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A study of the relationship between information literacy, online interactions, students' learning, and success in distance learning courses

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A STUDY OF THE RELATIONSHIP BETWEEN INFORMATION LITERACY, ONLINE INTERACTIONS, STUDENTS’ LEARNING, AND SUCCESS IN DISTANCE LEARNING COURSES

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

in

The Department of Educational Theory, Policy and Practice

by

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DEDICATION

For you, Toussaint Renaldo Pierre: inner power drives outer accomplishments. For my parents, Walter H. Smith and Mildred Cash Smith, and my siblings, Yolanda, Bianca, Renaldo, and Tamara, I can clearly see and stand stronger because of your unconditional love and sacrifice, and your prayers. I am truly grateful to Dorothy Pierre Thompson and John Kenneth Pierre. To David Williams and Patsy Randall Oliver, to each of these, I am indebted. I could not have done this work without all of you; it takes caring, collaboration, communication, and interactions for success. I owe!
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ABSTRACT

The number of online courses and degree programs available to students in institutions of higher education has proliferated over the past decades. Despite this growth there continues to be debate as to how to best design these courses so that they promote student learning. One common area of agreement, however, is that effectively designed courses promote interactions among students and faculty that increase and sustain learning. There is also growing consensus of the important role that information literacy may play in student success in online courses. In the context of online courses where interactions with information often replace human interactions, information literacy skills may be critical to student success. This study was designed to explore this possibility. The study was conducted at a mid-size university in the south and had two goals: First, to profile online course offerings at the university using a checklist based on best practices for online courses. Second, the study sought to investigate the relationship of information literacy skills with success in online courses. A mixed methods research design was used in which quantitative methods were used to profile the courses studied and explore correlates of student success; qualitative methods were used to explore the dynamics of the courses and shed light on the quantitative results. The results were as follows: The online courses studied varied with respect to their information literacy requirements and the extent to which they adhered to best practices as reflected in the online course checklist used. Second, information literacy skills were correlated with success, but less so than the quality of instruction and interactions with the course instructor. Third, information literacy skills were positively related to interactions with both course instructors and other students. Fourth, students were generally favorably disposed towards their courses and appeared to rely heavily on the course instructor if their information literacy skills were deficient. Recommendations for future design of online courses and for future areas of research are offered.
CHAPTER ONE. INTRODUCTION

Even before the 1970s, many colleges and university administrators were inclined to be drawn by the object of increasing revenue and achieving a competitive edge in the education marketplace. Yet before then, educators such as W.E. Du Bois, in his *The Talented Tenth*, debated the objects and purpose of Higher Education, “If we make money the object” then “we shall develop money-makers,” but not critical thinkers. And “if we make technical skill the object of education, we may possess artisans but not, in nature,” critical thinking men and women with the ability to insightfully participate in civic engagement. If we want caring, capable, influential and powerful people in our communities and neighborhoods as leaders (e.g., entrepreneurs, clergy, nurses and physicians, judges and lawyers, and teachers), according to Du Bois, we must make the object of our education processes the cultivation of men and women who are knowledgeable, about local and global economic and social problems, as well knowledgeable on how to build connections and networks with people anywhere in the world to achieve the important economic and social work of local and global communities. And we must shape lifelong learners. Yet the focus needs to be on educating the mind and training hands for meaningful work; not just a few of us, the so-called Talented Tenth, or the few chosen by the few to lead the rest, but for the many; and to find innovative ways to provide more access and availability to higher education and opportunities; so that each one may choose self-determination; and so if he or she chooses self-determination, he or she must be determined to earn a high school diploma, determined to earn a bachelor’s or master’s degree from a university. Du Bois concluded that, “Whether you like it or not the millions [billions] are here, they will remain. If you do not lift them up, they will pull you down. Education and work are the levers to uplift a people.” Teaching skill alone will not do it unless inspired by leaders who are themselves inspired. All of these created and shaped in a culture of high expectation. Higher
education must not just teach skills to supply labor, it must be to continuously cast light and show the way to the many, many of those who have been and still are being mis-educated, and for those who once were illiterate as well the many who still are illiterate—and then bring them into the light; to feel and see and be in the presence of the light, ever travelling forward from illiteracy and innumeracy to identity and self-determination, and for what? It is because each of us once drawn into the light is changed and transformed- it is the light that draws us yet it is caring, sharing, and helping lift up others that fulfills the inner self.

*This, I firmly believe, is the object and purpose of Higher Education.*

**Background of the Problem**

Academic enterprise is not new (e.g., Bushweller, 2010). The number of online courses and degree programs offered by academic institutions, training organizations, governments, and industry has grown dramatically over the past several decades. In 2010, Allen and Seaman reported that online enrollments were over 4.6 million students. Further, they reported that in 2006 nearly 3.5 million students in the U.S. took at least one online course. In 2009, a report by the Sloan Consortium noted the following:

1. Over 4.6 million students were taking at least one online course during the fall 2009 term.
2. A 17 percent increase in enrollment occurred in distance learning over 1 year.
3. The 17 percent growth rate for online enrollment exceeds the 1.2% growth of the higher education student population in the U.S. during the same year.
4. More than one in four higher education students now take at least one course online.

The growth in popularity of online courses and distance education programs has been fuelled in part by perceptions among educational administrators that perceive that e-learning is
efficient (e.g., Angelino & Natvig, 2009; Ash, 2009; Bramble & Panda, 2008; Buissink-Smith, Mann, & Shephard, 2011; Kim, & Frick, 2011; Schiffman, Vignare, & Geith, 2007), and are cost effective and efficient ways to enhance revenue and provide institutions with a competitive edge (e.g., Doering, & Veletsianos, 2008). Students have also contributed to this growth by enrolling in these courses at increasing rates and placing demands on institutions to increase their e-learning options (e.g., Margaryan, Littlejohn, & Vojt, 2011. According to (Flannery, 2011), online courses and programs are popular among students because they minimize disruption to their schedules, reduce or eliminate travel costs for commuting students, and can provide students with unlimited opportunities for practice and interactions with diverse media from varied authorities (e.g., Fluellen, 2011; Green, & Wagner, 2011; Jaggars, 2011; Michinov, Brunot, Le Bohec and others, 2011; Zhang, & Walls, 2006; Zhang, & Fulford, 1994; Zeh-Rust, 2006). However, these researchers further suggest that students taking online course are more likely to fail. Students with the most Web credits were the least likely to graduate with degrees. Brock (2010) noted, although online courses have provided more access to higher education over the past forty years, student success in college-as measured by persistence and degree attainment-has not improved at all. Di Xu and Jaggars (2011) noted that online and hybrid courses are not the magic pill for every student, nor is it right for every school, college or university.

Access to education does not translate to academic success (Flannery, 2011). In the landmark case, Brown versus Board of Education of Topeka, 347 U.S. 483 (1954), the United States Supreme Court that declared state laws establish separate public schools and public accommodations and facilities as constitutional in Plessy versus Ferguson (1896), reversed, and unanimously held the case and ruling in Plessy as unconstitutional. The Warren Court’s unanimous (9 to 0) decision found that “separate educational facilities are inherently unequal.”
As a result, de jure racial segregation was ruled a violation of the Equal Protection Clause of the Fourteenth Amendment of the United States Constitution. This ruling paved the way for integration and the civil rights and human rights movements.

Access and availability to education, even access to higher education does not translate to academic success. According to a recent study by the College Board Advocacy and Policy Center (June 20, 2011), only 26 percent of African American men have at least an Associate’s degree. In addition, from 1976 to 2002, the number of Bachelor’s degrees earned by Black and African American students, both male and female, dropped from 35 percent to only 20 percent. These statistics reflect the long history of struggle and disappointment over equal access to higher education for African Americans in the United States. If it is true that education, in particular Higher Education is a bridge out of poverty, a means to lift up men and women and their families (child, children, grandchildren, grandparents), and if it is true that education—Higher Education—can lead to higher income and wages, home ownership and staying in homes long enough to pay off mortgages and transfer estates (property) and businesses and enterprises to our children and grandchildren— and who can deny it, then while not all individuals need a college or university degree yet many, many people do. So, more online courses and distance education programs might provide more access to education.

**Quality in Online Courses**

The Sloan C (2011) *Pillars of Quality in Online Courses* are, as follows: (1) access, (2) learning effectiveness, (3) faculty satisfaction, (4) student satisfaction; and (5) institutional commitment, resources and support. Some worry that online courses and distance education programs will prevent the social experience, which have facilitated student engagement with on-ground campuses in the past. Yet it is somewhat unique that today’s technology tools have the potential to prevent students from feelings of disconnected and isolation. Online courses and
distance learning programs can help address the shocking decline in graduation rates for students by providing more access.

Some faculty, almost from the beginning, have viewed online courses and programs with skepticism. Some perceive that online courses do not require the same academic rigor (reading, writing, math college-level coursework) as face-to-face instruction and coursework in college and university classrooms. Some faculty are unconvinced, because there has been little evidence of how learning was assessed in online courses and programs; little evidence on attrition in online courses and programs; little evidence on student demographics in online courses and programs; little evidence on course instructor/teacher characteristics, credentials, and experience with teaching students in online courses and programs, and other concerns. In the absence of quantitative and qualitative evidence of assessment, and findings discussed, and improvements made as a result of assessments of quality in online courses and programs, faculty remain skeptical. Another faculty concern has been class size and effectiveness. How do course instructors know before hand, the workload? How do faculty know the intellectual property rights?

While the student is the key consumer of education, students are too passive. Students consume education to minimize disruption to their career and personal schedules, reduce or eliminate travel costs, and other conveniences. Yet, how does student quickly gain knowledge and information about the quality in online courses and distance learning programs? Active student consumers seek to discover: the academic standing of the college, university, program; reputation of course instructors and professors; and institutional commitment and support for online education, such as resources and support, funding libraries and online academic writing centers online as part of the e-learning experience.

Yet little is known about how to assess teaching and learning effectiveness in online
courses and programs. Meanwhile, online courses grow, growth is robust, and unprecedented, but how do we get quantity and quality to achieve the object and purpose of education—Higher Education?

**Effectiveness**

Despite their growing popularity, researchers have not found distance education to be significantly superior to traditional classroom instruction, as some proponents have speculated (e.g., Allen, Bourhis, Burrell, & Mabry, 2002; Beard, & Harper, 2002; Bernard, Abrami, Lou, and others, 2004; Boston, Ice, & Gibson, 2011; Gonzalez, 2009; Kelly, 2011; Means, Toyama, & Murphy, 2009; Palmer, & Holt, 2010). Some studies, for example, have shown that a higher percentage of students participating in online courses tend to drop out compared to students in face-to-face classrooms (e.g., Hershkovitz, & Nachmias, 2011; Park, Boman, & Care, 2009; Reigle, 2010).

And so we come to the problem, again. Students with the most online course credits were the least likely to graduate with a high school diploma (Flannery, 2011). Students taking online courses are more likely to fail to complete courses and programs and earn a bachelor’s degree. If this is true, more quantitative and qualitative studies are needed on effectiveness in online courses and programs (Bates & Poole, 2011; Betts, 2009; Oblinger, 2010; Park & Choi, 2009). Researchers call for more studies on learning effectiveness (e.g., Beldarrain, 2006; Berg, & Christoph, 2007; Borstaff, & Lowe, 2007; Dawson, Heathcote, & Poole, 2010).

Neuman and Kroper (2010) called for focus on learning effectiveness and online course design. Caspi and Blau (2008) call for studies on actual learning and online courses; that is, what works what does not work, and knowledge-sharing to promote students’ learning in online courses.

**Age, Education, and Persistence**
Ward (2010) noted that it is not the age that influences academic persistence, but attitude, motivation, and value system. A young person’s future, that is a student younger than 18-24 years of age, who graduates from high school and subsequently from a college or a university has substantially better prospects in the labor market than peers who stop their formal education after high school.

The statement is true yet the new economic order has brought with it new rules and expectations have changed. Some students with career diplomas could have better prospects in the marketplace than some graduates from colleges and universities (including some with bachelor’s and master’s degrees) depending on the training, skill, supply and demand for it. I firmly believe the better argue is probably the one by Du Bois, paraphrasing as follows: If we make labor the object of education, we may design cookie cutters and punch out people with technical skill, artisans, electricians, cosmetologists, and street sweepers, but if we want critical thinkers, caring, capable, knowledge of the world as well as its history, economic, social ebbs and flows, critical thinkers with character, high value for life and knowledge of meaning and determination to work—this is the curriculum of Higher Education. From a developmental standpoint, colleges and universities also provide a safe environment for students to explore new ideas and interests, interact with people who are different from themselves, and affirm, and even reproduce other people who are determined to better understand the object and purpose of education, life and work.

**Patterns of Institutional Attendance**

Online courses are changing access and availability for students interested in enrollment in two-year and four-year institutions. The vast majority of students enroll in publicly funded colleges and universities. In 2005, private institutions accounted for about one-fourth of all undergraduates- a figure that has increased only slightly in the past decade. Nearly all of these
students are enrolled in four-year institutions, though a small percentage of students is enrolled in private two-year colleges. Brock and other researchers have noted that instruction is being privatized (outsourced) as private investors and enterprises such as the University of Phoenix and Western International University and others are partnering. Efficiency is a good thing. Yet some researchers, and I am among this group, are concerned about who is accountable for

**Grade Point Average, Persistence and Completion**

Some tell students and their parents that there are two groups of students who should enter college immediately after high school: 1) those who are in the top 10 percent of their class and score in the top 10 percent on either the SAT or ACT, and 2) those who have taken a high school curriculum that stresses reading and writing at grade level and math beyond basic algebra and student has a clear goal (their own goal), not their parents' goal) that requires a college education.

Despite a few patterns, neither race and ethnicity nor gender is a good predictor of who will earn a college degree ((Biddix, Chung, & Park, 2011; Chapman & Henderson, 2010; Gambescia & Paolucci, 2009; Green & Wagner, 2011; Kelly, 2011; McCarthy, 2009; Oblinger, 2010; Power& Gould-Morven, 2011). If a student who is struggling is truly attempting to do their best to complete the coursework, it is our duty to give that student the help that they require though no student should arrive at college both illiterate and innumerate.

And so we come to the question of factors, as if ingredients in recipe in a cookbook-and ask what is needed for success, both course success and student success in online courses and programs.

In answer to the question what is needed for success—both course success and student success in online courses and programs—several themes in the educational research literature emerged during the doctoral dissertation. First, a key theme is to focus on building exceptional
teachers through resources and support. Second, a key theme is to focus on growing more quality courses as a result of continuous in-service training and professional development for faculty and staff involved in any aspect of education, instruction, advising, counseling, writing centers, technical and infrastructure—that facilitate students’ learning in the online education setting. How then shall the teachers shape the minds of critical thinker, influential and powerful future characters and leaders? What knowledge, information, and skills and training will they need? While there is no magic pill, no crystal ball, there can be but one answer, the same yesterday as it is today and tomorrow. The leadership must be shaped in the image of leaders, men and women of high character and value, men and women who understand the value of life, education, equality, opportunity, preparation, and they are driven by inner peace and a vision to help educate, empower and lift up others, anywhere in the world, beginning within their own communities.

Powerful campus leaders (e.g., deans, directors, academic provost, and chief executive officer) will continue leading by focusing on quality and assessment of teaching and learning effectiveness whether this means assessment of effectiveness in face-to-face classrooms or online course and distance program varieties (e.g., Brown, Weible, & Olmosk, 2010; Duderstadt, 2009; Green, & Wagner, 2011; McCarthy, 2009; Oblinger, 2010; Udas, 2010).

**Improving Academic Outcomes for Students in Online Courses in Higher Education**

In his seminal work *Leaving College*, Vincent Tinto examines why students depart prematurely from both two-year and four-year institutions. He observed that students come to college with different skills and abilities, varying personal motivation and objectives, and diverse external commitments that will influence their ability to succeed. Tinto argues that what happens to them after they arrive on campus is at least as important as what happened before. He focused on how well students are engaged integrated into the classrooms and laboratories
where institution takes place and into the informal meeting places such as dormitories, cafeterias, and hallways. In all of these situations, Tinto noted, the quality and frequency of interactions between students, faculty, and staff will shape students’ experience and determine how well they fit at a particular institution.

As institutions of higher education launch or expand online education offerings, it is important to identify strategies that promote persistence and academic success. One factor that is consistently identified as contributing to students’ persistence and academic success is interactions (Fulford & Zhang, 1993; Zeh-Rust, 2006). Yet few studies examine information literacy, online interaction, and persistence and academic success, and students’ satisfaction.

Figure 1 below provides a breakdown of the student total online course enrollment and total grades of withdraw (W) in online courses for the fall 2010 academic term at the institution under study. It is very clear that there are 64 out of 1343 (0.0476) total grades of “W” in online courses for the fall 2010 academic semester. If there is one overarching factor that produces (0.0476) total grades of “W” in online courses, study of these online course can lead to improvements in higher education policies and practices and design.

<table>
<thead>
<tr>
<th></th>
<th>Fall 2008</th>
<th>Spring 2009</th>
<th>Fall 2009</th>
<th>Spring 2010</th>
<th>Fall 2010</th>
</tr>
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<tr>
<td>Total Grades of W</td>
<td>84</td>
<td>55</td>
<td>68</td>
<td>62</td>
<td>64</td>
</tr>
<tr>
<td>Total Online Course Enrollment</td>
<td>1368</td>
<td>1091</td>
<td>865</td>
<td>1037</td>
<td>1343</td>
</tr>
</tbody>
</table>

Figure 1 Total Grades of W/Total Online Course Enrollment

Specifically, (a) does high course completion (defined as successfully earning any credits in the course as opposed to withdrawing from the course) mean there were high instructional interactions (course instructor, a librarian, peers), (b) does a high persistence rate suggest that students enrolled in online and hybrid courses were likely strong in English, Reading, Writing, (c) grades received on college-level research and writing assignments, (d) interactions with an
academic librarian, and whether the institution views providing information literacy institution beyond the freshmen term as remedial, developmental or college-level course learning.

**Research Problem**

The number of online courses and degree programs available to students in higher education institutions has proliferated over the past decades. Despite this growth there continues to be debate as to how to best design these courses so that they promote student learning.

Today, more than a decade has passed since the Boyer Commission Report was published. Yet a common research trend finds high withdraw rate in online courses in higher education institutions (Adam, & Nel, 2010; Angelino, & Natvig, 2009; Barkley, 2010; Chamberline, 2009; Green, & Wagner, 2011; McBrien, Jones, & Cheng, 2009; Margaryan, Littlejohn, & Vojt, 2011).

One common area of agreement is that effectively designed courses promote interactions. Another area of consensus is that cognitive presence, teaching presence, and social presence are also keys for success in online courses. Yet information literacy behavior, information literacy instruction and learning outcomes in online courses is understudied.

**Purpose of the Study**

The purpose of this study was to identify aspects of online courses that are related to student learning and online courses effectiveness. In particular, this study examined the role of information literacy as a potentially important factor in students’ perceptions and satisfaction, in course instructors’ perceptions and satisfaction, and in student, faculty, and administrator successes regarding demand and growth of more online courses and distance learning programs.

To accomplish these goals, a mixed methods approach was used. Quantitative techniques were used to address questions related to the effectiveness of online courses and qualitative
methods were used to provide greater insights into the dynamics of the processes that occur in these distance education courses.

The goals of the proposed study were as follows: (a) describe the design characteristics of online courses at a mid-size university in the south, and (b) to determine the extent to which the structure of online courses is related to student outcomes. To accomplish the first goal, using the Checklist for Evaluating Online Courses (http://opi.mt.gov/pdf/advplacemnt/OLC_Checklist.pdf), online courses offered at the study university were profiled by the researcher with respect to the following:

- Access (i.e., physical access, intellectual access)
- Assessment (i.e., types of assessment, in particular ACRL information literacy standards)
- Instructional Design (e.g., embedded librarian)
- Student Role (e.g. interactions, cognitive presence, social presence)
- Course Resources
- Teacher Quality (e.g., interactions, cognitive presence, teaching presence)
- Technical and infrastructure (e.g., course management or learning management system)
- Accessibility (compliance)

Questions Guiding the Study

The following research questions were addressed in the study:

1) To what extent do online courses incorporate elements of effective design, including information literacy instructional exchange and level of interactions?

2) What are students’ overall ratings of online course quality and effectiveness?

3) Is there a relationship between characteristics of online courses and student success in
4) Is there a relationship between student perceptions of information literacy preparedness and student success in online courses?

5) What processes lead students to have a negative or positive experience in an online course?

To accomplish the second goal (i.e., research questions one, two, three, and four), students enrolled in these online courses were asked to complete a survey which addressed information literacy, course interactions and several other aspects of their experiences as online learners. To address research question five, interviews and a focus group were conducted with a sample of university administrators, course instructors and students for purposes of gaining greater insights into their online course experiences.

