempts to address them.

☐ 3. Okay -- the document addresses a potential reader, and while there may be few attempts to a relationship with his or her audience, the writer on the whole seems to address some potential objections/concerns. The document may lack some detail and specificity, and the overall tone and approach may not be as engaging as it could be, but the document remains effective.

☐ 2. Poor -- the document does not seem addressed to any audience in particular, and there are few attempts to create a relationship with readers. Tone, level of detail, and overall approach are ineffective, and at times may even undermine the document as a whole. Potential objections and concerns remain largely unaddressed.

☐ 1. Very Poor -- the document is not addressed to anyone, and there are no attempts to cultivate any relationship with readers. Tone, level of detail and approach are completely ineffective, and at times may even seem insulting. Potential objections and concerns are not only not addressed, but the document as a whole may raise further concerns than it seeks to resolve. Overall, the document creates a very unfavorable impression.

2. In terms of overall organization and following the conventions of the memo/email genre, how successful is this document?

☐ In terms of overall organization and following the conventions of the memo/email genre, how successful is this document? 5. Excellent -- the document is formatted as a memo/email (with "To", "From", "CC", "Date" and "Subject" lines, as appropriate), and the organization demonstrates a clear, well considered plan throughout that effectively supports the aims of the document and the assignment. The beginning effectively sets up the discussion to follow, the middle provides ample support/examples/discussion that elaborates on a set of clearly imagined points, and the ending brings the document to an appropriate close. Paragraphs are coherent, well developed, appropriately divided, and clearly related to other parts of the document. If headings or subheadings appear, they enhance the overall shape and flow of the discussion.

☐ 4. Very Good -- the document is formatted as a memo/email (with "To", "From", "CC", "Date" and "Subject" lines, as appropriate), and the organization is clear and easy to follow: The beginning and ending are effective, and transitions within and between paragraphs are clearly signaled. Paragraphs seem appropriately ordered. If headings or subheadings appear, they seem to organize the discussion effectively.

☐ 3. Okay -- the document may not be formatted as a memo/email (with "To", "From", "CC", "Date" and "Subject" lines, as appropriate), but the organization is clear and easy to follow. The introduction and conclusion are adequate; transitions are mechanical but appropriate. Paragraphs may not be in their best order, and occasionally material within paragraphs might be more effectively arranged. If headings or subheadings appear, they are functional.

☐ 2. Poor -- the document may be inappropriately formatted as a memo/email, and the

organization is deficient. Beginnings or endings are not clearly marked or functional. Paragraphs are not coherently developed or linked to each other. The arrangement of material within paragraphs may be confusing. If headings or subheadings appear, they do not add to the overall effectiveness and flow of the document.

1. Very Poor -- the document lacks formatting of any kind, and it is unclear whether the student is writing in any the genre. The organization is very difficult to follow. Sentences may not be appropriately grouped into paragraphs, or paragraphs may not be arranged logically. Transitions are not present or are inappropriate.

3. In terms of the quality and appropriateness of expression, how successful is this document overall?

In terms of the quality and appropriateness of expression, how successful is this document overall?   5. Excellent -- the expression throughout is well suited for the document's intended audience and context. It displays ease with idiom and a broad range of diction. Where appropriate, it shows facility with a great variety of sentence options and the punctuation and subordinate structures that these require. It has few errors, none of which seriously undermine the effectiveness of the document for its intended readers.

4. Very Good -- the expression is appropriate for its intended audience and context. The document has few errors, especially serious sentence errors. Where appropriate, sentences show some variety in length, structure, and complexity; diction is precise and varied. Punctuation, grammar and spelling conform to the conventions/expectations of the document's intended readers.

3. Okay -- the expression is generally acceptable for its intended audience and context, although it may show little competence with sentence variety (in length and structure) and emphasis. The paper is generally free of major sentence and grammar errors and indicates a mastery of most conventions/expectations of its intended readers.

2 Poor – the expression is largely inappropriate for its intended audience and context, and demonstrates little awareness of a range of stylistic options. It is marred by numerous errors in grammar, spelling, and punctuation. The syntax or diction is so flawed in places that comprehension is difficult for its intended readers.

1. Very Poor – the expression is completely inappropriate throughout. The number and seriousness of errors -- in grammar, spelling, punctuation, diction or syntax -- obstruct comprehension for all readers.

4. In terms of addressing the basic requirements of the assignment, how effective is this document overall?

In terms of addressing the basic requirements of the assignment, how effective is this document overall?   5. Excellent -- the writer seems to have an outstanding grasp of the overall purpose of the assignment. The document effectively addresses the strengths and weaknesses of a specific web site, and provides clear and thoughtful recommendations to the webmaster on how to make improvements. The writer seems to have carefully considered the factors that would make for successful communication in this particular

situation, and all suggestions are supported with enough evidence/examples to explain not only why a particular change is required and how they can be implemented, but how such changes will ultimately improve the site. Overall, the document seems likely to persuade even resistant readers to consider the writer's suggestions carefully.