**Significance of the Study**

What do students need to be able to do as future leaders, future scholars, and lifelong learners? How do good professors and teachers design quality within their online courses? The study examines what students need to know or be able to do in these online courses, in the workplace, and in their communities (Artino, 2009; Bates, & Poole, 2011; Bauer, 2003; Benzinger, 2007; Berg, Bergaum, & Christoph, 2007; Buissink-Smith, Mann, Shephard, 2011). Akerlind (2008). The shaping of future learners begins with the shaping and support of faculty who are passionately interested in shaping information literate future leaders (e.g., Akyol, Arbaugh, & Cleveland-Innes, 2009; Bates, & Poole, 2011; Brett, 2009; Carreia, & Davis, 2008; Chamberlin, 2009; Chin, 2006; Christie, & Garrote, 2009; Dean, 2009; Dolan, 2011; Edwards, Perry, & Janzen, 2011; Fish, & Wickersham, 2009; Fluellen, 2011). Chas and Laufenberg (2011) claim that course instructors and teachers must decide what it means to read and write
digitally. Buschman (2009) contends information literacy is part of some larger social practice other than literacy itself.

I believe that information literacy fits with the cognitive presence, teaching presence, and social presence and the quality of online interactions academic discussion yet it is missing. It is suggested that as with other cognitive processes, reading critically, writing, and speaking well are layered cognitive processes, and these competencies are needed for enhanced quality of online interactions, which possibly leads to academic success at the college and university levels.

Considering the general approach to the assessment of student learning outcomes, findings and discussion of results of the study will allow faculty to determine the most useful information literacy assignments, supporting activities, and checklists and rubrics items drawn from the research literature, best practices and professional and personal experience to improve student learning regardless the delivery method. In addition, the findings and discussion can be used to establish guidelines for future offerings of courses especially online courses and help determine if prerequisites for students should be established, as well as types of faculty development and support.

**Delimitations of the Study**

Limitations that may influence the generalization of this study include the following. The scope is restricted to one university campus in the South. The relevance of these outcomes for other parts of the country and other types of universities and student populations should be considered in generalizing the results of this study. In addition the study is limited in that data will only be collected at one point in time and will rely heavily on self-report.

**Definitions of Terms and Constructs**

Definitions are provided below for terms and constructs frequently used throughout this study for clarification. What are students able to do in these online courses, in the workforce
after completion of degree from higher education institution, and as lifelong learners in their communities?

**Communication**

Communicate with clarity and precision using oral, nonverbal, and written language, expressing an awareness of audience, situation, and purpose.

**Critical Thinking**

Think critically using appropriate mathematical reasoning to analyze and explain real world issues and to interpret and construct graphs, charts, and tables.

**Cultural Awareness**

Through knowledge of history and cultural diversity, recognize and value perspectives and contributions that persons of diverse backgrounds bring to multicultural settings and respond constructively to issues that arise out of human diversity on both the local and the global level.

**Embedded Librarian**

An embedded librarian is integral component of a course in which the course instructor and a librarian collaborate ensure students receive the needed instruction about conducting research and accessing reliable information. Students enrolled in online courses are not the only users who could benefit from an embedded librarian. Students who attend traditional face-to-face classrooms can also benefit from having an embedded librarian in their Course (Montgomery, 2010; Ramsay, 2006). An embedded librarian

**Engagement and Ethics**

Internalize and exhibit legal and ethical responsibility for their information behavior or misbehavior connected to information retrieval, information management, information security, information and record keeping, information piracy.
Failure to Complete

Failure to complete a course is defined for the study as a meaning driven by the faculty and the administrators at the Institution (Organization). As an example, in the situation of a student receiving a final grade of I, W, F, or dropping a course.

Student-to-Course Instructor Interaction

Interaction with the course instructor and with a reference or research librarian in online courses.

Student-to Peers/Other Student Interaction

Interaction is defined for this study as “inter-learner communication, between one learner and other learners, alone or in group settings, with or without the real-time presence of an instructor or instructional designer.

Student-to Content Cognitive Engagement

What does the phrase student-to content interaction mean? People interact with people. For purposes of this study, student-to content engagement means how a professor or teacher designs his or her course, with technology, in order to create and deliver instructional experiences to help students enrolled in these online courses to learn academic content. Cognitive content engagement as a construct is difficult to define and identify specifically; yet there is consensus within the educational research literature that it is an important factor in learning.

Summary

What do college students need to be able to do as future leaders, scholars, and lifelong learners, global citizens? This chapter explained that learning is a layered process, but more than that, according to educational researchers, learning processes can be connected with tasks to facilitate the intended learning outcome. This chapter explained that researchers have found no
significant differences between traditional face-to-face and online course learning outcomes. Yet, there is skepticism and concern as to whether the change in learning resulted from the course instructor, instructional involvement, course design, use of technology tools, students’ experience, inspiration, motivation, students’ study skills, GPA, SAT or ACT; or some unknown factors. Is information literacy a factor influencing learning?

This chapter explained how researchers found that interaction is not enough. Teaching presence is not enough. Cognitive presence and learning abilities and motivation are important keys to success. Technology tools facilitate interactions, collaboration, and communication yet tools must be used by the faculty and by the students. While technology is intriguing, and nearly all professors and teachers welcome students who are able to creatively use new technologies (blogs, wikis, PowerPoint, HTML, Java); professors (full-time, part-time, adjunct, and librarians in colleges and universities) need to know and be able to use the new technologies as well.

In a digital age, students, college graduates need to master information literacy processes. Some researchers argue the need to extend our conception of information to map on the digital landscape where a laptop is as common as a ballpoint pen and where information sources are ubiquitous.

This chapter found little evidence on whether information literacy outcomes are equal, whether the five information literacy standards are linear or circular, and how and which technologies best support learning them.

The following chapter presents a discussion of online course design and the potential role of information literacy processes and tasks. Chapter 3 describes the methods used in the study and chapters 4 and 5 presents the results and conclusions, respectively.
CHAPTER TWO. REVIEW OF LITERATURE

Churchman (1971) said: “Knowledge doesn't reside in information” (p. 11). Knowledge resides in the human mind, and how we effectively use technology to transfer knowledge is what matters. This chapter presents a review of the related literature and the theoretical foundations of the study. It is organized around themes related to the quality of an online course. Many educators and researchers have been concerned with how to effectively design courses, specifically online courses, to engage students enrolled in online courses in higher education institutions. Specifically, common concerns are retention and learning. This chapter also is a review of the related literature on information literacy.

In preparation for the review, a search of a number of databases, including the Educational Resources Information Center (ERIC), Dissertation Abstracts Online (DAO), and Psychological Abstracts, was undertaken using the following descriptors: attrition, dropout or persistence in “distance education,” “online learning,” “online education,” e-Learning,” and achievement and performance in higher education, locus of control, instructor support and instructional design model, accountability, assessment, quality and assurance, practices and policies impacting academic success in online learning. The main publication sources are from the American Journal of Distance Education, Journal of Distance Education, Quarterly Review of Distance Education, Educational Technology, Educational Technology Research and Development, Handbook of Distance Education, Dissertation Abstracts, and relevant books and instrument reviews.
**Distance Education Defined**

Distance education is the systematic approach to instruction and planned learning that normally occurs in a different place from teaching and as a result requires special techniques of course design, special instructional techniques, special methods of communication by electronic and other technology, as well as special organizational and administrative arrangements.” (Moore, 1989). Distance education is any formal approach to instruction in which the majority of the instruction occurs as the educator and learner are not in each other’s physical presence” (Lehmann & Kay, 2009; Park & Choi, 2009; Power & Vaughan, 2010; Norman Ward; West & Peat, 2010).

**Early History of Distance Education in the World**

The distance education history reflects a progression of educational development that has continued, from the beginning of human history. The first revolution approximately occurred with the use of clay and stone tables, later with the use of papyrus paper as written language developed. The second revolution occurred with the development of moveable type and books, first by the Chinese in the 11th Century AD and then in Western Europe in the 15th Century (Fletcher, & Tobias, 2003). Now, driven by ubiquitous information, and the Internet and World Wide Web distance education is in its third revolution in this history (Holmberg, & Keegan, 1994; Moore, 1977, 1983, Peters, 1998; Schlosser, & Anderson, 1994; Wedemeyer, 1975).

**Distance Education in the United States**

Schlosser and Anderson (1994) trace distance education’s roots in the United States to 1873 when correspondence study “crossed the Atlantic” from Europe and *The Society to Encourage Studies at Home* was founded in Boston. Other programs followed as correspondence study continued to expand into the twentieth century. Technology became a major factor in distance education with at least 176 radio stations being built at educational
institutions. Most, however, did not survive very long (Schlosser & Anderson, 1994). Some did remain, however, and by the 1950s, a second broadcast medium, television, began to play a growing role in distance education. Western Reserve University and New York University, with its well-known Sunrise Semester courses on CBS, were early users of the medium. Later, as satellite television became cost effective, television’s role expanded. The first state educational system, Learn Alaska, began operations in 1980.

Schlosser and Anderson (1994) mark the 1962 decision by the University of South Africa to become a distance education institution as the beginning of a “fundamental change in the way distance education was practiced in much of the world.” The founding of the Open University of the United Kingdom in 1971 was another landmark. As a degree-granting institution dedicated to distance teaching, it extended the university opportunity to many and brought added prestige to distance education as an enterprise. The Open University offered degree programs in many fields and made wide use of communication media. Similar institutions soon followed in Canada, Japan and West Germany, although not all embraced the Open University’s liberal enrollment policy.

**Theoretical Foundations of Distance Education**

As noted above, distance education courses in the United States can be traced back to the 19th century when correspondences between students and teachers were handled by mail. These early courses were often “packaged” versions of traditional lectures, frequently consisting of reading assignments and examinations (Moore, 2003). The movement from these early efforts to the highly interactive and even immersive environments available today was not only driven by technological advances, but fundamental changes in course designers’ beliefs about learning and instructional design.
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**Learning Theories, Approaches, Frameworks**

Some researchers ask the question where is the compelling and convincing evidence of the assertion that students are actually learning in online courses (Adam, & Nel. 2009; Artino, 2009; Borstaff, & Lowe, 2007; Cho, 2011; Cuthrell, 2007; Dobbs, 2009; El Mansour, &
Mupinga, 2007; Kim, & Frick, 2011; Medinger, 2009; Palmer, & Holt, 2010; Tanner, Noser, & Totaro, 2009; Ward, Peters, & Shelley, 2010). Little data driven evidence has been produced, and so naturally some stakeholders are still unconvinced (e.g., Biddix, Chung, & Park; Chapman, & Henderson, 2010; Green, & Wagner, 2011).

Learning has multiple layers and variables. Reading, writing, and speaking well; then comes use of computer and information tools. After that, it is essential, in the twenty-first century, for our graduates to demonstrate digital literacies (Mackey, & Jacobson, 2011). Reading, reading critically, and reading often leads to clear thinking. Clear thinking becomes clear writing: one cannot exist without the other. Technology tools are conducive to immediate gratification, such as to chat or conducting business transactions yet twice as easy, fast and faster, never meant twice as good, clear thinking, or writing well. The cognitive process still requires exercising the brain muscle.

A common blunder is to give college students in online environment no research and writing assignments because multiple choice examinations are quicker to grade. Another blunder is to provide just a link to the library’s Web site but no student responsibility to demonstrate effective use of information sources (e.g., Akerlind, 2008; Arbaugh, 2008; Blummer, & Kritskaya, 2009; Chamberlin, 2009; Christie, 2009; Dawson, Heathcote, & Poole, 2010; Dykman, & Davis, 2008; Edwards, Perry, & Janzen, 2011; Ko, 2004; O’Connor, 2011). If faculty believe that undergraduate students need information literacy experiences while ensuring that all students participate in a quality experience that promotes higher order thinking skills, awareness of cultures, languages, world issues, global dynamics, and human choices; then there is alignment (e.g., Edwards, Perry, & Janzen, 2011; Fish, & Wickersham, 2009; Kenton, & Blummer, 2010; Kidd, & Keengwe, 2010; Leong, 2011).
In higher education learning is the highest concern for administrators and the faculty regardless the delivery of instruction format (e.g., Todorinova, et al., 2011). Assessment requires attention to outcomes but also, and equally, to the experiences that lead to those outcomes. Assessment can help faculty understand which students learn best under what conditions, types of design, types of delivery format, and with such knowledge comes the capacity to improve the whole of students’ learning (e.g., Anderson, Wilson, & Fielding, 1988; Bauer, 2003; Mackey, & Jacobson, 2011; November, 2008).

There is 40 years of educational research findings confirming the importance of reading, writing, and speaking well on academic success, and more than that, in lifelong learning including in a digital age (e.g., Anderson, Wilson, & Fielding, 1998; Angelino & Natvig, 2009; Arbaugh, et al., 2008; Bauer, 2003; Bloom, 1989; Boston, et al., 2009; Cleveland-Innes, et al., 2008; Garrison, 2010; Kanuka, & Anderson, 1998; November, 2008; Rourke, et al., 2009). Learning in the twenty-first century now requires further competency in use of computers and technology (Bangert, 2008; Biddix, Chung, & Park, 2011; Boston, Ice, Gibson, 2011; Hernon, & Dugan, 2004; Kelly, 2011). More than that, it is about STEM competencies (e.g., Buissink-Smith, Mann, & Shephard, 2011; Carter, 2009; Chapman, 2010; Dawson, Heathcote, & Poole, 2010; Dean, 2009).

**Active Learning and Problem-Based Learning**

Proponents of active learning and problem-based learning define learning as the process whereby knowledge is centered through the transformation of experience. Knowledge results from the combination of grasping and transforming experience. Problem-based learning asserts that the problem motivates the student. In other words, out of the heart comes our motivation, what is within moves me, causes me to toss and turn until I can find the best answer to solve the problem, it is my passion that draws me, calls me, and leads me to action to help solve real world
problems. Kolb’s model also asserts that learners “construct” knowledge from a process of experience, reflection, thinking, and action.

**Constructivism**

Constructivism (Vygotsky, 1962; Powell & Kalina, 2009), for example, emphasizes the active role of the learner in building understanding and making personal meaning of information. Accordingly, students construct their own cognitive structures as they interpret their experiences in particular situations. Learning is an active process in which the learner continually re-orders his/her mental models of understanding while engaging in supported—or ‘scaffolded’—learning activities. Social constructivism suggests that knowledge construction is the result of social interactions and that by participating in a broad range of activities with others, learners can internalize a personal cognitive map of the subject domain. Thus, from a social constructivist perspective, collaboration and social interaction are at the heart of learning (Bird, 2007, p. 155).

The constructivist perspective suggests that interactions are a key component of effective distance education courses. There is considerable research support for this conclusion with several studies demonstrating that interactions are associated with increased learning and student satisfaction in online courses in a variety of disciplines and for varied formats (Moore & Kearsley 2005; Snelbecker, Miller & Zheng, 2005; Zhang, 2004). Conversely, the lack of interactions has been consistently found to be associated with feelings of isolation, dissatisfaction, and increased dropout rates (Bird, 2007). The research literature also appears to be consistent in that active participation in online interactions does not occur by itself, but must be intentionally designed into a course (Salmon, 2002; Laurillard, 2002).

The constructivist perspective suggests that key design features include supporting learners, designing authentic tasks, constructing an environment for learner reflection and incorporating collaboration (Savery, Duffy, 2001). These characteristics are not unique to online
courses, but their importance may be magnified in this environment (Merrill, 1992). In the traditional classroom, the learner has the opportunity for exchange with the instructor, other students, and the material.

These learner-instructor and learner-learner interactions can be incorporated into online courses with requirements for posting comments, chat rooms, and other forms of mandated involvement. Whether or not these interactions can be the source of productive content exchange that builds a learner’s conceptual understanding requires a detailed understanding of the constructs involved by the course designer (Morrison & Anglino, 2006).

In addition to interactions with other persons involved in the course, it is also the case that the learner must effectively interact with the technology and content of the course (Newlin & Wang, 2002; MacGregor & Lou, 2004). Contemporary students have access to a wide range of technologies and their levels of proficiency are higher than that of students in the past. However, it continues to be important that course designers include components focused on providing instruction and monitoring student proficiency with the technology (Prensky, 2001). This has been especially true for courses that serve largely non-traditional student populations or populations from diverse cultural backgrounds (Park & Choi, 2009).

Constructivist learning theories promote students’ engagement as one of the key factors in successful learning and knowledge building. Authentic learning designs incorporate internships and community-learning experiences, essay tests, research papers, theses and dissertations, electronic portfolios of student work, and comprehensive projects as valuable tools for learning (e.g., Oliver, Herrington, & Herrington, 2007).

Designing Based on Learning Theory

Beynon (2006), explains that active learning and problem-based teaching methods with learning theories are essential to quality within design of courses and programs. Benyon
examined schema and learning. A schema is a representation or construct in or mind, a mental picture or understanding, of something we have learned. It is constituted of the elements or characteristics of the things we know. He provides the following analogies, as follows:

How do you know when you are in a classroom? You have a mental construct, concept, representation of a classroom, a mental construct that is made up of qualities you know and have experienced a classroom to be. Similarly, you also have schemas for other kinds of rooms, such as kitchens, concert halls, restaurants, dental offices, libraries, and so on. If someone blindfolds you and asks you where you are, you will begin to match the elements you see around you to the various room schemas in our mind: There’s a low stage in front with rows of seats in a semi-circle facing the stage, but there is no chalkboard. Maybe it’s a small concert hall. Then you see a movable chalkboard in the corner. Oh, it’s probably a classroom. When you do the work you do or read a book in your field, how do you know what to do, and why are you able to understand the book? It is because your practice and experience in that field have caused you to acquire the schemas you need for knowing how to do that work and how to read and understand books about it (p. 21).

Each individual can be said to have knowledge “only to the degree to which we have constructed schemas in our mind from our learning experience and practice” (p. 38). Knowledge results from assignments, experience, and practice. Benyon argues that it is because experience and practice in that field that students learn. As a fact, according to this theory, student learns through a constructed schema for the specific subject or skill. “We have a specific schema or schemas for every skill or subject we have learned or experienced” (p. 42).

Hence, the teacher’s role is to help students to create particular subject-specific skill, otherwise they cannot think about or perform a particular skill or apply some particular knowledge or
synthesize different areas of knowledge.” The role of the teachers is to help students construct schemas for each skill or subject instructor wants them to learn. How are schemas constructed? How do these mental constructs or representation get in a human mind? The answer is dendrites, which grow on the neuron as learning occurs (Smilkstein, 1991). Dendrites grow longer as well and connect with other dendrites at new synapses, forming new and richer, more complex neuronal networks (Smilkstein, 1991). In other words, first comes good soil, then good seed planted in the good soil, next comes the trunk, and from that comes branches and leaves—learning is a process.

**Designing Learning Processes and Tasks**

Richard E. Clark (2011), in *The Impact of Non-Conscious Knowledge on Educational Technology Research* and Design argues that automating processes and tasks facilitate learning, and paraphrasing as follows:

There are at least three powerful insights for educational technology researchers and designers from recent neuroscience studies of the brain and from cognitive science research findings: First, our brains learn and process two very different types of knowledge; non-conscious, automated, procedural, or implicit knowledge, and conscious, controllable, declarative knowledge. Second, human beings have very limited capacity to think during learning and problem solving, and when that capacity is exceeded, thinking and learning stop without us being aware. Third, nearly all of our instructional design and learning theories and models fails to account for the influence of non-conscious cognitive processes and therefore are inadequate to deal with complex learning and performance (p. 3).

**Research on Learning Outcomes**

In their seminal work, *How College Affects Students*, Pascarella and Terenzini (1991)
evaluated hundreds of studies of student learning and concluded that grades and grade point average have too many confounding influences to be used for standardized comparisons of students. Additionally, they note that grades are influenced by the type of academic institution, the major field of study, the mode of instruction, course grading policies, instructor rank, and the professor’s style and personality. They recommend that if grades must be used they be used as a measure of the extent to which the student successfully complies with the academic norms of or requirements of the institution (Kennedy, 2000, p. 42). Pascarella and Terenzini identify several factors that influence grades at the individual level, including personal motivation, organization, study habits, and quality of effort. They conclude that grades tend to reflect not only requisite intellectual skills but also desirable personal work habits and attitudes.

Knowles (1984) focused on concepts of adult readiness to learn and motivation to learn. Knowles asserts that adults are more ready to learn when the educational content is relevant to the learner’s needs. He also describes adults’ motivation for learning as intrinsic (i.e. the individual wants and values learning), rather than extrinsic such as receiving praise or a high grade.

Kennedy, 2000, found that when asked why they had enrolled in the online course instead of purchasing the books and teaching themselves the course material, only 27 percent said that they were most motivated to enroll in the online course by getting college credit for their work, while 65 percent reported that they wanted the benefit of guidance and feedback from a teacher. The remaining 8 percent specified that they needed to enroll in the course to say motivated.

Cross (1996) cites attribution theory as a critical component for student learning. Attribution theory holds that students attribute educational success to something, and that something can be within themselves or not, permanent or temporary, and within their sphere of influence or not:
People have both motives and reasons for what they do. The motives define their goals, and the reasons connect these goals with particular courses of action for realizing them.

Thinking begins with goals and cannot move without them (Simon, 1994).

In a study of adult baccalaureate students studying at a distance, Gibson, 1996, found that academic self-concept varied over time and across educational contexts. Most students gained more confidence in their ability to study at a distance throughout their course of study yet some developed doubts about their competence in the domain of their discipline as they were given greater autonomy and control over their own learning. Findings such as these suggest that some online students continue to benefit from a clear explication of teacher expectations of the student and access to the instructor, even after developing competence as a learner (Kennedy, 2000, 17).

**Research on Persistence**

Attrition in online courses and distance education is high. Some place undergraduate dropout at 30 percent to 70 percent higher than in on-ground classrooms. It is further noted that some researchers report that graduate online learners (master’s and doctoral learners) in online courses and programs have a higher rate of non-completion than graduate and doctoral students in traditional master’s and doctoral programs. One-third to one-half of doctoral students enrolled in an online doctoral course or program drop out before completing the degree (Smallwood, 2004). Like undergraduate students; graduate students identified the lack of social presence as one of the reasons for dropping out (Ali & Kohun, 2007; Ivankova & Stick, 2007). Social presence describes the sense of feeling connected to others (Gamberini, Spagnolli, & Cottone, 2004), and the perception of others being aware of one’s presence through communication (Lowry, Roberts, Romano, Cheney, & Hightower, 2006).

Of course, Tinto (1975, 1987) is the most frequently cited scholar on student retention research. Bean (1980); Kember, (1993) and Rovai (2002) extended the inquiry to teaching and
learning effectiveness in the online setting (Frydenberg, 2010). Simpson provides a list of five possible definitions of what is meant by “dropout” in the context of distance education. The fourth possible definition of what is meant by dropout in the context of distance education is intriguing. Fourth, students who do not complete assignments drop out (Simpson, 2002, p. 168). Pascarella and Terenzini concluded (as cited in Kennedy, 2000, p. 17), as follows:

Academic integration (as measured by such variables as grades, intellectual development, and contacts with faculty) had its strongest positive influences on persistence or degree attainment for students at the lowest levels of social integration (as measured by such variables as extracurricular involvement and informal interaction with peers).

Additionally, Pascarella and Terenzini concluded that freshman-to-sophomore persistence was positively and significantly related to total amount of student-faculty nonclassroom contact with faculty and particularly to frequency of interactions with faculty to discuss intellectual matters” (p. 394). Kennedy suggests that in the absence of naturally-occurring interactions with students in the classroom or faculty office, online teachers need to foster strategies that encourage teacher-student and student-student communication. Saba, in his comprehensive survey of online education (1999) suggests that questions about educational effectiveness should focus on how well instructional programs are designed and how much they provide for teacher-student interaction, instead of on differences in the delivery medium: “The question… is the proper balance of dialog and structure for different learners, various, subject matters, and levels of education” (Saba, 1999).

Other Factors Associated with Success of Online Courses

Interaction

The seminal work on the types of interactions in distance education is by Michael Moore (1989). The research literature on online courses and distance learning supports the assumption
that interaction is important. The key types of interaction in online courses are: student-to course instructor, student-to peers/other students, and student-to content. While interaction is a key to promote students’ learning, interaction is not enough (Bean, 1990; Frankola, 2001; Fulford, & Zhang, 1993; Gunawardena, & Zittle, 1997; Picciano, 2004; Tinto, 1987). Much of the research is based on student perceptions of the quality and quantity of their interactions and how much they have learned in an online course. Few try to go beyond typical institutional performance measures such as grades and withdrawal rates and to examine information retrieval and evaluation, cognitive presence, social presence, and instructional presence on student learning outcomes in online courses. Separated by time, geography, and possibly culture, it is easy for online education students to feel isolated (e.g., Picciano. 2004). Some researchers argue that interaction is the most important instructional element in distance education (Moore, 1989; Kearsley, 1995). Some others claim interaction is not enough (Calvani, 2010; Cho, 2011; Fulford, & Zhang, 1993; McLaren, 2010; Strang, 2011; Wanstreet, 2006; Zeh-Rust, 2006). Social presence is not enough (Garrison, & Cleveland-Innes, & Fung, 2010; Gunawardena, & Zittle, 1997; Kim, Kwon, & Cho, 2011).

Student performance is open to many definitions. Successful completion of a course, course withdrawals, grades, added knowledge, and competency standards are some of the ways that performance is measured, depending upon the content of the course and the nature of the students. Courses may also have multiple performance outcomes, each of which might be measured separately through testing, written assignments, or the completion of individual and group projects.

**Instructional Presence**

The faculty assumes responsibility for and exercises oversight of curriculum and instruction. Chickering and Junco (2010) suggest, faculty should continue to assess, observe,
measure, and provide and receive formative and summative feedback from stakeholders because of faculty align student learning outcomes with relevant and meaningful assignments; relevant and meaningful to the course instructor (e.g., Harley, Acord, Earl-Novell, 2010).

According to Thurmond (2003, as cited in Fish & Wickersham, 2009), the effectiveness and quality of the instructor contributes more towards student satisfaction than technology. Fish and Wickerman (2009) suggest that faculty in higher education should consider several factors to enhance the effectiveness of their online courses: First, teaching online often requires a faculty member to think differently about teaching and learning, learn a host of new technological skills and engage in ongoing faculty development for design and development of effective online instruction. Second, a paradigm shift from traditional content-centered to learning-how-to-learn-centered should occur.

Faculty, according to some investigators, should provide feedback to students that is prompt, relevant and continuous (Darringon, 2008; Zsohar & Smith, 2008). Dykman and Davis emphasize that initial, continuous and meaningful communication between instructor and student serves as a basic principle of online teaching. For example, as reported by Gallien and Oomen-Early (2008), students who receive consistent, personalized instructor feedback exhibit higher satisfaction levels and academic gains compared to those students who received strictly collective feedback (p. 282).

As some investigators have noted, faculty feedback is often limited due to the sheer amount of work involved (Harley, Acord, & Earl-Novell, 2010). In well-designed courses, as Magnussen (2008) suggests, faculty set boundaries in order to maintain manageable workloads such as specifying times when students can expect prompt instructor feedback. Faculty can also minimize e-mails, while maximizing entire class communication, by posting student questions on class-wide discussion forums, which decreases replicate questioning and student
misunderstanding (Gallien & Oomen-Early, 2008; Li & Irby; Zsohar & Smith, 2008). Utilizing accessible online grade-books (Winkler-Prins et al., 2007) and providing assignment grading rubrics with clear expectations (Darringon, 2008) further enhances student feedback efforts.

Fish and Wickersham (2009) suggest that faculty continuously evaluate the effectiveness of their online courses (Dykman & Davis, 2008; Stoltenkamp et al., 2007). Continuous evaluation should involve researching current practices of institutions that serve as leaders in delivering quality online programs (Almala, 2007). Stotenkamp et al. conclude that continuous planning is essential due to ever-changing technologies and policies. Frequently updating online programs (Winkler-Prins et al., 2007); collecting student feedback (Cornelius & Glasgow, 2007; Li & Irby, 2008), and obtaining input by colleagues (Zsohar & Smith, 2008) further contributes toward the development of effective online courses (Fish & Wickersham, 2009).

Teacher quality is the most effective way to grow student learning in an online course. One way to improve teacher quality is through sustained professional development (PD), which can improve teachers’ knowledge, instructional practices, and pedagogical beliefs. Professional development provides teachers with the opportunity to master new strategies for meeting the day-to-day realities of their online courses and avoid the one-shot, one-size-fits-all model of professional development (Lock, 2006; Sparks & Hirsh, 2000).

Online teachers need to understand the factors that affect student learning so they can build in constructivism structural approaches and frameworks to keep students visible, at least in an online sense. As examples given, if we find that the social context of classroom courses is what keeps students engaged, then we might want to include a blog, wiki or other collaboration and communication technologies available for students in an online course. If we find that successful students are those who typically do more coursework than what is required, then we may want to provide a collection of assignments and supporting learning activities that
encourage student to explore using a variety of technology for research, writing, and presenting facts and discussion related well to the course objectives. The more teachers know about how students learn and the factors that can influence learning, such as the social context and study habits, the more they can develop pedagogies that are effective for online learners (e.g., Ko, 2004). A key is teacher knowing how to identify and help individual students optimize their performance in online courses.

The problem of understanding what individual students need is complicated in courses where teachers and students have little opportunity to interact. Online teachers need different techniques to present materials and engage students in dialogues that help identify misunderstandings (e.g., Bushweller, 2010). How do teachers decide which teaching methods to use in their online courses? Since the structure and culture of higher education tend to isolate teachers, pedagogical techniques are made by teacher on course-by-course level (Farmer, 2010).

The creator of American thought on Teaching and Learning (1897) and the How We Think (1933) was given to us by John Dewey. To the extent that it is possible to comment on the literature of such a remarkable visionary on education, humbly, I believe that Dewey clearly was concerned with more than economic effectiveness of education and more than social effectiveness of learning effectiveness. I believe he was concerned about how the power of knowledge and information could unleash the inner power of the human mind to think critically, and how that inner power could be cultivated to do no evil. I believe he was concerned about how that inner power when ignited can explode or cause an explosion in others to action, shaking up the status quo, and persuading other humans to think critically, such as caring and helping self, family, and citizens in the community, both local and global. Finally, I believe that he was able to see into the spirit and meaning of democracy, including free thought, and free speech. Hence, I believe he was concerned about how content and information enhance critical thinking.
skills. And a result of Dewey’s work is that educators can inspire or dull the natural sense of curiosity.

Formally, teaching presence is defined in the literature as the design, facilitation and direction of cognitive and social processes or the purpose of realizing students’ personally meaningful and educationally worthwhile outcomes (Gorsky, et al., 2010). Vygotsky’s (1978) scaffolding analogies illustrate an assistive role for teachers in providing instructional support to students from their position of greater content knowledge. Although many researchers recommend a guide on the side approach to moderating student discussions, a key feature of this social-cognition model is the adult, the expert, or the more skilled peer who scaffolds a novice’s learning (Anderson et al., 2001). The community of inquiry model defines three categories of teaching presence: design and organization, facilitating discourse and direct instruction. The categories of teacher presence have been tested by Anderson et al. according to Gorsky et al., 2010. The body of evidence attesting to the importance of teaching presence for successful online learning is growing rapidly (Garrison, & Cleveland-Innes, 2005; Garrison, Cleveland-Innes, and others).

**Cognitive Presence**

Cognitive presence is defined as the exploration, construction, resolution, and confirmation of understanding through collaboration and reflection in a community of inquiry (Garrison et al., 2001). Cognitive presence is grounded in the work of Dewey (1933) on reflective thinking (e.g., Swan, Garrison, & Richardson, 2009). Four categories of cognitive presence are defined: 1) triggering events, 2) exploration, 3) integration, and 4) resolution. Garrison et al. (2001) argued that the third phase, integration, is the most difficult to detect from a teaching or research perspectives. This phase requires active teaching presence to diagnose misconceptions, to provide probing questions, comments, and additional information in an effort
to ensure continuing cognitive development, and to model the critical thinking process. Often students will be more comfortable remaining in a continuous exploration mode; therefore, teaching presence is essential in moving the process to more advanced stages of critical thinking and cognitive development (Gorsky, Avner, Avishai, Ina, & Asmahan, 2010).

**Information Literacy Processes and Tasks**

The Association of College and Research Libraries (ACRL), Association of American Colleges and Universities (AAC & U), American Council of Learned Societies, International Society of Technology in Education (ISTE), as well as the National Association of Colleges and Employers have endorsed the most common tasks for information literacy outcomes. *The student will demonstrate information literacy competency defined as, the ability to*

- Determine the nature and extent of the information needed;
- Retrieve needed information effectively;
- Evaluate information and its sources for currency, relevancy, and reliability;
- Use information to accomplish a specific purpose; and
- Use information ethically and legally.

An information literate writer can apply technology to communicate clearly to a variety of audiences in the Web 2.0 and digital media environment (e.g., Mackey, & Jacobson, 2011; Voithofer, & Windterwood, 2010).

Brasley (2007) noted 13 separate literacies: (1) identify information needed in order to complete the task (to solve the information problem); (2) read a wide variety of materials; (3) read to expand their world beyond the here and now; (4) think critically about what they read; (5) select the best sources; (6) access information effectively and efficiently employing a variety of research strategies; (7) find information within the sources; (8) extract (copy and paste) relevant information, ethically, understand citation and plagiarism; (9) evaluate information
sources; (10) interact with content through auditory, visual, and other digital media; (11) organize and manage information from multiple sources; (12) communicate the information to formal and informal audiences utilizing technology effectively; and (13) make decisions/Judge the process (efficiency) and judge the product effectively.

Digital literacy is the ability to located, organize, read, interpret, understand, and use images, sound, and text in digital environments. A digitally literate person can evaluate and apply new knowledge gained from a wide range of digital sources in order to create and reproduce data and images in multiple formats through digital manipulations (Jones-Kavalier, & Flannigan, 2008; Luce-Kapler, 2007; Metros, 2008).

Multiliteracy is the ability to understand and use literacy and literate practices with a range of texts and technologies, such as blogs, wikis, games, simulations, mobile, as well as abilities to connect, collaborate, communicate, and interact with other people (Anstey, & Bull, 2006; Borsheim, Merritt, & Reed, 2008; Cope, & Calantis, 2000).

Multimedia literacy, new media literacy, or screen literacy is the ability to cope with the numerous media in use today. Multimedia utilizes several different content forms to convey information (Alexander, 2008; Spalter, & van Dam, 2008).

Multimodal literacy is the ability to shift modes from open to closed networks (Alexander, 2008; Gee, 2007; Kress, 2003).

Overall, for purposes of this study, digital literacy is not a new literacy. If digital literacy means just reading and writing in a digital environment, there is no need for the new terminology (Chase, & Laufenberg, 2011). Chase and Laufenberg argue that writing with a pencil and writing with a pen are both writing. Within the domain of reading, a person who can delve into a short story but who struggles through a sonnet is not defined as semi-illiterate.
They suggest that whatever it is—information literacy, or digital literacies—is important to the success of our students that there is agreement that it is important. Having established a variety of basic literacies, an increasing number of models claim to influence learning, but how do those instructional design factors promote students learning? Some have studied the characteristics of the information and tasks that learners were dealing with; some have studied the technology and tasks that learners were dealing with, and some have studied the characteristics of the learners themselves, and their learning styles. Those interactions have generated new ways of thinking about teaching methods, course design, and use of educational technology tools to promote the faculty satisfaction and the student satisfaction. Yet learning processes and information literacy design in online courses has been understudied.

There is an abundance of educational research on learning (e.g. Akyol, 2009; Aviv, 2004; Dishaw, Eierman, Iversen, & Philip, 2011; Dobbs, Waid, & del Carmen, 2009. Dishaw, Elerman, Iversen, and Philip, 2011; Edmonds, 2010; El Mansour, & Mupinga, 2007; Ellis, 2008; Finlay, Desmet, & Evans, 2004; Freed, 2009; Hrastinski, 2008; Kear, 2010; Kim, & Frick, 2011; Lee, 2009; Li, 2009; Margaryan, Littlejohn, Vojt, 2011; Perensky, 2001; Weingarten, & Frost, 2011). Yet, stakeholders with an interest in the educational product, which of course is informed graduates who can lead in a digital age, have heard the claims of effectiveness, but remain skeptical and unconvinced.

**Institutional Commitment**

Administration must share in the responsibility of faculty readiness for incorporating information literacy standards, assessment and improvement in online courses. A variety of ongoing professional development opportunities must be made available to assist faculty in developing the technical and instructional design skills necessary to create an effective online course and engaging learning experience for students (Fish & Wickerman, 2009). The
technology used to deliver instruction must be current and user-friendly, providing technical assistance and/or training to faculty and students as needed. Incentives should be offered to faculty in the form of time, such as a release, and/or monetary support to encourage quality design and development of online instruction. Methods of assessment should be ongoing in order to make improvements. Institutions should be committed to more than costs effectiveness, but should also be committed to learning effectiveness for the faculty and for students; committed to creation and maintenance of a culture of high expectation and belief that every faculty member (full-time, part-time, and adjunct) and every student wherever, however instruction is delivered, every student can succeed with tools, inspiration, and motivation.

As Fish and Wickersham (2009) conclude, “…it is vital that institutions of higher learning change their traditional practices rather than continue operating as normal” (p. 283).

**Summary**

This chapter reviewed literature on student-to course instructor, student-to peers/other students, and cognitive engagement of student with academic content. This chapter viewed the related literature on the three types of presences: social presence, teaching presence, and cognitive presence as related to learning in online courses. This chapter reviewed literature on the information literacy five learning outcomes.

However the educational research literature reviewed, in general, reflects that little is known about information literacy processes, tasks, and assessment of outcomes. Little is known about outcomes for using one technology tool or the other, how professors and teachers need to prioritize the five information literacy standards for learning in undergraduate and graduate education, and how to go about assessing learning with use of the ACRL Information Literacy learning standards in higher education institutions. Specifically, researchers voice in the literature that while online courses and distance learning programs are the reviewed literature
shows that there is agreement on the need to design a culture of expectation within online courses, in the context of online courses, research and writing assignments, as well as presentations and projects are needed if the goal is to shape information literate college students and future leaders.

In order to create instructionally sound courses that lead to growing information literate students on our way to achieving other key student learning outcomes, in which the students win, faculty and staff win, and the administrators win- research-based principles need to be applied (e.g. Cho, 2011; Dolan, 2011; Duderstadt, 2009; Edwards, Perry, & Janzen, 2011; Fish, & Wickersham, 2009; Fluellen, 2011; Green, & Wagner, 2011; Kelly, 2011). This chapter presented research on factors which have been identified as relevant to effectively designed online courses and emphasized the relative paucity of research on the role of information literacy. The following chapter describes the research methods utilized in this study to address the overall question of the role of information literacy in the effective design of online courses.
CHAPTER THREE. METHODOLOGY

Following the advice of Creswell (2002), I obtained permission to conduct the study from the Institutional Review Board from Louisiana State University A&M and the University. In my request, I submitted to each institution a description of the study describing how the data will be collected, how participants will be protected, and a sample of the consent form (Creswell, 2002).

I contacted the Office of Institutional Research at the University for assistance in identifying all online students during the Academic Term 2010 of interest to me in conducting the study.

Research Questions

The following research questions were probed during the course of the study:

RQ1: What are students’ overall ratings of the quality and effectiveness of their online courses?

RQ2: What are students’ ratings on each of the six constructs: learning objectives clearly stated; alignment with assignments and activities including information literacy activities (i.e. critical thinking, research, and writing activities); aligned with assessments and measures; learner engagement (i.e. interaction); course technology; course support; and accessibility?

RQ3: What relationship, if any, would influence students’ intent to withdraw and actual withdrawal from online courses, as reflected in student ratings and researcher profiles, and institutional data?

RQ4: What relationship, if any, between characteristics of online courses, as reflected in student ratings and researcher profiles, and students intentions to remain in the course beyond the midterm examination?

RQ5: Upon reflection, how did students conclude that they had a negative or positive experience in an online course?
Did age affect students’ perceptions? Did gender affect students’ perceptions? Overall, what did learners perceive most positively related to the six categories within the course design?

Overall, what did students perceive least positively related to the six categories within the course design?

I used this checklist over the summer of 2010 to gain familiarity with its components and facility with its operational definitions. I investigated 6 online courses offered during the spring 2010 semester, which was the pilot study for measuring and establishing the consistency of ratings. I found faculty feedback both insightful and open. A sample of 8 instructors and 4 administrators (deans, directors, vice presidents) provided helpful feedback on the instrument. The faculty members who reviewed the checklist reported that it was an accurate depiction of online course design quality. Finally, results of the researcher’s use of the checklist and ratings were shared with faculty. The consensus reached is that quality means different things to different reviewers yet the indicators of quality seem reasonable. Also, that the goal of assessment is to gather data, interpret and discuss results in order to improve students’ learning.