☐ 4. Very Good – the writer seems to have a good grasp pf the overall purpose of the assignment. The document addresses different strengths and weaknesses of a specific web site, and provides several recommendations about how the site might be improved. The writer seems to have considered the factors that contribute to successful online communication, and offers specific suggestions to the webmaster on how and why to make such improvements. Overall the document seems likely to be taken seriously by most readers.

☐ 3. Okay – the writer seems to have an adequate grasp of the overall purpose of the assignment. The document touches on some of the strengths and weaknesses of a specific web site, and provides some recommendations about how the site might be improved. The writer seems to have a general sense of the factors that make for successful online communication, and offers suggestions about one or more broad improvements that could be made. Overall, aspects of the document seems likely to be taken seriously by some readers.

☐ 2. Poor – the writer seems to have a limited grasp of the purpose of the assignment. The document either does not address any strengths of the website in question, avoids considering the weaknesses of a particular site, or fails in some way to make any significant recommendations. The writer seems to have a limited understanding of the factors that make for successful online communication, and is only able to offer the most general suggestions, many of which may not address the needs and concerns of the situation in question. Overall, the document is unlikely to be taken seriously by most readers.

☐ 1. Very Poor – the writer seems to have little or no grasp of the purpose of the assignment. The document fails to address the weaknesses or strengths of a website in any meaningful way, and/or offers no real recommendations of any kind. The writer seems to have little or no understanding of the factors that contribute to successful online communication, and/or seems unwilling to offer even the most general suggestions. Overall, this documents seems unlikely to be taken seriously by even the most sympathetic reader.

4. Demonstrated Mastery of Key Course Concepts

In this section, you will be asked to consider how well the sample document demonstrates the student's understanding of key concepts in the course. That is, how well does the student seem to understand the factors that make for an effective web site, and how successfully does the student communicate this understanding to his or her intended readers?

1. In terms of demonstrating the student's understanding of the principles of effective Document Design (i.e., alignment, proximity, repetition, contrast, incorporating visual aids, etc.), how successful is this document overall?

☐ In terms of demonstrating the student's understanding of the principles of effective Document Design (i.e., alignment, proximity, repetition, contrast, incorporating visual aids, etc.), how successful is this document overall?   Outstanding -- the student refers extensively to each of the principles within the website evaluation, seems to have an excellent grasp of how each one works in practice, and communicates effectively why his or her reader should consider the principle important. Based on this discussion, it is clear that the student has mastered this key course concept.

☐ Very Good -- the student refers to two or more of the principles within the website evaluation, seems to have a very good grasp of how several of these principles work in practice, and communicates effectively why these principles are important to his or her reader. Based on this discussion, the student seems to have a very good mastery of this key course concept.

☐ Okay -- the student refers to one or two of the principles within the website evaluation, seems to have some grasp of how these principles work in practice, and attempts to communicate why these principles might be important to his or her reader. Based on this discussion, the student seems to have some mastery of this key course concept.

☐ Poor -- the student refers to only one of the principles within the website evaluation, or seems to have an incomplete or faulty grasp of how these principles work in practice. The student seems unable to communicate why these principles might be important to his or her reader. Based on this discussion, the student seems to have a limited understanding of this key course concept.

☐ Insufficient Evidence -- the student makes no references to any of the principles of document design within the website evaluation, and therefore, there is no evidence the student has acquired an understanding of this key course concept.

*

2. In terms of demonstrating the student's understanding of the importance of Rhetorical Situation (i.e., audience, context, intention, argument, etc.), how successful is this document overall?

☐ In terms of demonstrating the student's understanding of the importance of Rhetorical Situation (i.e., audience, context, intention, argument, etc.), how successful is this document overall?   Outstanding -- the student refers extensively to various aspects of the rhetorical situation within the website evaluation, seems to have an excellent grasp of how each of these elements works in practice, and communicates effectively why his or her readers should consider the rhetorical situation important in their own web design. Based on this discussion, it is clear that the student has mastered this key course concept.

☐ Very Good -- the student refers to two or more of the elements of rhetorical situation within the website evaluation, seems to have a very good grasp of how several of these elements work in practice, and communicates effectively why these elements are

important for his or her readers to consider with respect to their own web design. Based on this discussion, the student seems to have a very good mastery of this key course concept.