Measures

The data sources for this study consisted of a Student Survey administered to all students enrolled in online courses (Appendix A). The Checklist instrument I employed to assist me in collecting the appropriate data to identify aspects or elements of effective online courses in higher education that faculty can use to rate their online courses (Appendix B). I profiled each of the 44 hybrid (HY) and online (OL) courses offered during Fall Academic Term 2010. Below, I describe each of the instruments in some detail. In addition, I entered the data into SPSS as one file. Also, I created Word Tables with the following:
Instrumentation

Student Survey (see Appendix A)

1. What is your classification?
2. What is your age?
3. Gender?
4. How many online courses have you taken in the past?
5. What is your current grade point average?
6. What grade do you expect to get in this course?
7. Have you had all of the prerequisites for this course?
8. Do you intend to withdraw from this course before the semester ends?
9. Have you already withdrawn from this course?
10. If you intend to withdraw, or have already withdrawn, from this course, please indicate why (Mark all that apply)
11. Overall, what grade would you give this course?
12. Please rate items 1-14 below using the following scale: [1 Strongly Disagree, 2=Disagree, 3=Somewhat Disagree, 4=No Opinion, 5= Somewhat Agree, 6=Agree, 7=Strongly Agree]
13. Your thoughts about specific aspects of the course (Select all that apply).
14. The term “information literacy” is generally defined as the ability to access, communicate information, create products, evaluate information, organize, and manage information effectively by using technology as a tool to achieve academic success, and to acquire life-long learning success. Please tell us
15. A discipline-specific librarian frequently answers the students’ research
16. Rate yourself with respect to each of the following: (1=Definitely, 2=Somewhat, 3=No, not at all)
17. Does this course provide you with a link to an “embedded librarian?” For example, in Moodle, the librarian can provide you with a skeleton bibliography, online tutorials, and other library/librarian instruction support. (Yes, No)
18. Does the course provide a link to the library, including information on how to obtain library access, request materials (owned/and not owned by the library), access databases, and contact a librarian? (Yes, No)
19. Type of Course Delivery in this course (Select One)?
20. What is the platform (Learning Management System) for the course delivery?

21. What technology tools/trends are used in the course? (e.g., Blog, Wiki, Facebook)

22. What type of internet connection(s) do you have at home? (e.g., Cable, DSL)

23. Accessibility and Americans with Disabilities (ADA): Do these online courses meet school law and higher education law minimums?

24. Would you recommend this course to others? (Yes, No)

Checklist Instrument (Appendix B)

Table 1. Instructional Design
- for each of the 13 items on this component, this table gives the average rating across the 43 courses.
- the average total rating is also given

Table 2. Teacher Quality
- for each of the 12 items on this component, this table gives the average rating across the 43 courses.
- the average total rating is also given

Table 3. Student Role
- for each of the 12 items on this component, this table gives the average rating across the 43 courses.
- the average total rating is also given

Table 4. Assessment
- for each of the 12 items on this component, this table gives the average rating across the 43 courses.
- the average total rating is also given

Table 5. Management & Support Systems
- for each of the 6 items on this component, this table gives the average rating across the 43 courses.
- the average total rating is also given

Table 6. Course Resources
- for each of the 7 items on this component, this table gives the average rating across the 43 courses.
- the average total rating is also given

**Table 7. Student Rights**

- for each of the 9 items on this component, this table gives the average rating across the 43 courses.
- the average total rating is also given

**Table 8. Technical Infrastructure**

- for each of the 11 items on this component, this table gives the average rating across the 43 courses.
- the average total rating is also given

**Table 9. Accessibility**

- for each of the 4 items on this component, this table gives the average rating across the 43 courses.
- the average total rating is also given

This instrument was developed by the Northwest Evaluation Association for use by educators in evaluating the quality and effectiveness of online courses (see Appendix B).

**Qualitative**

**Faculty Questionnaire**

A Letter To Faculty and Questionnaire (Appendix ) was sent through e-mail addressed to the course instructor requesting instructor’s voluntary help. The Instructions explained that the following statements have been formulated to assist in the development of effective online courses in higher education that faculty can use to rate their online courses. The topics in the Questionnaire were as follows:

- General Perspectives
- Barriers to Technology Incorporation
Motivation for Technology Integration

Goals for Technology Integration

The Questionnaire invited the opportunity to contribute to this dissertation study. In addition, the Questionnaire invited the opportunity to be included in an interview conducted by the researcher of the dissertation study.

The Questionnaire asked faculty to please check or write the response that most clearly represents his or her opinion, attitude, situation, experience, or knowledge. Users of the Questionnaire were asked to rate online courses using a range of 1=Not Evident, 2=Disagree, 3=Neutral, and 4=Fully Evident. For purposes of this study, 1=Not Evident was defined as no evidence of or reference to a particular characteristic in any artifact examined; scale values 2 and 3 were treated as neutral and were assigned if a characteristic appeared to be reflected in some of the artifacts examined; and a scale value of 4=Fully Evident was assigned if clear and unambiguous evidence.

Interview Questions

The twelve open-ended questions were part of the Student Survey intended to obtain the volunteer-participant’s personal experience and perceptions as related with online courses. The interview time was approximately 45 minutes. Both faculty and students were asked the same interview questions, as follows:

1. One of the advantages of teaching/taking a course online is that class times are flexible.
2. The interaction and/or lectures with the instructor are greater in a regular classroom setting than in an online class.
3. Online courses are among the most difficult to teach/take.
4. I believe taking a course online allows studying at your own pace.
5. In my opinion, this course should not be offered online in the future.

6. Meeting with other students or the professor outside of class is important to me.

7. The fact that in an online class there is no structured classroom-type environment appeals to me.

8. I would miss the student-to-student, or student-to-instructor, student-to-librarian interaction in an online course.

9. Please describe perceived/actual benefits of Web-based technology in online courses (blogs, discussion boards, Facebook, Podcast, Skype, text messaging, Wikis)? The technology described above in this question increases value of the experience.

10. If you would recommend this course to others, why/why not?

11. What role should technology play in causing positive change in online courses?

12. What role does information literacy play, if any, in an individual’s ability to interact with people anywhere in the world?

**Focus Group Questions**

In addition, another method of investigation utilized in this study was the focus group. The focus group questions snowballed from responses to the instrumentation and the interview questions in this dissertation study.

In order to gain deeper insights into online interactions, the Examining Interaction In Online Courses in Relation to Student Performance and Course Retention study by Zeh Rust (2006) was generous and helped. Also, the work by Tanya Matthews, Head and Eisenberg, iSchool, ProjectInformation Literacy (2009) helped to inform and guided questions during interviews and focus groups.
Summary

The purpose of the study was to develop an understanding of the relationships among students’ overall ratings of course quality factors, extent the online courses incorporate elements of course quality factors and an attempt to match up students’ ratings of course quality factors with students’ intent to withdraw and actual withdrawal from online courses. The study also examined how firm is the association between students’ perceived information literacy competencies and students’ perceived course quality factors. The study further examined how real is the association between student interaction (student/course instructor, student/librarian, student/other students in course) and students’ perceived course quality factors. In addition, the study examined how students concluded that they had a negative or positive experience in an online course related to the six course quality categories: learning objectives clearly stated; alignment with assignments and activities including information literacy activities (i.e. critical thinking, research, and writing activities); aligned with assessments and measures; learner engagement (i.e. interaction); course technology; course support; and accessibility. Chapter 3 includes seven subsections: design of study; research questions; design appropriateness; data sources; population and sampling; measures; data collection; and data analysis. The data to develop these relationships were gathered from those who enrolled in online courses being offered during the Fall of 2010 semester at a mid-size university in the south.

Chapter 3 described the methodology of the research study Data collection was comprised of quantitative and qualitative data sources. A Web-based student survey was administered for quantitative data collected. The researcher also profiled online course offerings using a course quality checklist. Quantitative measures were followed by interview and focus groups, the qualitative component of this study. Descriptive statistics were used: mean, median, and mode. The dichotomous variables were age, gender and the categorical variables were:
learning objectives, assessment and measurement, resources and materials, interaction, information literacy, course technology, learner support, and accessibility. The interviews served as data collection means that is one of the elements in qualitative research study (Neill 2009).

A review of the population sample, data collection and analysis procedures, instrumentation and reliability and validity were described. Chapter 4 presents the analysis of the data derived from the data sources as triangulated.
CHAPTER FOUR. RESEARCH RESULTS, DISCUSSION

Analysis Performed to Answer the First Research Question

RQ 1: To what extent do online courses incorporate elements of effective design, including information literacy instructional exchange and level of interactions?

The source of data indicated in Figure 1, Figure 2, and Figure 3 is drawn from IPEDS and NCES educational government website. In this study, the institution is described as public, 4-year, granting bachelor’s master’s, doctor’s, research scholarships. The Library Information (2002 data), print material 1,055,743 and serials, 1,745. Total enrollment is 16,763, undergraduate enrollment 15,306. Percent of undergraduate enrollment by gender (Men, 42.3 percent and Women, 57.7 percent); by race/ethnicity (American Indiana or Alaskan Native 0.5 percent; Asian, 1.8 percent; Black or African American 19.7 percent; Hispanic/Latino, 2.2 percent, Native Hawaiian or other Pacific Islander 0.1 percent; White 71.8 percent).

Nine constructs, and 82 items, were rated as follows: (1) Overall Course Design, which the researcher interpreted as rich interactions, instructional involvement and teaching presence, cognitive presence, and social presence within these online courses (Table 1). (2) Table 2, the researcher evaluated instructional involvement and teacher quality; (3) Table 3, the researcher evaluated Students’ Role and Responsibility in these online courses; (4) Table 4, Assessment of Student Learning Outcomes within these online courses; (5) Table 5, Management and Support; (6) Table 6, Content and Course Material; (7) Table 7, Students’ Rights, (8) Table 8, Technical Infrastructure and Telecommunication; and (9) Table 9, Compliance on federal and state law as related to students with disabilities and access. These aspects and items were selected because the educational research literature reviewed and professional experience led me to them. It is
noted that underpinning every successful course is a quality structure, which the literature indicates mean with interactions, and presence (teaching presence, cognitive presence, and social presence). Additionally, educational technology facilitates the delivery of instruction and facilitates student learning.

**Descriptive Statistics**

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Online Course Enrollment</th>
<th>Total Grades of Withdraw “W”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2008</td>
<td>1368</td>
<td>84</td>
</tr>
<tr>
<td>Fall 2009</td>
<td>865</td>
<td>68</td>
</tr>
<tr>
<td>Fall 2010</td>
<td>1343</td>
<td>64</td>
</tr>
<tr>
<td>Spring 2009</td>
<td>1091</td>
<td>55</td>
</tr>
<tr>
<td>Spring 2010</td>
<td>1037</td>
<td>62</td>
</tr>
</tbody>
</table>

*Figure 1: Enrollment and Withdraw Rate*

*Chart 1: Enrollment and Withdraw Rate*
In Figure: 1 is shown the enrollment and withdraw” W” rate research found. During fall 2010 academic term, a total of 44 online courses were offered at the study university.

The fall 2010 academic term was the first time two types of online courses were offered: “Hybrid” and “Online”. Courses coded as “hybrid” are delivered 50 percent-79 percent online with the remainder of course meetings being face-to-face delivery. Courses coded as “Online” are delivered at least 80 percent online (hybrid, fully online).

Results found that the “W” rate is inconsistent with research reviewed on persistence in online courses. In those studies, some place undergraduate dropout at 30 percent to 70 percent higher than in traditional face-to-face classrooms (Smallwood, 2004; Ali, & Kohun, 2007; Ivankova, & Stick, 2007; Frydenberg, 2010). In this case, the total grades of “W” for the study period, fall 2010 academic term, was .0476. As indicated in Figure 1 above that is pretty consistent with the previous years (fall 2008, .0614; fall 2009, .0786; spring 2009, .0504, spring 2010, .0597). Data obtained from the office of institutional research indicated that there were only 64 dropouts, all from “Online” courses, of the 1343 students who enrolled in these courses. The University has been able to maintain a 95 percent and higher retention rate for online courses offered. In Figure: 2 is shown online course enrollments by class level:

As the literature review indicates, students in the same courses, even same section, have different backgrounds and they use different learning strategies. Course instructors should plan course design of instruction in such a way that a large part of the online students actually learn what they are expected to learn. Having an understanding of these, the course instructor has educational research literature and experience that suggests attitudes and motivation, even experiences are different. Yet the process of knowledge building remains the same. Some course instructors are tech savvy, some are not; some students are tech savvy, some are not.
<table>
<thead>
<tr>
<th>Class</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doctorate</td>
<td>10</td>
<td>0.9</td>
</tr>
<tr>
<td>Entree</td>
<td>16</td>
<td>1.4</td>
</tr>
<tr>
<td>Freshman</td>
<td>178</td>
<td>15.8</td>
</tr>
<tr>
<td>Graduate Special</td>
<td>2</td>
<td>0.2</td>
</tr>
<tr>
<td>Junior</td>
<td>210</td>
<td>18.6</td>
</tr>
<tr>
<td>Masters</td>
<td>46</td>
<td>4.1</td>
</tr>
<tr>
<td>Senior</td>
<td>476</td>
<td>42.2</td>
</tr>
<tr>
<td>Sophomore</td>
<td>187</td>
<td>16.6</td>
</tr>
<tr>
<td>Undergraduate Special</td>
<td>4</td>
<td>0.4</td>
</tr>
</tbody>
</table>

*Figure 2: Online Course Enrollments by Class Level*

*Chart 2: Online Course Enrollments by Class Level*
In this case, the students were mostly seniors, and that possibly influenced the “W” rate. Additionally, the bulk of the students were divided among several colleges on the campus and included both graduate and under-graduate students in several disciplines. Seniors constitute the largest category with respect to level and Business and Nursing are the majors with the largest online enrollment rates.

<table>
<thead>
<tr>
<th>Class</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts</td>
<td>15</td>
<td>1.3</td>
</tr>
<tr>
<td>Business</td>
<td>191</td>
<td>16.9</td>
</tr>
<tr>
<td>Education</td>
<td>142</td>
<td>12.6</td>
</tr>
<tr>
<td>Engineering</td>
<td>60</td>
<td>5.3</td>
</tr>
<tr>
<td>General Studies</td>
<td>185</td>
<td>16.4</td>
</tr>
<tr>
<td>Graduate School</td>
<td>74</td>
<td>6.6</td>
</tr>
<tr>
<td>Liberal Arts</td>
<td>178</td>
<td>15.8</td>
</tr>
<tr>
<td>Nursing</td>
<td>186</td>
<td>16.5</td>
</tr>
<tr>
<td>Sciences</td>
<td>94</td>
<td>8.3</td>
</tr>
<tr>
<td>University College</td>
<td>4</td>
<td>0.4</td>
</tr>
</tbody>
</table>

*Figure 3: Online Course Enrollments by Major*

As previously stated above, course instructors should plan course design of instruction in such a way that a large part of the online students actually learn what they are expected to learn. Knowledge building remains the same. Some course instructors are tech savvy, some are not; some students are tech savvy, some are not. Do they have the information literacy skills they need to survive in a digital workforce and world?
Chart 3: Online Course Enrollments by Major

In Figure: 3 is shown online course enrollments by major. Small class size enables students to maintain a good student and faculty ratio, promotes healthy peer--to-peer interactions, and supports team-based cooperative learning.

Checklist Rating

There are a total of 82 items across the nine constructs used by the researcher in this study. Table 1: focused on the overall quality within these online courses. While quality means different things to different researchers, I believe that quality aspects are clearly listed in the educational research literature. Hence, in the first table, I focused on overall quality: how students interact with the course instructor, and with other students in these online courses. The researcher searched for evidence of teaching presence, which for me means assignments learning processes, tasks such as assignment, research and writing learning activities, problem-based learning such as projects, group writing. Additionally, the researcher looked for evidence of student cognitive abilities and motivation. Based on the literature reviewed, and experience, instructional involvement is a key. The course instructor chooses type of technology tools to incorporate to enhance connections, collaboration, and communication.
Table 1

Overall Course Design These Online Courses

Please indicate your level of agreement with each of the following statements using the following scale:

1=Not Evident, 2=Disagree, 3=Neutral, 4=Fully Evident

<table>
<thead>
<tr>
<th>Item</th>
<th>Overall Course Design</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Students interact with a variety of media and resources.</td>
<td>0.0%</td>
<td>13.30%</td>
<td>24.55%</td>
<td>7.16%</td>
</tr>
<tr>
<td>1.2</td>
<td>The course includes resources links to resources from outside the students’ familiar culture and immediate geography.</td>
<td>3.7%</td>
<td>12.27%</td>
<td>20.45%</td>
<td>9.20%</td>
</tr>
<tr>
<td>1.3</td>
<td>The course facilitates learning from multiple viewpoints.</td>
<td>3.7%</td>
<td>7.16%</td>
<td>18.41%</td>
<td>16.36%</td>
</tr>
<tr>
<td>1.4</td>
<td>The course supports different learning styles.</td>
<td>7.6%</td>
<td>16.36%</td>
<td>12.27%</td>
<td>9.20%</td>
</tr>
<tr>
<td>1.5</td>
<td>Students are assigned relevant readings from appropriate print and/or web media.</td>
<td>3.7%</td>
<td>16.36%</td>
<td>18.41%</td>
<td>7.16%</td>
</tr>
<tr>
<td>1.6</td>
<td>Students deepen an understanding of content through such activities as lab experiments, product design, and other hand-activities.</td>
<td>1.2%</td>
<td>18.41%</td>
<td>21.48%</td>
<td>4.9%</td>
</tr>
<tr>
<td>1.7</td>
<td>Students use writing to reflect on readings, projects, labs, and other assignments.</td>
<td>4.9%</td>
<td>21.48%</td>
<td>14.32%</td>
<td>5.11%</td>
</tr>
<tr>
<td>1.8</td>
<td>Activities require students to use appropriate research strategies for finding appropriate online content.</td>
<td>9.20%</td>
<td>163.6%</td>
<td>143.2%</td>
<td>51.1%</td>
</tr>
<tr>
<td>1.9</td>
<td>Instruction (when given a problem or task, student has the ability to define, locate, gather, relevant information sources using appropriate technology)</td>
<td>9.20%</td>
<td>13.30%</td>
<td>10.23%</td>
<td>12.27%</td>
</tr>
<tr>
<td>1.10</td>
<td>Instruction (when given a problem or task, student has the ability to create) in a digital environment</td>
<td>4.11%</td>
<td>23.27%</td>
<td>12.52%</td>
<td>5.9%</td>
</tr>
<tr>
<td>1.11</td>
<td>Students participate in online group activities.</td>
<td>3.7%</td>
<td>18.41%</td>
<td>19.43%</td>
<td>4.9%</td>
</tr>
<tr>
<td>1.12</td>
<td>The course includes regular, sustained and guided student-to-student discussion and collaboration.</td>
<td>4.9%</td>
<td>11.25%</td>
<td>25.57%</td>
<td>4.9%</td>
</tr>
<tr>
<td>1.13</td>
<td>Student assignments include opportunities for multimedia presentation, projects, C14 and reports.</td>
<td>4.9%</td>
<td>11.25%</td>
<td>25.57%</td>
<td>4.9%</td>
</tr>
</tbody>
</table>
Note: The bold values are statistically significant at the point 0.5 level.

Overall, the results indicate few information literacy assignments. The information assignments found were required in the First Year Student Seminar (one unit), and English courses.

Table 2

**Teacher Quality, Instructional Involvement**

<table>
<thead>
<tr>
<th>Item</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1 Course instructor is formally prepared in the subject matter being taught.</td>
<td></td>
<td>2</td>
<td>18</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5%</td>
<td>41%</td>
<td>45%</td>
</tr>
<tr>
<td>2.2 Knowledge and experience with online course design, implementation, organization, and team building processes</td>
<td></td>
<td>2</td>
<td>18</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5%</td>
<td>41%</td>
<td>45%</td>
</tr>
<tr>
<td>2.3 Conversant and experienced with various technologies ancillary to learning management systems (LMS),</td>
<td></td>
<td>2</td>
<td>18</td>
<td>20</td>
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<tr>
<td></td>
<td></td>
<td>5%</td>
<td>41%</td>
<td>45%</td>
</tr>
<tr>
<td>2.4 Course instructor is familiar with information literacy standards, and effectively uses assessment tool or collaborates and works with a college/university librarian—beyond the first-year freshmen year.</td>
<td></td>
<td>2</td>
<td>18</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5%</td>
<td>41%</td>
<td>45%</td>
</tr>
<tr>
<td>2.5 Course instructor integrates a variety of teaching and learning strategies (i.e. andragogy)</td>
<td></td>
<td>2</td>
<td>18</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5%</td>
<td>41%</td>
<td>45%</td>
</tr>
<tr>
<td>2.6 Course instructor provides different types of learning</td>
<td></td>
<td>2</td>
<td>18</td>
<td>20</td>
</tr>
</tbody>
</table>
assignments to meet the needs of diverse learners and different learning styles.

<table>
<thead>
<tr>
<th></th>
<th>Course instructor monitors student postings of work and discussions on a weekly basis.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.7</td>
<td>2% 18% 20% 4% 5% 41% 45% 9%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Course instructor provides appropriate feedback, guidance and direction and responds to student inquires within 24 hours.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.8</td>
<td>2% 18% 20% 4% 5% 41% 45% 9%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Course instructor sets clear expectations and assumes a shared responsibility with online student to ensure that learning occurs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.9</td>
<td>2% 18% 20% 4% 5% 41% 45% 9%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Course instructor’s interactions with students are respectful and appropriate.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.10</td>
<td>2% 18% 20% 4% 5% 41% 45% 9%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Course instructor has been trained to design to build or enhance educator’s professional knowledge, skills, and leadership in distance/online education and training.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.11</td>
<td>2% 18% 20% 4% 5% 41% 45% 9%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Course instructor knows and uses current technology (i.e. podcasting, screencasts, slidecasts, YouTube video, and other Web 2.0 multimedia) to create podcasts, and incorporating items such as interviews, music, audio and video tools focused on engaging online students.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.12</td>
<td>2% 18% 20% 4% 5% 41% 45% 9%</td>
</tr>
</tbody>
</table>

Note: ~ The bold values are statistically significant at the point 0.5 level.
Teacher Quality, Instructional Involvement

To effectively attract, enroll, and retain the growing number of undergraduate and graduate students who want to enroll and succeed in online education, courses instructors (full-time, part-time, adjunct faculty) need to participate in faculty development, faculty development that incorporates new ways of thinking on teaching and learning especially in the online setting, new technologies, and incorporates the ACRL Information Literacy Standards, with the use of technology tools to engage students and cultivate learning.

2.1 Course instructor is formally prepared in the subject matter being taught. Evaluated as Not Evident (5 percent), Disagree (41 percent), Neutral (45 percent), Fully Evident (9 percent).

2.2 Skilled or has previous knowledge and experience teaching online, including online course design, planning, and implementation, organization, collaboration, and team building processes. Evaluated as Not Evident (5 percent), Disagree (41 percent), Neutral (45 percent), Fully Evident (9 percent).

2.3 Conversant and experienced with various technologies ancillary to learning management systems (LMS), e.g., lecture capture, online testing, synchronous and asynchronous engagement, applications, current usage, etc. Evaluated as Not Evident (5 percent), Disagree (41 percent), Neutral (45 percent), Fully Evident (9 percent).

2.4 Course instructor is familiar with information literacy standards, and effectively incorporates IL guides in course design and consistently assesses research and writing assignments, whether using online assessment tool or collaborates and works with a college/university librarian to develop tutorials and assess student information literacy skills—beyond the first-year freshmen year. Evaluated as Not Evident (5 percent), Disagree (41 percent), Neutral (45 percent), Fully Evident (9 percent).

2.5 Course instructor integrates a variety of teaching and learning strategies (i.e. andragogy,
adult learning processes). Evaluated as Not Evident (5 percent), Disagree (41 percent), Neutral (45 percent), Fully Evident (9 percent).

2.6 Course instructor provides different types of learning assignments to meet the needs of diverse students and styles. Evaluated as Not Evident (5 percent), Disagree (41 percent), Neutral (45 percent), Fully Evident (9 percent).

2.7 Course instructor monitors students’ posting of work and discussion on a weekly basis. Evaluated as Not Evident (5 percent), Disagree (41 percent), Neutral (45 percent), Fully Evident (9 percent).

2.8 Course instructor provides different types of learning assignments to meet the needs of diverse students and styles. Evaluated as Not Evident (5 percent), Disagree (41 percent), Neutral (45 percent), Fully Evident (9 percent).

2.9 Course instructor provides appropriate feedback guidance and direction and responds to students’ inquires within 24 hours. Evaluated as Not Evident (5 percent), Disagree (41 percent), Neutral (45 percent), Fully Evident (9 percent).

2.10 Course instructor’s interactions with students are respectful and appropriate. Evaluated as Not Evident (5 percent), Disagree (41 percent), Neutral (45 percent), Fully Evident (9 percent).

Social Presence

2.11 Course instructor has been trained to design to build or enhance educator’s professional knowledge, skills, and leadership in online teaching. Evaluated as Not Evident (5 percent), Disagree (41 percent), Neutral (45 percent), Fully Evident (9 percent).

Cognitive Presence of the Course Instructor

2.12 Course instructor knows and uses current technology, for example, uses blog, wikis, podcasting, screencasts, and other new technologies to enhance students’ learning.
Findings in Table 2 above, found online courses are being offered in standard arts, business and economic, general education, nursing, social science, liberal studies course; and these are neither competency-based nor vocational.

Found, the withdraw rate was less than .05 percent, in the Fall 2010 term. So, what are the current explanations for why the students in online courses performed so well? If it is not because of initial differences in the students themselves, is there something about the teacher quality and instructor’s involvement that influences the learning process or experience of taking a course online that improves student performance?

These results appear to be consistent with findings by others in the higher educational research literature (e.g., Akerlind, 2008; Beldarrain, 2006; Burgan, 2006; Chamberlin, 2009; Chin, 2006; Cuthrell & Lynon, 2007; Finnegam et al., 2009; Fish & Wickersha, 2009; Garrison, Cleveland-Innes, & Fung, 2010) All instructors teaching online courses were appropriately credentialed (i.e. masters, 18 hours or more in field of teaching, or Ph.D.), and were participating in professional development for teaching online courses.

The data revealed there were no variations found in the faculty's perceptions on the dimensions explored based on the format they taught in or faculty position. The findings of this study showed several important areas where faculty perceptions do vary. It was found that variations exist in faculty perceptions related to students’ ability and information literacy preparedness to interact with their classmates online, in the degree of opportunity students have to interact with the instructor, to interact with a librarian, and on the type of feedback important to students. In addition, the data showed a number of the faculty do not know how to better incorporate a librarian and research and writing assignments within course work, and are concerned that by doing so some students lack time management skills to get the research done timely. Finally, the data indicated that slightly more than two-thirds of the faculty participants
had received training in design of online courses. Overall, the researcher rated this item 3 out of 4, or “evident” but not “fully evident.”

In both, “course instructor’s interactions with students are respectful and appropriate,” (Item 2.10) and “course instructor participates in professional development including strategies for engaging and involving students in the online environment through research and writing assignments and activities utilizing recent technology appropriately” (Item 2.12), the researcher focused on how and what types of technology course instructor utilized within the learning management system (Blackboard, Moodle NG). If it was evident that the course instructor used just email or a stick up PowerPoint (meaning not interactive), then the rating could not be 4=Fully Evident on the item and/or sub-item on the checklist. Overall, faculty interviewees commented that the flexibility and interactions promote students’ learning. As one instructor teaching an online course explained, when speaking on technology use within online course:

I think it has to be in the designing of the learning and the ability for that to be personalized, not just a one size fits all, and in the engagement and the interaction, both up, down, sideways.

Of interest here, a number of these course instructors teaching an online course in the fall 2010 academic term, had considerable experience in online education, and talked about themselves as innovators and collaborators, seeing learning and teaching as a process involving all participants more or less equally. For example, the flow of information and ideas that takes place within the online environment is seen by some course instructors as conducive to the learning of both instructor and student. Some course instructors describe an experience of mutual learning when his or her students created a Wiki as a shared resource in one of their online subjects:
... the richness of what that provided and the sense of the connections and the insights, and also the sense of the ways in which they’d worked together was just fantastic, absolutely fantastic, so I’m really interested to learn more about how those kinds of opportunities can be used... I find tremendously exciting and also pretty important, the kinds of texts and the kinds of images and worlds that there are online, and we can get students to have access and exchange/share information ethically.

For these instructors, there is considerable enthusiasm for learning possibilities –both those already experienced and others yet to be explored – in the online environment. Personal and professional interests coalesce around the potential for new kinds of learning experience for themselves as well as for students. Despite initial reservations and occasional challenges, there some course instructors voiced concern on what has been and remains to be learned through engagement with learning spaces mediated by new technologies. For example:

I think in terms of the way academics are... so someone like me, for example, I like the fact, and I do the same with my... face-to-face classes... my particular philosophy of teaching is one whereby I like the students to take responsibility for a lot of the course work that they do. My job is to, my perception of my job is to provide them with stimulating or controversial content and other artifacts that they need to read and discuss.

By contrast, some pre-tenure faculty who had attended at least one of the institution’s distance learning professional development workshops is enthusiastic. None say they believe teaching and learning would be diminished if instructors stick to the basic technology or use a lot of technology for the delivery of the instruction (interaction between students and instructors and among students). This finding is in congruence with Harley, Acord, and Earl-Novels (2010). Interestingly, at least one instructor says that as a result of previous teaching experience, where she taught online students in two different courses, she sees herself as a better information
manager but getting tenure is her first priority. The researcher overall rated the teacher quality construct as 33 out of 52 possible points or 64 percent.

To gain insights, the researcher interviewed faculty on the specific items in the checklist. The researcher also asked how they felt. For example, the researcher asked: Does it matter that faculty have been trained to design online courses? The majority of faculty agree. They perceive training and professional development helps them organize, structure, and integrate appropriate use of technology in the online course setting (Statement #1). Faculty agree, the interaction and/or lectures with the instructor are greater in a regular classroom setting than in an online class (Statement #2). Along these same lines, faculty respondents with previous online experience agree that the interaction (instructor/student) is approximately the same for a regular classroom and online course setting.

Students’ agree but say interactions with instructor are usually through email (Statement #2). Students also agree, about the same level of interaction as in a regular classroom setting. Some voiced concern on the low student/student interaction in their online course.

Both faculty and students say interaction with a librarian is not a design feature except paste it library website. That is they value and need interactions and interactivity with a librarian for academic content and research but they did not use blog, wikis, Facebook, or Skype to interact with a librarian. The majority say they are unaware that you can.

Faculty say online courses are among the most difficult to teach/take. First-time teaching online faculty respondents voiced strongly “evident” with “among the most difficult to teach online courses,” than faculty with prior experience teaching online courses (Statement #3). Students with prior experience versus first-time taking an online course say online courses are among the most difficult to take. Student respondents showed a slight level of agreement with
the statement that quizzes and tests were more difficult in an online class. They “like” having
just quizzes and tests, but “do not like” writing a paper.

When asked do online courses require students to be more self-disciplined (studying at
students’ own pace), course instructors disagree. They say time management and self discipline
is about the same in traditional classroom and online course setting (Statement # 4). Students,
most adult learners, say they feel that they must be much more disciplined in the online course
than in the traditional classroom setting (Statement # 4). When asked whether or not this course
should be offered online in the future, faculty respondents strongly disagreed (Statement #5).

Table 3

Content and Material

<table>
<thead>
<tr>
<th>Item</th>
<th>“Content” and Material– Please indicate your level of agreement with each of the following statements using the following scale: 1=Not Evident, 2=Disagree, 3=Neutral, 4=Fully Evident</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1</td>
<td>A course orientation program or service exists for students.</td>
</tr>
<tr>
<td></td>
<td>0 0% 0% 44 100% 0%</td>
</tr>
<tr>
<td>3.2</td>
<td>Student can access all ancillary materials necessary for the HY, OL course.</td>
</tr>
<tr>
<td></td>
<td>0 0% 0% 44 100% 0%</td>
</tr>
<tr>
<td>3.3</td>
<td>Students receive training and information to aid them in navigating the HY, OL course.</td>
</tr>
<tr>
<td></td>
<td>0 0% 0% 44 100% 0%</td>
</tr>
<tr>
<td>3.4</td>
<td>Students receive training and information to aid them in accessing library’s resources including</td>
</tr>
<tr>
<td></td>
<td>0 0% 0% 44 100% 0%</td>
</tr>
</tbody>
</table>
reference (catalog, databases), interlibrary loans (ILL), government archives (archives and special collections digitized), new services, etc.

| 3.5 | Students receive lots of links to professional association literature (readings) in the field. | 0 | 0 | 44 | 0 |
|     |                                               | 0% | 0% | 100% | 0% |

| 3.6 | Students receive links to appropriate community of experts, leaders. | 0 | 0 | 44 | 0 |
|     |                                                           | 0% | 0% | 100% | 0% |

Note: ~ The bold values are statistically significant at the point 0.5 level.

What does the phrase student to content interaction mean? What some are calling cloud information is just a new way of asking the question: what are aspects of pedagogy that can bring about students’ cognitive engagement with academic content? How does teacher structure learning experiences that helps student in online learning and distance education to use what they have already learned, build on knowledge, and in a new learning setting? Cognitive content engagement as a construct is difficult to define and identify its aspects; yet there is consensus within the literature that it is an important factor in learning. McLaughlin et al. (2005) suggest that ‘[A]t the most components and indicators of cognitive content engagement general level, learning occurs through the cognitive engagement of the learner with the appropriate subject matter knowledge’ (p. 3). Solis (2008) identifies engagement as ‘a prerequisite of student learning’.

Student who has developed proficiency in particular areas is, by definition, able to think effectively about problems in those areas. Research shows that it is not simply general abilities, such as memory or intelligence, nor the use of general strategies that differentiate successful students from unsuccessful students. Instead, successful students have acquired extensive
knowledge that affects what they notice and how they organize, represent, and interpret information in their environment. This, in turn, affects their abilities to remember, evaluate, and solve problems. Successful students notice features and meaningful patterns of information that are not noticed by unsuccessful students. Successful students have acquired a great deal of content knowledge that is organized in some ways that reflect a deep understanding of their subject matter. Successful students’ knowledge cannot be reduced to sets of isolated facts or propositions, but, instead reflects contexts of applicability. Meaning, student cognitively engaged with the content (DeGroot, 1965).

However, Hirsch, Kett, Trefil argue that skill is not a unified system of intellectual muscles that can be developed by callisthenic into a vigorous all-purpose ability (p. 60). What makes successful students, then, simply is the knowledge acquired beforehand and he or she brings to the new setting, and has the opportunity to use it in the new setting. Successful students have a vast repertoire of knowledge that is relevant to their domain or discipline, but only a subset of that knowledge is relevant to any particular problem (Miller, 1956). One way to help transfer knowledge to students is to give student a strategy for building up his or her repertoire of knowledge. By providing students with academic content and, assignments and supporting learning activities, thus, student is able to use acquire the academic content (text, words, phrases, authors, titles).

Research is a process, writing well is a process, and reading critically is a process. These processes are not transferable from one mind to another, but acquired through exercising the mind muscle. as discussed in chapter one of this study. All learning processes depend on exercise of the mind through exercise and practice. What distinguishes good readers from poor ones is simply the possession of the academic language in content-based field, and a lot of diverse, task-specific information. When the configuration of a task is significantly changed,
past skills are not transferred to the new problem. In normal situations, elements from past problems appear in present ones, and experts perform well with duplicated elements. But beyond similar or analogous circumstances, skill is not transferred. (Hirsch, Kett, Trefil, 1998).

Therefore, Table III focuses on the learning process and student engagement in these online courses. For the purposes of this study cognitive engagement refers to interaction of the student with an appropriately challenging academic content and material through use of new technologies (blogs, wikis, Facebook, and others) because these tools help student to interact, connect, collaborate, and communicate with others in these online courses, activities that require multiple levels of depth of processing. Hence, the researcher rated the third construct (Content and Material) as follows:

3.1 A course orientation program or service exists for students. Evaluated as Not Evident (0 percent), Disagree (0 percent), Neutral (100 percent), Fully Evident (0 percent).

3.2 Student can access all ancillary materials necessary for the HY, OL course Evaluated as Not Evident (0 percent), Disagree (0 percent), Neutral (100 percent), Fully Evident (0 percent).

3.3 Students receive training and information to aid them in navigating the HY, OL course Evaluated as Not Evident (0 percent), Disagree (0 percent), Neutral (100 percent), Fully Evident (0 percent).

3.4 Students receive training and information to aid them in accessing library’s resources including reference (catalog, databases), interlibrary loans (ILL), government archives (archives and special collections digitized), new services, etc Evaluated as Not Evident (0 percent), Disagree (0 percent), Neutral (100 percent), Fully Evident (0 percent).
3.5 Students receive lots of links to professional association literature (readings) in the field.
Evaluated as Not Evident (0 percent), Disagree (0 percent), Neutral (100 percent), Fully Evident (0 percent).

3.6 Students receive links to appropriate community of experts, leaders.
Evaluated as Not Evident (0 percent), Disagree (0 percent), Neutral (100 percent), Fully Evident (0 percent).

Table 4
Management and Support

<table>
<thead>
<tr>
<th>Item</th>
<th>Management and Support— Please indicate your level of agreement with each of the following statements using the following scale: 1=Not Evident, 2=Disagree, 3=Neutral, 4=Fully Evident</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1</td>
<td>The course description is available to students before registering. (e.g. some faculty post a syllabus)</td>
</tr>
<tr>
<td></td>
<td>0 0 44 0</td>
</tr>
<tr>
<td></td>
<td>0% 0% 100% 0%</td>
</tr>
<tr>
<td>4.2</td>
<td>The description includes specific examples of course objectives, issues, concepts, and ideas that are covered in the course (e.g. syllabus)</td>
</tr>
<tr>
<td></td>
<td>0 0 44 0</td>
</tr>
<tr>
<td></td>
<td>0% 0% 100% 0%</td>
</tr>
<tr>
<td>4.3</td>
<td>Technical requirements for acceptable use of computers, e-resources, and e-information sources are covered in the first weeks of HY, OL course (unit) in order to deepen student understanding.</td>
</tr>
<tr>
<td></td>
<td>0 0 44 0</td>
</tr>
<tr>
<td></td>
<td>0% 0% 100% 0%</td>
</tr>
<tr>
<td>4.4</td>
<td>Authenticity of student work is verified by appropriate means.</td>
</tr>
<tr>
<td></td>
<td>0 0 44 0</td>
</tr>
<tr>
<td></td>
<td>0% 0% 100% 0%</td>
</tr>
</tbody>
</table>
Students are assessed by several different methods over the duration of the online course including such measures as: contributions and responses to online discussions, completion of HY, OL assignments, portfolio submissions, special projects and/or presentations, creation of authentic products, tests and quizzes, writing assignments.

A professional support system is in place to ensure teacher success in delivering the online course.

Professional development/communities of practice for HY, OL teachers

Note: ~ The bold values are statistically significant at the point 0.5 level.

4.1 The course description is available to students before registering. (e.g. some faculty post a syllabus. Students receive links to appropriate community of experts, leaders. Evaluated as Not Evident (0 percent), Disagree (0 percent), Neutral (100 percent), Fully Evident (0 percent).

4.2 The description includes specific examples of course objectives, issues, concepts, and ideas that are covered in the course (e.g. syllabus) Students receive links to appropriate community of experts, leaders. Evaluated as Not Evident (0 percent), Disagree (0 percent), Neutral (100 percent), Fully Evident (0 percent).

4.3 Technical requirements for acceptable use of computers, e-resources, and e-information sources are covered in the first weeks of HY, OL course (unit) in order to deepen student understanding. Students receive links to appropriate community of experts, leaders.
Evaluated as Not Evident (0 percent), Disagree (0 percent), Neutral (100 percent), Fully Evident (0 percent).

4.4 Authenticity of student work is verified by appropriate means. Students receive links to appropriate community of experts, leaders.

Evaluated as Not Evident (0 percent), Disagree (0 percent), Neutral (100 percent), Fully Evident (0 percent).

4.5 Students are assessed by several different methods over the duration of the online course including such measures as: contributions and responses to online discussions completion of HY, OL assignments portfolio submissions special projects and/or presentations creation of authentic products, tests, quizzes, and writing assignments. Students receive links to appropriate community of experts, leaders.

Evaluated as Not Evident (0 percent), Disagree (0 percent), Neutral (100 percent), Fully Evident (0 percent).

4.6 A professional support system is in place to ensure teacher success in delivering the online course. Students receive links to appropriate community of experts, leaders.

Evaluated as Not Evident (0 percent), Disagree (0 percent), Neutral (100 percent), Fully Evident (0 percent).

4.7 Professional development/communities of practice for HY, OL teachers Students receive links to appropriate community of experts, leaders.

Evaluated as Not Evident (0 percent), Disagree (0 percent), Neutral (100 percent), Fully Evident (0 percent).

The researcher found that course documents (syllabi, website) appropriately contained written meaningful information as follows:

a) Course objectives clearly written
b) Prerequisites clearly stated

c) Grading policy

d) Expected learning outcomes, and projected timelines to completion based on normal student progress

e) Course instructor name, and other appropriate and interesting information for student to get to know the instructor (names, titles, degrees held, and conferring institutions)

f) Course rules, regulations for conduct, rights, and responsibilities

g) Academic calendar dates for “drop” “add” dates and academic timelines

h) Academic honesty and integrity (plagiarism, copyright).

**Management and Support**

**Advisement and Counseling**

These online courses provide a link to academic advisement to support student development and success. Advising requirements and responsibilities are defined, published, and made available to students.

**Auxiliary Services**

The researcher did find some course instructors provide a link to e-books and online bookstores, and this helps students in online courses.