○ Okay -- the student refers to one or two of the principles within the website evaluation, seems to have some grasp of how these principles work in practice, and attempts to communicate why these elements might be important to his or her readers with respect to their own web design. Based on this discussion, the student seems to have some mastery of this key course concept.

○ Poor -- the student refers to only one of the elements of rhetorical situation within the website evaluation, and/or seems to have an incomplete or faulty grasp of how rhetorical elements work in practice. The student seems unable to communicate why these elements might be important to his or her readers to consider with respect to their own web design. Based on this discussion, the student seems to have a limited understanding of this key course concept.

○ Insufficient Evidence -- the student makes no references to any aspect of rhetorical situation within the website evaluation, and therefore, there is no evidence that the student has acquired an understanding of this key course concept.

3. In terms of demonstrating the student's understanding of the Technical Elements of Web Design (i.e., load time, navigation, external links, layout/frames, supporting different file types, etc.), how successful is this document overall?

○ In terms of demonstrating the student's understanding of the Technical Elements of Web Design (i.e., load time, navigation, external links, layout/frames, supporting different file types, etc.), how successful is this document overall?   Outstanding -- the student refers extensively to various technical aspects of web design within the evaluation, seems to have an excellent grasp of why each of these elements is important, and communicates effectively to his or her readers why they should consider these technical issues in their own design efforts. Based on this discussion, it is clear that the student has mastered this key course concept.

○ Very Good -- the student refers to two or more technical aspects of web design within the evaluation, seems to have a very good grasp of how several of these elements work in practice, and communicates effectively why these issues are important for his or her readers to consider with respect to their own design efforts. Based on this discussion, the student seems to have a very good mastery of this key course concept.

○ Okay -- the student refers to one or two technical aspects of web design within the evaluation, seems to have some grasp of how these elements work in practice, and attempts to communicate why these issues are important to his or her readers with respect to their own design efforts. Based on this discussion, the student seems to have some mastery of this key course concept.

○ Poor -- the student refers to only one technical aspect of web design within the evaluation, and/or seems to have an incomplete or faulty grasp of how these elements work in practice. The student seems unable to communicate why these elements might be

important for his or her readers to consider with respect to their own design efforts. Based on this discussion, the student seems to have a limited understanding of this key course concept.

☐ Insufficient Evidence -- the student makes no references to any technical aspect of web design within the evaluation, and therefore, there is no evidence that the student has acquired an understanding of this key course concept.

<div align="center">*</div>

4. In terms of demonstrating the student's understanding of the Persuasive Dimensions of Web Design (i.e., the use of different types of appeals -- ethos, pathos, logos -- and other forms of argumentation in an attempt to shape, reinforce, or reverse the attitudes of an audience), how successful is this document overall?

☐ In terms of demonstrating the student's understanding of the Persuasive Dimensions of Web Design (i.e., the use of different types of appeals -- ethos, pathos, logos -- and other forms of argumentation in an attempt to shape, reinforce, or reverse the attitudes of an audience), how successful is this document overall?   Outstanding -- the student refers extensively to various persuasive features of web design within the evaluation, seems to have an excellent grasp of how each of these different kinds of appeals works in practice, and communicates effectively to his or her readers why they should consider the persuasive dimensions of web design important. Based on this discussion, it is clear that the student has mastered this key course concept.

☐ Very Good -- the student refers to two or more persuasive features of web design within the evaluation, seems to have a very good grasp of how several of these appeals work in practice, and communicates effectively to his or her readers why they should consider the persuasive dimensions of web design important. Based on this discussion, the student seems to have a very good mastery of this key course concept.

☐ Okay -- the student refers to one or two persuasive features of web design within the evaluation, seems to have some grasp of how these appeals might work in practice, and makes some attempt to communicate to his or her readers to consider the persuasive dimensions of web design. Based on this discussion, the student seems to have some mastery of this key course concept.

☐ Poor -- the student refers to only one persuasive feature of web design within the evaluation, and/or seems to have an incomplete or faulty grasp of how the different appeals work in practice. The student seems unable to communicate why the persuasive dimensions of web design might be important for his or her readers to consider. Based on this discussion, the student seems to have a limited understanding of this key course concept.

☐ Insufficient Evidence -- the student makes no references to any persuasive features of web design within the evaluation, and therefore, there is no evidence that the student has acquired an understanding of this key course concept.

5. Additional Information

1. Is there anything else that needs to be noted about this particular student portfolio--or about the structure of the assessment instrument itself--that should be taken into account at this time?

Is there anything else that needs to be noted about this particular student portfolio--or about the structure of the assessment instrument itself--that should be taken into account at this time?

*

2. Assessor's Name

Assessor's Name

3. Which round of assessment is this?

☐ Which round of assessment is this?   Round One

☐ Round Two

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