**Course Materials**

In the study, faculty textbook orders were handled through the usual departmental channels. Students are responsible for obtaining any required supplementary materials assigned by the instructor.

**Faculty Support and Professional Development**

Professional development is an investment in human resources. By investing in the strength of the institution, faculty acquire new knowledge, including ways of using
technology to better engage students, whatever, however instruction is delivered. The continuous education of educators makes the best investment in quality. Virtually any experience that enlarges the faculty and staff’s knowledge, appreciation, skills, and understanding the learner and the needs of learners in different types of learning settings makes common sense.

..... As an example, the Office of Distance Learning and the campus leadership require faculty to train before teaching students in an online course. All four levels of training must be successfully completed to ensure that a faculty member is prepared to design and teach hybrid or online course(s) through the study university. After successfully completing the professional development, an instructor need not retake training for future hybrid or online course development. That is unless a future course submitted for certification fails twice to be certified, in which case the faculty member would be advised to go back to professional development for refresher training. Faculty may test out of any or all levels of training. In order to receive certification for a hybrid or online course, a faculty member must have tested out of or successfully completed each level of training. Faculty that test out of training, or even successfully complete it, may periodically wish to attend all or parts of training sessions to ensure they are up to date on current techniques, technology, and pedagogy (Source: Office of Distance and Electronic Learning website).

**Information Resources and Material**

The library and information science literature was particularly helpful to the researcher and rating of this construct. With nearly 2.7 billion documents published worldwide each year, with the magnitude and complexity of current scientific research, with the rapid development of technology which has given students and instructors access to information never known before, every student and instructor who wishes to be considered informed and succeed have available to
them enormous information sources.

**Leadership and Management**

The effective and efficient higher education institution has an effective and efficient system of leadership, staffed by qualified administrators (chief executive officer, vice presidents, deans and directors), with appropriate levels of responsibility and accountability, who are charged with planning, organizing, and managing the institution and assessing its achievements and effectiveness. All of these aspects are essential, both for online course success and for student academic success.

**Media Preparation**

In the study, the institution’s Office of Distance and Electronic Learning Staff assist faculty with graphics, special recordings, or videotaping. However, it is the responsibility of the instructor to upload and maintain all course material as needed to satisfy the requirements for the course.

**Student Support**

To be successful as a student in a hybrid or online course, you need to use some of the same strategies and skills you use in your face-to-face courses.” (Office of Distance and Electronic Learning website). Student support also includes distance learning advisor.

In the study, Moodle NG, which is an open source information management system (LMS) is employed by faculty members and students whether the course is offered primarily face-to-face, or is web-enhanced, blended, hybrid, and online. A team of IT staff and electronic learning professionals manage the Moodle site. Students need a user identification and password to log into Moodle. Student users are encouraged to complete review of the following helpful videos on about using Moodle: assignments, check student grades, participate in forums, and
take proctored quizzes and examinations. If student needs technical assistance, he or she can visit the “technical support” link for a series of options including reaching the university’s Student Help Desk. Thus, overall the researcher found adequate funding for faculty, staff, services, and technological infrastructure to support the methodology.

Table 5

Students’ Role

<table>
<thead>
<tr>
<th>Item</th>
<th>Table 5. Students’ Role– Please indicate your level of agreement with each of the following statements using the following scale: 1=Not Evident, 2=Disagree, 3=Neutral, 4=Fully Evident Note: ~ The bold values are statistically significant at the point 0.5 level.</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1</td>
<td>Students post questions and respond to the comments and questions of other students on a regular basis. 0 24 20 0</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>5.2</td>
<td>Students use blogs                                                                                           0 24 20 0</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>5.3</td>
<td>Students use wikis                                                                                           0 24 20 0</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>5.4</td>
<td>Student discussion via (e.g. iPhone) connected to course activities or assignments. 0 24 20 0</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>5.5</td>
<td>Student discussion with classmates is under the guidance teachers who 0 24 20 0</td>
</tr>
<tr>
<td>5.6</td>
<td>Student/teacher weekly discussion is encouraged.</td>
</tr>
<tr>
<td>-----</td>
<td>-------------------------------------------------</td>
</tr>
<tr>
<td>5.7</td>
<td>Discussion areas are clearly designed for communications among students, as are sites for private student/teacher interactions.</td>
</tr>
<tr>
<td>5.8</td>
<td>Student participates in team-based assignments and projects, as appropriate.</td>
</tr>
<tr>
<td>5.9</td>
<td>Students have adequate time to work in groups.</td>
</tr>
<tr>
<td>5.10</td>
<td>Assignments are structured to require weekly efforts from students through the term.</td>
</tr>
<tr>
<td>5.11</td>
<td>Student asks for feedback or clarification as to instructor’s expectations.</td>
</tr>
<tr>
<td>5.12</td>
<td>Students engage in self-reflection, self-assessment, and evaluation as part of coursework (Assignment journal).</td>
</tr>
</tbody>
</table>
For purposes of evaluating the Students’ Role in online courses construct, the researcher draws from interaction and presences theory, as fully explained in Chapter Two above. As a reminder, some of the common themes from the interaction literature and from the presences literature are as follows:

- Students’ Role is to participate through presence and identity
- Students’ Role is to build on knowledge through discussions with peers, course instructor, and other subject matter experts
- Learning is entrenched in cognitive presence, teaching presence, and social activities
- Learning is inextricably entwined with making meaning, sharing social and historical practices, forming identity, and belonging to community.

How then do students in online courses participate, while learning and socially connecting with others in the online setting? William, Morgan, and Cameron (2011) explored the question “How do students define their roles and responsibilities in online courses?” Larson (2009) argues that one way to help student define his or her role in online courses, specifically in group project is by providing opportunities for students to communicate information and ideas effectively using a variety of technology tools. Another way to help student define his or her role in online courses is to provide student with information literacy competency so that student can communicate in a relevant and meaningful way with content to add to conversations, and thus building a sense of community. Electronic communication (email) is one technology tool that provides ease of exchanges. Blogs, Wikis, and other new technologies are more ways of integrating technology to ease students’ role in discussion and participation. Broadening student’s repertoire of literature and academic content through digital libraries is more student support. So, Table V looks at how faculty approach scaffolding the student role and group learning process.
Overall, the researcher found that these online courses show evidence of scaffolding the student role. Some course instructors use email, blogs, wikis, and other technology; some do not. Some students use email, blogs, wikis, and other technology; some do not. However, the key is learning, and learning through participation; use of technology is a choice. Items were:

5.1 Students post questions and respond to the comments and questions of other students on a regular basis.
Evaluated as Not Evident (0 percent), Disagree (55 percent), Neutral (45 percent), Fully Evident (0 percent).

5.2 Students use blogs.
Evaluated as Not Evident (0 percent), Disagree (55 percent), Neutral (45 percent), Fully Evident (0 percent).

5.3 Students use wikis.
Evaluated as Not Evident (0 percent), Disagree (55 percent), Neutral (45 percent), Fully Evident (0 percent).

5.4 Student discussion via (e.g. iPhone) connected to course activities or assignments
Evaluated as Not Evident (0 percent), Disagree (55 percent), Neutral (45 percent), Fully Evident (0 percent).

5.5 Student discussion with classmates is under the guidance teachers who raise the level and broaden the scope of the discussions.
Evaluated as Not Evident (0 percent), Disagree (55 percent), Neutral (45 percent), Fully Evident (0 percent).

5.6 Student/teacher weekly discussion is encouraged
Evaluated as Not Evident (0 percent), Disagree (55 percent), Neutral (45 percent), Fully Evident (0 percent).
5.7 Discussion areas are clearly designed for communications among students, as are sites for private student/teacher interactions.

Evaluated as Not Evident (0 percent), Disagree (55 percent), Neutral (45 percent), Fully Evident (0 percent).

5.8 Student participates in team-based assignments and projects, as appropriate.

Evaluated as Not Evident (0 percent), Disagree (55 percent), Neutral (45 percent), Fully Evident (0 percent).

5.9 Students have adequate time to work in groups.

Evaluated as Not Evident (0 percent), Disagree (55 percent), Neutral (45 percent), Fully Evident (0 percent).

5.10 Assignments are structured to require weekly efforts from students through the term.

Evaluated as Not Evident (0 percent), Disagree (55 percent), Neutral (45 percent), Fully Evident (0 percent).

5.11 Student asks for feedback or clarification as to instructor’s expectations.

Evaluated as Not Evident (0 percent), Disagree (55 percent), Neutral (45 percent), Fully Evident (0 percent).

5.12 Students engage in self-reflection, self-assessment, and evaluation as part of coursework (Assignment journal).

Evaluated as Not Evident (0 percent), Disagree (55 percent), Neutral (45 percent), Fully Evident (0 percent).

Qualitative on Students Role

The qualitative data overall painted a positive picture of experiences. Student respondents agree convenience and flexibility are the draws for enrolling in online courses. They can supplement this course and anticipate “A” grade, which balances out other course load and grades. Some students say, “it was more difficult than anticipated,” and “would not take
another online course in the future.” Some say “… felt alone, with little communication with others” (Statement # 5). Meeting with other students or the professor in a physical place in addition to meeting online, if possible, is important to me. Because some instructors and students were enrolled through the university but located anywhere in the world, they disagreed with this statement (Statement #6).

The fact that in an online course there is no structured classroom-type environment appeals to me, instructor respondents strongly disagreed. Student respondents “somewhat” disagreed (Statement #7). I would miss the student-to-student, or student-to-instructor, student-to-librarian interaction in an online course (Statement #8). Instructor respondents without prior online teaching experience exhibited significantly more agreement with the statement that an advantage to students is the online interactions. Also, instructors seem to miss the face-to-face interactions more than the students (Statement #8). Student respondents without prior online taking experience exhibited stronger negative or positive attitudes on this statement (Statement # 8). They say they have “a life,” beyond this course. They say have family and work situations, which they actively interact. They say “librarians are friendly” “helpful” but prefer “instant information, when they need it,” and that in the online course they don’t have “time” to visit a library or “friend” a librarian. They say “what is Meebo?” What is the meaning of “embedded librarian?” They say some librarians don’t know how to use the technology (Skype) to connect with them where, when they need information rapidly (Statement #8).

When asked please describe perceived/actual benefits of web-based technology in online courses, students’ common response was that they regularly use Facebook.

While for instructors, “the value of the technology” is to enhance teaching and promote students’ learning, for the student, the value of technology is for communication and social networking.
Interesting but unsurprising, student respondents say they already know how to use the technology, but they feel the instructor does not. They say social media is “social,” and would become bored if it became “mandatory” to use technology just because that what the instructor selects. They say instructors mostly use email to interact. They say some instructors post stale PowerPoint slides but fail to check for grammar and misspelled words, and yet expectations but expect students to use correct grammar. They say instructors do not see “text” “tweet” as language, but that it is the language that is commonly spoken “today” (Statement # 9).

If you would recommend this course to others, why/why not? (Statement #10)—the faculty respondents showed a Stronger feeling of disagreement with this than did the student respondents, whose feeling of disagreement was slight. Course instructors say the planning, preparation, and “on-call,” time aspect is a negative experience for them. Given the additional effort involved, especially in the initial stages, in designing and teaching an online course, it is not surprising that faculty generally may not be enthusiastic with the pedagogy. Researcher added a post hoc statement.

Do you believe the ability to use technology in online courses (blogs, discussion boards, Facebook, Podcast, Skype, text messaging, Wikis) increases your economic (workplace) and a better global citizen? Faculty respondents agreed that the information and technology competencies increase students’ value, but they also agree that they do not perceive it as part of what they’re teaching in the course (Statement # 11). Time and lack of resources, budget cuts make it nearly impossible to do so much more- with less (Statement # 11). While the student respondents agreed with the statement (Statement 11). They say they don’t have time to do more course work. They already know how to use the technology, but their course instructor does not. They use their technology (e.g., iphones, Facebook) to communicate with people they know, trust, and “friend.” They say they do not want to use their technology (e.g., iPhone) to speak
with the course instructor … minutes. They perceive they already know how to find information they “want” using (e.g., the Internet, Google, Wikipedia) and social media technology. Students say they are very interested in being marketable and earning high income after graduation (Statement # 11). Overall, to meet researcher’s checklist standard on the course construct, the researcher had to find evident (2 or above) with four as highest, and earn 72 percent or more points possible out of 100 earned points. The result was 80 percent (See Appendix).

Online students complete learning activities and assignments in their courses. The learning assignments and activities differ across disciplines and subfields. Students’ time and study environment and effort regulation matter. It should be noted that the learning process is a shared process (course instructor/student). Some contend correctly, the quantity of technology available to student matters but the key factor is how technology is used to influence teaching and learning is optimum. The availability of technology was neither a necessary nor a sufficient condition to affect pedagogy” (p. 201).

Table 6

Students’ Rights and Responsibilities

<table>
<thead>
<tr>
<th>Item</th>
<th>Please indicate your level of agreement with each of the following statements using the following scale: 1=Not Evident, 2=Disagree, 3=Neutral, 4=Fully Evident</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.1</td>
<td>Students sign an agreement on rights and responsibilities in the HY, OL course.</td>
</tr>
<tr>
<td></td>
<td>0% 0% 44% 0%</td>
</tr>
<tr>
<td>6.2</td>
<td>Policies and systems are in place to address</td>
</tr>
<tr>
<td></td>
<td>0% 0% 44% 0%</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>-----------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>student complaints, appeals, and/or recourse if the HY, OL course is not delivered as described.</td>
</tr>
<tr>
<td>6.3</td>
<td>A system is in place to deal with inappropriate student behavior and issues of discipline.</td>
</tr>
<tr>
<td>6.4</td>
<td>A secure grading system is provided, with opportunities for students to review grades as appropriate.</td>
</tr>
<tr>
<td>6.5</td>
<td>The HY, OL course is evaluated on a regular basis and improvements are made based on those evaluations.</td>
</tr>
<tr>
<td>6.6</td>
<td>Students provide feedback about the quality of the course content, instruction, support systems, and infrastructure.</td>
</tr>
<tr>
<td>6.7</td>
<td>Feedback from students and is utilized to make improvements and revisions to the HY, OL course.</td>
</tr>
<tr>
<td>6.8</td>
<td>Information on student completion rates is part of the assessment process.</td>
</tr>
</tbody>
</table>

Note: ~ The bold values are statistically significant at the point 0.5 level.

There were 8 items evaluated as follows:

6.1 Students sign an agreement on rights and responsibilities in the HY, OL course. Evaluated as Not Evident (0 percent), Disagree (0 percent), Neutral (100 percent), Fully Evident (0 percent).
6.2 Policies and systems are in place to address student complaints, appeals, and/or recourse if the HY, OL course is not delivered as described. Evaluated as Not Evident (0 percent), Disagree (0 percent), Neutral (100 percent), Fully Evident (0 percent).

6.3 A system is in place to deal with inappropriate student behavior and issues of discipline. Evaluated as Not Evident (0 percent), Disagree (0 percent), Neutral (100 percent), Fully Evident (0 percent).

6.4 A secure grading system is provided, with opportunities for students to review grades as appropriate. Evaluated as Not Evident (0 percent), Disagree (0 percent), Neutral (100 percent), Fully Evident (0 percent).

6.5 The HY, OL course is evaluated on a regular basis and improvements are made based on those evaluations. Evaluated as Not Evident (0 percent), Disagree (0 percent), Neutral (100 percent), Fully Evident (0 percent).

6.6 Information on student completion rates is part of the course evaluation. Evaluated as Not Evident (0 percent), Disagree (0 percent), Neutral (100 percent), Fully Evident (0 percent).

6.7 Feedback from students and assessment results/outcomes are utilized for improvements.

6.8 Information on student completion rates is part of the assessment process.

4.2.7: Table 7 Assessment of Student Learning Outcomes

<table>
<thead>
<tr>
<th>Item</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.1</td>
<td>0</td>
<td>0</td>
<td>44</td>
<td>0</td>
</tr>
<tr>
<td>Indicators of the course.</td>
<td>0%</td>
<td>0%</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>-------------------------</td>
<td>----</td>
<td>----</td>
<td>------</td>
<td>----</td>
</tr>
<tr>
<td><strong>7.2</strong> The scoring rubric is made available so that all assessment criteria are available to the student (Grading).</td>
<td>4</td>
<td>9</td>
<td>24</td>
<td>7</td>
</tr>
<tr>
<td>9%</td>
<td>20%</td>
<td>55%</td>
<td>16%</td>
<td></td>
</tr>
<tr>
<td><strong>7.3</strong> Course documents (i.e. syllabus)</td>
<td>1</td>
<td>1</td>
<td>37</td>
<td>5</td>
</tr>
<tr>
<td>2%</td>
<td>2%</td>
<td>84%</td>
<td>11%</td>
<td></td>
</tr>
<tr>
<td>list all required activities, assignments, &amp; the weights given to each, due dates, and penalties for late submissions.</td>
<td>0%</td>
<td>0%</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td><strong>7.4</strong> Proctor Agreement signed, examinations are proctored, and student cannot print exams.</td>
<td>12</td>
<td>7</td>
<td>20</td>
<td>5</td>
</tr>
<tr>
<td>27%</td>
<td>16%</td>
<td>45%</td>
<td>11%</td>
<td></td>
</tr>
<tr>
<td><strong>7.5</strong> Multiple types of assessment for diverse learners, &amp; learning styles.</td>
<td>12</td>
<td>7</td>
<td>13</td>
<td>12</td>
</tr>
<tr>
<td>27%</td>
<td>16%</td>
<td>30%</td>
<td>27%</td>
<td></td>
</tr>
<tr>
<td><strong>7.6</strong> The HY, OL teacher provides fair, accurate, and timely assessment of student work.</td>
<td>0</td>
<td>0</td>
<td>44</td>
<td>0</td>
</tr>
<tr>
<td>0%</td>
<td>0%</td>
<td>100%</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td><strong>7.7</strong> Students receive continual, timely, and constructive feedback on the quality of their work and mastery of course content.</td>
<td>0</td>
<td>8</td>
<td>28</td>
<td>8</td>
</tr>
<tr>
<td>0%</td>
<td>18%</td>
<td>64%</td>
<td>18%</td>
<td></td>
</tr>
<tr>
<td><strong>7.8</strong> Students actively participate in evaluating their own work.</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>20</td>
</tr>
<tr>
<td>18%</td>
<td>18%</td>
<td>18%</td>
<td>45%</td>
<td></td>
</tr>
<tr>
<td><strong>7.9</strong> Multiple types (forms) of assessments selected and measure.</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>20</td>
</tr>
<tr>
<td>18%</td>
<td>18%</td>
<td>18%</td>
<td>45%</td>
<td></td>
</tr>
<tr>
<td><strong>7.10</strong> Assessment and measure are aligned with learning objectives.</td>
<td>0</td>
<td>0</td>
<td>44</td>
<td>0</td>
</tr>
<tr>
<td>0%</td>
<td>0%</td>
<td>100%</td>
<td>0%</td>
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</tbody>
</table>
The course grading policy is stated clearly.

<p>| | | | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>10</td>
<td>31</td>
</tr>
<tr>
<td>2%</td>
<td>5%</td>
<td>23%</td>
<td>70%</td>
</tr>
</tbody>
</table>

7.12 Drill and Practice, and rewrite instructional strategies used.

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</thead>
<tbody>
<tr>
<td>8</td>
<td>29</td>
<td>2</td>
</tr>
<tr>
<td>18%</td>
<td>66%</td>
<td>5%</td>
</tr>
<tr>
<td>11%</td>
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</tr>
</tbody>
</table>

Note: ~ The bold values are statistically significant at the point 0.5 level.

What should be the purpose of assessment? In order to improve postsecondary access and success, online courses need to be improved and barriers to low information literacy levels, as well as low computer technology use for academic purposes in these courses need to be overcome. The body of assessment in higher education literature has grown over the past several years, and common themes include the following:

- Improving Online Completion and Progression
- Assess student ability to succeed; student’s own assessment of his or her work
- Teach online learning skills
- Colleges can assist
- Enhance non-instructional supports
- Enhance instructional supports
- Intentionally design online courses
- Engage in continuous improvement efforts
- Engage in continuous improvement efforts.

As Jenkins (2011) discusses that an institution is unlikely to substantially improve student success unless it engages in a systematic long-term improvement process. Through a systematic approach of ongoing peer review, outcome measurement, and subsequent adjustments, departments and colleges can begin to develop specific practices that improve student
outcomes. Perhaps most importantly, program directors review individual faculty outcomes with each instructor, constructively discuss potential ways to improve scores, and incorporate these reports into regular audits. Finally, in addition to assessing quality through peer review and student surveys, it will be most helpful for departments to set ambitious standards for course learning outcomes and to continuously assess and improve the extent to which students meet these outcomes (Jenkins, 2011). Of course, a quality improvement process should be in place of the five ARCL Information Literacy Learning Outcomes (see Chapter Two in this study).

For the purposes of this study 12 items were evaluated on the Assessment of Student Learning Outcomes, below:

71. Students are given criteria regarding the performance indicators of the course. Evaluated as Not Evident (0 percent), Disagree (0 percent), Neutral (100 percent), Fully Evident (0 percent).

7.2 The scoring rubric is made available so that all assessment criteria are available to the student (Grading). Evaluated as Not Evident (9 percent), Disagree (20 percent), Neutral (55 percent), Fully Evident (16 percent).

7.3 Course documents (i.e. syllabus) list all required activities, assignments, & the weights given to each, due dates, and penalties for late submissions. Evaluated as Not Evident (2 percent), Disagree (2 percent), Neutral (84 percent), Fully Evident (11 percent).

7.4 Proctor Agreement signed, examinations are proctored, and student cannot print exams. Evaluated as Not Evident (27 percent), Disagree (16 percent), Neutral (45 percent), Fully Evident (11 percent).

7.5 Multiple types of assessment for diverse learners, & learning styles. Evaluated as Not Evident (27 percent), Disagree (16 percent), Neutral (30 percent), Fully Evident (27 percent).
7.6 The HY, OL teacher provides fair, accurate, and timely assessment of student work. Evaluated as Not Evident (0 percent), Disagree (0 percent), Neutral (100 percent), Fully Evident (0 percent).

7.7 Students receive continual, timely, and constructive feedback on the quality of their work and mastery of course content. Evaluated as Not Evident (0 percent), Disagree (18 percent), Neutral (64 percent), Fully Evident (18 percent).

7.8 Students actively participate in evaluating their own work. Evaluated as Not Evident (18 percent), Disagree (18 percent), Neutral (18 percent), Fully Evident (45 percent).

7.9 Multiple types (forms) of assessments selected and measure. Evaluated as Not Evident (18 percent), Disagree (18 percent), Neutral (18 percent), Fully Evident (45 percent).

7.10 Assessment and measure are aligned with learning objectives. Evaluated as Not Evident (0 percent), Disagree (0 percent), Neutral (100 percent), Fully Evident (0 percent).

7.11 The course grading policy is stated clearly. Evaluated as Not Evident (2 percent), Disagree (5 percent), Neutral (23 percent), Fully Evident (70 percent).

7.12 Drill and Practice, and rewrite instructional strategies used. Evaluated as Not Evident (18 percent), Disagree (66 percent), Neutral (5 percent), Fully Evident (11 percent).

Table 8 and Table 9 consider some other access issues, specifically: physical access, intellectual access, and legal access to education and online learning courses and programs.

Table 8

Telecommunication and Technical Infrastructure

<table>
<thead>
<tr>
<th>Item</th>
<th>Telecommunication and Technical Infrastructure – Please indicate your level of agreement with each of the following</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

88
<table>
<thead>
<tr>
<th>Statement</th>
<th>0</th>
<th>0</th>
<th>44</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.1 The HY, OL platform provides necessary resources for effective delivery of the course.</td>
<td>0%</td>
<td>0%</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>8.2 The HY, OL platform used for course delivery has the necessary system capacity to support the learning activities of the course.</td>
<td>0%</td>
<td>0%</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>8.3 The HY, OL platform provides necessary tools for administrative functions such as enrollment, grading, maintenance of student records and storage of student work.</td>
<td>0%</td>
<td>0%</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>8.4 The HY, OL platform provides appropriate tools for communication and collaboration (i.e., blogs, wikis and evidence of other Web 2.0 technologies).</td>
<td>0%</td>
<td>0%</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>8.5 The course provides a clear description of the system’s technical requirements.</td>
<td>0%</td>
<td>0%</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>8.6 The course contains instructions on how to access technical information or post technical questions within the HY, OL course (i.e. Help Desk).</td>
<td>0%</td>
<td>0%</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>8.7 Students and teachers receive timely (within 24 hours) support.</td>
<td>0%</td>
<td>0%</td>
<td>100%</td>
<td>0%</td>
</tr>
</tbody>
</table>
hours) and user-friendly responses to technical questions.

| 8.8 | Students have access to appropriate hardware and software on a regular and convenient basis. | 0% | 0% | 100% | 0% |
| 8.9 | Connection speeds are sufficient for communication and accessing all course materials. | 0% | 0% | 100% | 0% |

Note: ~ The bold values are statistically significant at the point 0.5 level.

Reviewing the literature and previous research, field study and site visits, Table 8, considers characteristics of effective networking and telecommunication environments for supporting online courses, in general, and specifically for these online courses. For the purposes of this study, 9 items were rated, as follows:

8.1 The HY, OL platform provides necessary resources for effective delivery of the course. Evaluated as Not Evident (0 percent), Disagree (0 percent), Neutral (100 percent), Fully Evident (0 percent).

8.2 The HY, OL platform used for course delivery has the necessary system capacity to support the learning activities of the course.

Evaluated as Not Evident (0 percent), Disagree (0 percent), Neutral (100 percent), Fully Evident (0 percent).

8.3 The HY, OL platform provides necessary tools for administrative functions such as enrollment, grading, maintenance of student records and storage of student work. Evaluated as Not Evident (0 percent), Disagree (0 percent), Neutral (100 percent), Fully Evident (0 percent).
8.4 The HY, OL platform provides appropriate tools for communication and collaboration (i.e., blogs, wikis and evidence of other Web 2.0 technologies). Evaluated as Not Evident (0 percent), Disagree (0 percent), Neutral (100 percent), Fully Evident (0 percent).

8.5 The course provides a clear description of the system’s technical requirements.
Evaluated as Not Evident (0 percent), Disagree (0 percent), Neutral (100 percent), Fully Evident (0 percent).

8.6 The course contains instructions on how to access technical information or post technical questions within the HY, OL course (i.e. Help Desk). Evaluated as Not Evident (0 percent), Disagree (0 percent), Neutral (100 percent), Fully Evident (0 percent).

8.7 Students and teachers receive timely (within 24 hours) and user-friendly responses to technical questions. Evaluated as Not Evident (0 percent), Disagree (0 percent), Neutral (100 percent), Fully Evident (0 percent).

8.8 Students have access to appropriate hardware and software on a regular and convenient basis. Evaluated as Not Evident (0 percent), Disagree (0 percent), Neutral (100 percent), Fully Evident (0 percent).

8.9 Connection speeds are sufficient for communication and accessing all course materials. Evaluated as Not Evident (0 percent), Disagree (0 percent), Neutral (100 percent), Fully Evident (0 percent).

Two key concerns on this telecommunication and technical construct. These concerns are for schools, colleges and universities as related to information and security.

**Managing Students’ E-Records**

The Family Educational Rights and Privacy Act (FERPA) of 1974 requires that formal and written notice of disclosure to a third party of student records. FERPA and the Individuals with Disabilities Education Act (IDEA; 1997) require that the notice include a summary of the
policies and procedures for storage, disclosure to third parties, and retention and destruction of personally identifiable information. IDEA defines *destruction* as physically destroying the data or removing all identifying elements. Disposal of education records is legitimate under certain federal and/or state procedures and substantive rules. State administrative law governs education record destruction policies. The record retention schedule specifies the documents to retain, the duration to retain them, and the storage medium to use (paper, microfilm, optical disk). The concern is that often times in the online education setting, some faculty and administrators fail to recognize that everything is an electronic records, including blogs, wikis, and obviously, student work. Many believe that when information is deleted, it is permanently erased. However, until sectors of a hard drive are reused for subsequent data storage, a simple undelete command or undelete software easily restores the data.

**Bandwidth**

Bandwidth in some agricultural and rural areas remains an issue. The creation, receiving and sending large audio and visual documents, images, and other big files is often not feasible. Bandwidth on a campus could be far less in the community where the recipient could benefit from interactive content (Villano, 2009, p. 2). Adding new technologies confront instructors and administrators at a time of continued budget retrenchments and rethinking. Given the demand for online learning, the plethora of online technologies to incorporate into teaching, the budgetary problems, and given tech savvy students but not so tech savvy faculty, a few institutions are facing a “perfect” e-storm. Delivery of online course requires highly reliable servers. The servers need to be powerful enough to provide adequate performance to support teaching/learning activities and to have enough storage space for the data generated by all the online courses. The network that connects the servers and students’ computers should have enough bandwidth for Internet transactions.
Security

Security is another major issue for the e-learning platform. In addition to the security concerns, there are some other technical issues. For example, power outage and network problems often cause the server to be unavailable to students. On the client side, students need to use their own computers, network devices, and the broadband Internet connection to handle distance learning courses. Some students’ equipment may not meet the technical requirements. Students may also have difficulty configuring the client side software for connecting to the server. All these technical problems can cause learning stress.

Information Technology

The institution maintains an effective identity verification process for students enrolled in distance education courses and programs to establish that the student enrolled in the distance education course or program is the same person whose achievements are evaluated and credentialed. The institution ensures the identity verification process for distance education students protects student privacy and that students are informed, in writing at the time of enrollment, of current and projected charges associated with the identity verification process.

Library and Information Resources

Consistent with its mission and core themes, the institution holds or provides access to library and information resources with an appropriate level of currency, depth, and breadth to support the institution’s mission, core themes, programs, and services, wherever offered and however delivered.

Planning for library and information resources is guided by data that include feedback from affected users and appropriate library and information resources faculty, staff, and administrators.

Consistent with its mission and core themes, the institution provides appropriate
instruction and support for students, faculty, staff, administrators, and others (as appropriate) to 

enhance their efficiency and effectiveness in obtaining, evaluating, and using library and 

Information resources that support its programs and services, wherever offered and however 

delivered.

The institution regularly and systematically evaluates the quality, adequacy, utilization, 

and security of library and information resources and services, including those provided through 

cooperative arrangements, wherever offered and however delivered.

**Technological Infrastructure**

Consistent with its mission, core themes, and characteristics, the institution has 

appropriate and adequate technology systems and infrastructure to support its management and 

operational functions, academic programs, and support services, wherever offered and however 

delivered. The institution provides appropriate instruction and support for faculty, staff, 

students, and administrators in the effective use of technology and technology systems related to 

its programs, services, and institutional operations. Technological infrastructure planning 

provides opportunities for input from its technology support staff and constituencies who rely on 

technology for institutional operations, programs, and services. The institution develops, 

implements, and reviews regularly a technology update and replacement plan to ensure its 

technological infrastructure is adequate to support its operations, programs, and services.

**System Administration**

There are legitimate security concerns in designing and delivery of distance learning 
courses. For example, operating system management and potential terrorism, operating system 
configuration and integrity, security management, electronic record and e-student record system 
management. Students will not always perceive the threat or potential injury to institutional 
resources and/or faculty resources. Students will learn how institutional policies and course
policies are managed, enforced, and discipline. Knowledge and skills related to ethics and the legal and regulatory environment of distance education and in particular systems administration and management are essential for both faculty members and students.

**Information Security**

**Data assurance:** Misconception on data integrity, data availability, and data confidentiality and privacy (constitutional issues related to digital information and its use), and also concerns connected with cryptography, digital signature, and other measures for providing secure data communication possibly have not been previously explained to faculty and students.

**Network security:** Unknown sources of network attacks, identifying and responding to an intrusion, configuration of firewalls, and selection of the best security approach for various network protocols and selection of network security software and hardware possibly have not been previously explained to faculty and students.

**Operating system security:** Different institutions and organizations utilize differentially Windows, Linux, and various UNIX operating systems. However operating systems are a target for those individuals who could and would do harm. Communicating security measures and discipline for misappropriate use of any operating systems, servers intended for safer access, authentication, and confidentiality possibly have not been previously explained to faculty and students.

**Application security:** The unethical use of electronic mail (“e-mail”) and Web services is a relevant issue and unchecked can lead to potential economic loss and embarrassment for the student, institution and/or faculty.

**Internet security:** Administrators, faculty and staff, and students should know and understand the basic issues including how security measures for Web servers, how security measures for Web browsers, the institution and faculty members perspective and hackers, and how discipline
must be utilized to enforce offenders of security measures designed to equally protect all against
computer offenders from virus threats such as spam, worms, and spyware.

Security policies: The course instructor can require heighten protection but not less than what
the institutional policies require, and these policies should be continuously evaluated to protect
the institution, faculty member and staff, and foremost the student.

Certainly, we all get it by now, meaning, the opportunities for innovation. Yet, as seen above,
there are various issues related to telecommunication and technical support. Yes, indeed, a few
institutions are facing an e-storm. Therefore, Table 8 in this study rated 9 items on
telecommunication and technical infrastructure.

Table 9

Accessibility, Physical Access, Intellectual Access, Legal Access

<table>
<thead>
<tr>
<th>Item</th>
<th>Accessibility—Please indicate your level of agreement with each of the following statements using the following scale: 1=Not Evident, 2=Disagree, 3=Neutral, 4=Fully Evident</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.1</td>
<td>Link to institutional governance, policy and procedure documents</td>
<td>0</td>
<td>0</td>
<td>44</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0%</td>
<td>0%</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>9.2</td>
<td>Link to university’s Digital Millennium Copyright policy -</td>
<td>0</td>
<td>0</td>
<td>44</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0%</td>
<td>0%</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>9.3</td>
<td>Link to university’s American</td>
<td>0</td>
<td>0</td>
<td>44</td>
<td>0</td>
</tr>
</tbody>
</table>
Accessibility

The concept of access is multi-layered and includes: issues related to physical access, intellectual access, and legal access to education, in particular online education. The researcher briefly reviewed the literature on these topics and discussed challenges with course instructors, students, deans, and directors. Below are some of the challenges higher education institutions face.

Accessibility specifically addresses the issue of providing access for students with disability. Link to university’s American Disabilities Act (ADA), IDEA and other education/school law requirements. What does access mean? So far physical access and intellectual access considerations have been addressed in this study. Now, we need to consider how these online course provide access to students with disabilities. In Table 9: is shown rating on three items which are reflected most in the educational literature. There are other issues on accessibility, however.

Access and Student with Disabilities, Universal Design, and Online Course Design

People with disabilities are concerned and need equal access in distance education in online environment. Congress passed Section 504 of the Rehabilitation Act in 1973. It is a civil rights statute designed to prevent discrimination against individuals with disabilities. It provides that:

No otherwise qualified individual with disabilities in the United States...shall, solely by reason of his/her disability, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance... (Emphasis added).29USC§794.
The Americans with Disabilities Act (ADA), which was modeled after Section 504, was signed into law in July 1990, but most provisions did not take effect until January 26, 1992 (i.e., Title II - governmental services; Title III - public accommodations) and July 26, 1992 (i.e., Title I - employment provisions). Section 504 only applies to entities that receive federal financial assistance. Whereas the ADA covers most establishments whether privately owned or assisted with state and/or federal funds. Thus, all students have the right to equal access to the online course. Further, students have the right to same access to library, computer hardware and software as other students enrolled in the university.

How do faculty teaching students with disabilities in online courses provide access to them? First, course instructor needs to understand the types of access issues: physical access issues, intellectual access issues, psychological and emotional access issues. Technology and online courses raises more issues, such as compatibility with assistive technology.

As related to interaction theory, students often feel that their disability does not matter when studying online and do not disclose or request accommodations until it is too late.

- Physical Disabilities
- Learning Disabilities
- Visual Disabilities
- Hearing Disabilities
- Psychological/Emotional Disabilities

Some issues students face:

- Physical access to the computer
- Physical manipulation of texts and other course materials
- Timing of synchronous components of the course, especially chat rooms
Activities to fulfill assignments if they require the student to work outside of the course environment

Learning Disabilities and Online Learning

Some issues for students:

- Accessing textbooks and printed course materials
- Clarification of misunderstood (written) points
- “Chunking” of text heavy and lengthy material
- Timing and organization of synchronous components, especially chat rooms
- Extra time to take online exams and other assessments
- Clearly outlined expectations/assignments in syllabus
- Getting timely feedback

Visual Impairment and Online Learning

Some issues for students:

- Interaction of course management system and assistive technology used by the student
- Course materials in accessible alternative formats
- Video components
- Graphics, photos & charts
- Activities to fulfill assignments if they require the student to work outside of the course environment

Hearing Impairment and Online Learning

Some issues for students:

- Audio/Video components and transcripts/captions
- Language issues if ASL is the first language
Timing and organization of any synchronous components, especially chat rooms

Activities to fulfill assignments if they require the student to work outside of the course environment

**Psychological and Emotional Issues and Online Learning**

Some issues for students:

- Timing issues due to the side effects of medications taken or due to flare up of condition
- Processing of text heavy courses
- Increase of triggers of impairment: stress & anxiety
- Need to increase phone/email contact with instructor to clarify misunderstood points
- Social skills needed (i.e. chats & discussion posts)
- Inappropriate behavior may be sign of distress
- Clearly outlined expectations/assignments in syllabus
- Extra time to take online exams and other assessments
- Getting timely feedback

What do we do to provide access to every student enrolled in online courses and distance learning programs? Unsurprisingly, the response to the question is the same. Course instructors teaching students in online courses should focus on course design. Additionally, as related to student with disabilities, there should be a link to Web course access policy and institutional access policy. It is easier to build accessibility into the course during development than it is to retrofit a developed course.

- Include accessibility in course and program development
- Make early decisions about course materials
- When purchasing new video/audio materials give preference to accessible versions
• Design regular, large and popular classes with accessible formats and universal design in mind

Legal Barriers: Copyright and Other Intellectual Property

Instructors and students often incorporate the copyrightable works of third parties in their courses and course work and generally rely on the creator’s permission, the Copyright Act’s educational use exemption, or fair use, to do so. In determining whether the use of certain materials constitutes fair use, the following factors are weighed and balanced: (1) the purpose and character of the use, including whether the use is commercial or educational; (2) the nature of the copyrighted work; (3) quantity and substantiality of work copied in relation to its whole; and (4) whether it will compete or damage the market for the original work. In general, commercial works, even commercial works with an educational purpose, generally are disfavored. Thus, an online course that will be marketed to other institutions may be deemed a commercial use that attenuates a fair use claim. Similarly, works that incorporate substantial portions of prior works probably will not be entitled to a fair use defense. If a course instructor or student wants to incorporate a prior work and such incorporation will not constitute fair use, then the individual must secure a license from the copyright holder. Without a fair use exemption or a license, the incorporation of the third party’s work will constitute copyright infringement. To minimize the possibility that copyright infringement will occur, or the liability that stems from infringement, institutions should develop concise academic policies for faculty and students that cover the types of material incorporated in online courses. The policies must be conspicuously linked to the course website preferably on the first page of courses. To the extent feasible, course instructors and online students should acknowledge they have read and understand these policies, and agree to adhere to institutional policy.
Analysis Performed to Answer the Second Research Question

RQ 2. What are students’ overall ratings of online course quality and effectiveness? In Table 10: students’ overall rating of the quality/effectiveness in these online courses is shown that while the University does not resort to mass marketing strategies instead it grows prospects into loyal customers through relationship building strategies. They benefit from the magnified effect of quality in online course design by their students (loyal customers, current students and alumni), to spread the message by word-of-mouth or through Internet.

Table 10

<table>
<thead>
<tr>
<th>Overall-Instr</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall-Effect</td>
<td>125</td>
<td>1</td>
<td>4</td>
<td>3.17</td>
<td>1.06</td>
</tr>
<tr>
<td>Opinions</td>
<td>135</td>
<td>2</td>
<td>14</td>
<td>9.40</td>
<td>2.84</td>
</tr>
<tr>
<td>Overall</td>
<td>134</td>
<td>2</td>
<td>14</td>
<td>7.73</td>
<td>3.18</td>
</tr>
</tbody>
</table>

Table 10 shows student survey responses indicate overall they perceive interaction between students and instructor is high. While students’ qualitative responses indicated they perceive instructors do not employ new or other technologies and practice that are effective in facilitating students’ communications with and among students, the majority of students perceive a secure login and pass code system and perceive proctored examinations ensure rigor. Librarian, library and learning resources were rated high by students. Student services, including adequate access to comparable support and student services rated high by students. Facilities, including appropriate equipment and technical help when they need it rated high by students. Overall, these students indicate positive opinions and overall satisfaction with his/her online course during the fall 2010 academic term.
Analysis Performed to Answer the Third Research Question

RQ 3. Is there a relationship between characteristics of online courses and student success in these courses? Table 11 presents correlations between different elements of course structure and students’ evaluations and expected outcomes in their online courses. The grade they would give the course seems to be the most responsive to the elements of design considered, with prerequisites (Prerequisites) and student-to-teacher (Inter-Std/Tch) yielding the strongest relationships.

Table 11: Correlations of Course Characteristics with Student Satisfaction

<table>
<thead>
<tr>
<th></th>
<th>Overall_Inst</th>
<th>Overall_Effect</th>
<th>Recommend</th>
<th>Grade-Course</th>
<th>Exp-Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>IL-Needs</td>
<td>0.06</td>
<td>-0.169</td>
<td>-0.140</td>
<td>0.291</td>
<td>0.231</td>
</tr>
<tr>
<td>IL-Skills</td>
<td>0.16</td>
<td><strong>0.297</strong></td>
<td><strong>0.359</strong></td>
<td>0.226</td>
<td>0.017</td>
</tr>
<tr>
<td>Librarian</td>
<td>0.10</td>
<td><strong>0.188</strong></td>
<td><strong>0.323</strong></td>
<td>0.326</td>
<td>-0.037</td>
</tr>
<tr>
<td>Com-Tools</td>
<td>0.162</td>
<td>0.146</td>
<td>-0.014</td>
<td>0.223</td>
<td>-0.044</td>
</tr>
<tr>
<td>Opinions</td>
<td>0.178</td>
<td><strong>0.242</strong></td>
<td><strong>0.240</strong></td>
<td>0.303</td>
<td>0.092</td>
</tr>
<tr>
<td>Inter-Overall</td>
<td>-0.222</td>
<td>-0.141</td>
<td>-0.242</td>
<td>-0.298</td>
<td>-0.118</td>
</tr>
<tr>
<td>Inter-Std/Tch</td>
<td>0.161</td>
<td><strong>0.267</strong></td>
<td><strong>0.219</strong></td>
<td><strong>0.418</strong></td>
<td>0.092</td>
</tr>
<tr>
<td>Inter-Std/Std</td>
<td>0.020</td>
<td>-0.061</td>
<td>0.061</td>
<td>0.058</td>
<td>-0.129</td>
</tr>
<tr>
<td>Prerequisites</td>
<td>0.114</td>
<td>0.036</td>
<td>-0.108</td>
<td><strong>0.689</strong></td>
<td>-0.005</td>
</tr>
<tr>
<td>Online-Cnt</td>
<td>0.027</td>
<td>0.251</td>
<td><strong>0.198</strong></td>
<td>0.139</td>
<td><strong>-0.268</strong></td>
</tr>
<tr>
<td>GPA</td>
<td>0.039</td>
<td>0.100</td>
<td>0.174</td>
<td><strong>0.248</strong></td>
<td><strong>-0.239</strong></td>
</tr>
</tbody>
</table>

Interestingly, following course prerequisites, information literacy skills (IL-Skills) and having a librarian seemed to yield the most positive correlations with course evaluations.
Also, each of the above tables, there are 11, also has an overall rating. I have included these in the appendix as Tables 12-23.

**Analysis Performed to Answer the Fourth Research Question**

RQ 4. Is there a relationship between student perceptions of information literacy preparedness and student success in online courses? Above, Table 11 shows correlations of course characteristics with the grades students expect to receive in the course. Information literacy competencies do not yield a significant correlation with course performance expectations. Having had an online course in the past and overall grade point average are the strongest predictors of the grades these respondents expect to get in their current online course.

**Analysis Performed to Answer the Fifth Research Question**

RQ 5. What processes lead students to have a negative or positive experience in an online course? To answer the fifth research question the researcher employed interview and group exercises. Students were asked “So, what would you do differently?” by the researcher. Student participants report they feel neither course overview nor introduction nor learning objectives (competencies) were clearly stated in the beginning, which lead to students’ frustration. Students also say they expect to know what the course instructor wants. Students did not report that regular quizzes and examinations but not research and writing assessment influenced his/her decision to persist or drop his/her course. Students did not report that little or no library assignment influenced his/her decision to persist or drop his/her course. Students did not report that instructors use (or non-use) of new technologies (blogs, wikis, Facebook, Skype) influenced his/her decision to persist or drop his/her course. A few students did report that they feel when instructor employs blogs or wikis they feel intimidated because some students in the course write too much and that consumes his/her limited time. A few other students reported that while instructor’s use of new technologies is “an enhancer” it did not influence students’ learning
because he/she was already motivated to learn with adequate resources and support services. Interestingly, one undergraduate student reported that actually he does not “like” the thought of instructors employing Facebook for academic purposes because “it is a social networking” technology and that requiring students to communicate with the instructor through Facebook is comparable to a parent requiring his/her son or daughter “friending” them—the cultures are different.

**Interviews, Focus Groups**

Dean of the Honors College

The Dean of the Honors College indicates that she uses Facebook for information exchange and interactions with students. In addition, she utilizes SMS/texting to alert students to changes in course, including emergencies and weather reports, other texting for administrative notifications, and a bit for educational use. This dean was very positive about using technology to facilitate students’ information literacy skills, and says she uses a combination of online quizzes, tests, and writing activities to spark students’ critical thinking skills.

Dean of Libraries

The Dean of Libraries indicates that libraries must support the needs of faculty and their students in online courses and distance learning; the library is more than a physical place; it is a space for the enjoyment of learning; it is meant to support research and scholarship; and it is meant to facilitate discovery and inquiry. The challenge is how to harness the same research and scholarly energy and how to facilitate the enjoyment of learning in online environments as it exist in academic libraries within the culture and tradition of the university and its unique university mission—all in light of budget cuts.
Summary

Both quantitative and qualitative methodologies guided this research inquiry. These chosen methodologies, instruments, data collection procedures, and data analyses were pertinent to the illumination of information that shed light on the research questions posed. The checklist for evaluating quality in online courses instrument, faculty questionnaire instrument, student survey, which was a web-based instrument, validated and administered to research participants. The survey was disseminated in an online format with paper copies distributed as requested. The instrument provided quantitative data that was analyzed using appropriate statistical procedures and SPSS.

The Student Interview Protocol (Appendix F) and the Faculty Interview Protocol (Appendix G) and provided qualitative data suitable for entry into the Atlas.ti software program that utilized the constant comparative method of data analysis. The methodologies and procedures within this study were used to add possible new dimensions to the understanding of the relationship among information literacy, online interactions, students’ learning, and success in distance learning courses among faculty respondents and student respondents in the study. This instructional design process was thoroughly explored and resulting information appears to help in understanding the ‘how, when, why, and why not’ aspects of decision-making by course instructors teaching online courses at the target university to incorporate information literacy learning activities with technology into teaching to promote students’ learning.
CHAPTER FIVE. CONCLUSIONS, IMPLICATIONS, FUTURE RESEARCH

Discussion of Results to Research Questions

RQ 1) To what extent do online courses incorporate elements of effective design, including information literacy instructional exchange and level of interactions?

Overall, these online courses incorporate some, but not all of the elements of instructional design of an optimal course to promote online students’ learning (interaction between students and instructors and among students). Instructor quality in these Web-based courses meets or exceeds the items rated in the checklist employed by the researcher. Student role, student rights and responsibilities were stated clearly in course documents, with links to institutional and course specific policies. The researcher found little evidence that instructors are employing the Internet and new technologies (blogs, wikis, Facebook, Skype). Yet, the technology they utilize seems appropriate to the learning objectives and nature of the discipline, subfield or course objectives. An optimal course design integrates information sources beyond content posted by the instructor, including a link to digital libraries, electronic resources, digitized archives and special collections, government created and digitized documents, non-government created and digitized documents and information sources that are relevant. Overall, these courses are missing rich content because they do not integrate and provide a path through links to much information beyond quizzes and tests materials covered. Bandwidth presents a challenge when information files are too large for the community infrastructure. Overall, the researcher did not find an optimal course design for distance learning among these but did find enthusiasm, commitment to research as well to teaching and learning between instructors and among them.
RQ 2) What are students’ overall ratings of online course quality and effectiveness?

Students rate these online courses high, with the majority of students stating a positive response in interviews and focus group exercises. By contrast, the researcher was conservative and rated these courses a 3=Neutral and some 2=Disagree. Again, these online courses did not provide much in the way of interactivity. For example, PowerPoint slides were not interactive. Several of the links did not work. The majority of these online courses provided assessment by regular quizzes and tests, but few provided opportunities for multiple types of assessments, such as students’ use of portfolios, blogs, wikis, Facebook, Twitter/tweet/re-tweet assignments. Given the social media impact on society, it seems that the majority of these online courses lacked academic rigor or variety to engage diverse learning styles.

Faculty perceptions of the overall effectiveness in these online courses were different. All of the faculty interviewees agree that more professional development on instructional design and focus on designing for online interactions is a desirable outcome. Faculty and students interview respondents were especially interested in knowing more about the concept of the embedded librarian, which is a link to a librarian. Upon connection with a librarian, the librarian could help course instructors and students in teaching and learning in these online courses. Curiously, students say they already use the new technologies for social networking with friends, and would like opportunities to know how to use new technologies to grow their information and communication literacies; in particular the new literacies that will help them get good jobs upon graduation.

RQ 3) Is there a relationship between student perceptions of information literacy preparedness and student success in online courses?

When asked, is there a relationship between characteristics of online courses, as reflected in student ratings and student success in these courses, the faculty participants and student
participants had a different perspective. Student respondents were most responsive to the elements of design considered, with prerequisites and student-to-teacher elements factors yielding the strongest relationships.

There is little, if any, relationship between characteristics of these online courses and students’ ratings and student success in these courses. Student survey results indicate that students expect a good grade, mostly “A.” However, given the grade point average self-reported and verified by institutional data sources-these students are “C” or lower student achievement except students in the College of Nursing. Hence, the researcher reports that there is no congruence.

Course instructors’ response was neither negative nor affirmative (neutral on research question three). For these course instructors previous experience in teaching an online course, time, resources, and interest/disinterest themes in interviews with instructors of these online courses. However, this conclusion is reflected in the literature.

RQ 4) Is there a relationship between student perceptions of information literacy preparedness and student success in online courses?

When asked, is there a relationship between the level of information literacy of students and their success in online courses, the checklist, course instructor and student interviews and responses were the same. In other words, could not be determined and that future study needs to examine interrelatedness of the level of information literacy and success. Success of the course as well as students’ success in the online course. It is interesting, however, students responded they expect these course instructors to give them a high grade “A” or “B,” which does not fit the GPA data for the demographics of these students.
RQ 5) What process lead students to have a negative or positive experience in an online course?

Instructors teaching an online course in Fall Academic Term 2010 had a negative experience when they perceive the students are disengaged or students’ are not interacting with content in the online course (Research Question 5-interviews/focus group exercises). Course instructors had a negative experience when they perceive students are not sharing in his/her own learning and actively participating (students’ role), which was Research Question 5.

**Student Survey Conclusion**

Students’ perceptions of their information literacy needs in these online courses are slightly below the midpoint of the scale. Their ratings of their own information literacy skills are above the midpoint of the IL-Skills scale. Their ratings of communication tools in these online courses is similarly below the scale midpoint, suggesting students’ perceived a rather limited need for information literacy in their courses. Similarly, the percentage of courses with librarian support (Librarian) is below the midpoint of the scale.

The level of interaction in online courses appears to be around the midpoint of all three scales, with student-to-teacher interactions (Inter-Std/Tch) being the higher of the three. This suggests that while the student respondents give their courses positive ratings with regard to indicators of course quality, however their courses tend to place few demands on them as regards information access and information exchange, with the exception of information exchange between teacher and student. Notably, approximately half of the respondents expect a good grade in their online course even though based on the results of the checklist; these online courses have several challenges. Class size appears to be high based on the literature reviewed that indicates that class size for an online course needs to be capped at 20 or 25 students. With the exception of online courses offered by the College of Nursing most other online courses have
as many as 100 students in the online course. While class size appears high, the activities in the course seem low. The literature reviewed indicates that the “optimum” teacher is effective and efficient at the management of resources. However, few studies were found by the researcher on the topic of mismanagement or impossibilities when online course instructors are asked to continue to teach more students at the same optimum level with fewer resources in online education in the state and public college and university setting. Hence, overall results from surveys, interviews and checklist are not in congruence on overall ratings of the quality and effectiveness of these online courses.

Conclusions

Therefore, it may be possible to create efficient and effective online courses and programs, if we consider these conclusions:

1. Course design is knowledge-centered and information-centered with student-learner at the center (constructivist design). Design incorporates technology tools, which help student to interact, connect, collaborate, and communicate with the course instructor, other students, librarians, and other appropriate subject matter experts.

2. Students, undergraduate and graduate, come from different backgrounds and they use different learning strategies. Age, race/ethnicity are not characteristics that drive use of technology. Attitude, experience, motivation, study habits, and time management drive learning outcomes. We should design in such a way that a large part of the students actually learn what they are expected to learn. Additionally, we need to assess learning in order to make improvements.

3. Knowledge-centered and information knowledge-centered and information-centered with student-learner at the center (constructivist) design has the potential to help students build critical thinking and technical competencies. Both require exercising the brain muscle. This approach,
apparently, works well in several fields including: art and aesthetics, business, economics, education, information and library science, law, media, and music disciplines.

4. Course instructor needs to develop skills in using appropriate technology tools to enhance students’ learning, and in designing objectives in alignment with tasks that enhance students’ critical thinking. The main goal in online course design should always be high expectation that every student can achieve learning objectives, if prerequisites have been met, and if students have good attitude, experience, motivation, and they are inspired to learn.

5. Inspired people can achieve all things through inner strength (i.e. attitude, motivation) and learning abilities. Inspired students are contagious. When they work together (i.e. collaborate, communicate, interact), all benefit.

6. Beyond physical access, students could face intellectual access, telecommunication and technical infrastructure, and legal access challenges. An example of a telecommunication and technical infrastructure access challenge is bandwidth. An example of a legal challenge is copyright. When course instructor works with others in the setting, such as an instructional designer, a subject matter expert librarian, they plan and deliver instruction, effectively, and efficiently that is accessible and available to students enrolled in these online courses and distance learning programs, wherever. We need to take into consideration the multiple layers of learning, multi-literacies, different learning styles, culture, geography, and structural challenges they face where instruction is received.

**Key Findings**

Survey results indicate there is little correlation between the level of information literacy of students and their success in these online courses. In the absence of a way to assess information literacy competencies (i.e. consistently, routinely, uniformly), coupled with few research and writing activities that are graded—the researcher finds little evidence that there is a
relationship between the level of information literacy of students and their success in these online courses.

The majority of these course required regular quizzes and exams but few required online students to perform research and writing. Undergraduate students were not required to participate in a course-mandated mentorship relationship with a local employer or community leader, where they could carry out course projects. Instructors in different disciplines and subfields employed different approaches to evaluating knowledge and skill acquisition in online students. In Communication, Music, and Nursing courses, students were provided with podcast and training video that showed how to accomplish the tasks they were learning but Moodle NG has limitations on visualizations that can be integrated in courses. Using the video, some students could complete his or her course work at home or work for evaluation by the instructor. Business students could complete assignments at the sites where they worked, and then submit the evidence from assignments to the instructor for evaluation.

Correlations with the grades students expect to receive in the course and the level of information literacy activities (information access and information exchange) competencies do not yield a significant correlation with course performance expectations. Having had an online course in the past and overall grade point average are the strongest predictors of the grades these respondents expect to get in their current online course. This finding is unsurprising based on the self-efficacy literature reviewed.

When asked, upon reflection, what processes lead students to have a negative or positive experience in an online course, survey results indicate that students have a negative experience in these online courses when they perceive the course will require them to research or write a substantive paper for a grade in these online courses. Another result from survey, interview and focus group exercises was that students report that they have a negative experience when
instructor requires students to post and read the substantive posting of other students. They say they do not have time to read substantive postings. Students say they enjoy using Facebook and say that instructors should require a Facebook assignment at least one day each week and that instructors should assign writing assignments that incorporate texting and Twitter/Tweet/ReTweet messaging. They say that the process of exchanging these messages can add up to at least several pages of written work by the end of student’s week.

As a result of this study, it is now clear that how students approach learning is strongly influenced by the course design. It is also clear that the course instructor and the student interactions are essential for student to indicate a positive experience in these online courses. Different from the literature reviewed, in this study, the quantity of interactions seemed to make students feel satisfied versus the quality of interactions. Few of these online courses incorporated a research or writing assignment, and none had an embedded librarian yet students responded that they were satisfied and perceived learning in these online courses. It is possible that student did receive quality instruction even without interactions with a reference or research librarian because of the motivation of student, also because these courses did provide a Web site link to readings in e-books, e-journals, as well provided links to readings published in professional journals linked and provided in the instructional design of course by the course instructor. Another result from interviews was no evidence that the ACRL Information Literacy Standards were incorporated in these online courses, during the survey period, Fall 2010 term.

**Implications and Future Research**

Students enrolled in online courses are more likely to fail. Maybe online courses and distance education programs are not the magic pill for school districts, colleges and universities (Flannery, 2011).

There is little study that provides overwhelming evidence of students who achieve
academic success in online courses and programs versus students who do not complete these
courses and programs. Researchers found that Black and African American students, and
Hispanic students need specific academic support and resources, and their teachers and course
instructors need specific provisions and support-for both online courses and face-to-face
classroom settings. Persistence of Black students in general and Black male students in
particular, attending predominately White institutions (PWI) is one of the greatest challenges
facing higher education institutions (see Bowie, 2006). While recent trends indicate an increase
in the number of students taking online courses, a troubling reality is that this population will
need interventions: English, Reading, Research, Writing, Math, and Presentation instruction for
academic, professional, and personal success in this digital age.

I don’t want to end on a gloomy note but in the South, particularly in the region where
this study is conducted: I see many illiterate and innumerate adults, people 118 and over. : As a
former college and university former teacher and librarian, I am located at a university in the
Deep South, which is located in an area of south Louisiana known as Acadiana. Many of the
inhabitants of Acadiana are descendants of African, French and Spanish settlers. Culturally, the
region is characterized by a *joie de vivre*, or joy of life.

As Bowie discussed in conclusion of his study, here too, I conclude that we all pay high
costs for ignorance, in particular ignorance because of the lack of ability to read critically, read
often, and write well. Too, illiteracy has now swollen our federal and state prisons, and
contributed to decaying neighborhood properties. I believe that we are gaming to much on
technology, and not enough on the development of human resources and people capable of civic
engagement. I believe we should invest more in interventions in order to support teachers and
students, and in many situations, support parents and grandparents with the awesome task of
education in the home environment. Locally, broke and broken adult men and women who are
teachable and employable but they cannot access Internet, and lack skills to blog a job application inquiry, or employ LinkedIn for a connection to a job are also nearly extinct. I am convinced that information literacy instruction is critical, and not just to academic success but also to survival in the twenty-first century. I am curious whether one day, soon, even health and medical care will be limited just the few people who really are digitally literate. I see that the University sits in the heart of (1) the highest crimes committed (2) highest poverty level, and (3) lowest adult literacy geographical area in the United States. If information literacy is essential to success in the 21st century, and, if the workforce and society needs people who are information literate, it seems that the challenge exists for public and state universities operating in such information and technology-rich and resource poor environments, with ever-growing budgetary constraints, to extend to teachers, students, and parents-as early as pre-K, learning to help them “pull up” so that they can better participate in their community and society, globally. Today’s information and technology tools at least promise these possibilities. Collaboration and partnering is at the heart of the solution.

Finally, online education as importantly should focus on eradicating illiteracy and innumeracy in a digital age, using technology tools and information that are driving our time., and should bring interventions to communities via online courses and distance learning programs especially to help lift up teachers, parents and grandparents in economically marginalized communities.
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APPENDIX A. STUDENTS’ SURVEY

Student Survey

1. What is your classification?

<table>
<thead>
<tr>
<th>Classification</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>First-time Freshman</td>
<td>10.5%</td>
<td>30</td>
</tr>
<tr>
<td>Freshman</td>
<td>3.2%</td>
<td>5</td>
</tr>
<tr>
<td>Sophomore</td>
<td>16.2%</td>
<td>25</td>
</tr>
<tr>
<td>Junior</td>
<td>24.7%</td>
<td>38</td>
</tr>
<tr>
<td>Senior</td>
<td>30.5%</td>
<td>47</td>
</tr>
<tr>
<td>Graduate Student</td>
<td>5.8%</td>
<td>9</td>
</tr>
</tbody>
</table>

Answered question: 154
Skipped question: 2

2. What is your age?

<table>
<thead>
<tr>
<th>Age</th>
<th>Response Average</th>
<th>Response Total</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>24.06</td>
<td>3,681</td>
<td>153</td>
</tr>
</tbody>
</table>

Answered question: 153
Skipped question: 3

3. Gender?

<table>
<thead>
<tr>
<th>Gender</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>70.8%</td>
<td>109</td>
</tr>
<tr>
<td>Male</td>
<td>29.2%</td>
<td>45</td>
</tr>
</tbody>
</table>

Answered question: 154
Skipped question: 2
4. How many online courses have you taken in the past?

<table>
<thead>
<tr>
<th>Response</th>
<th>Percent</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>36.4%</td>
<td>56</td>
</tr>
<tr>
<td>1</td>
<td>26.0%</td>
<td>40</td>
</tr>
<tr>
<td>2</td>
<td>12.3%</td>
<td>19</td>
</tr>
<tr>
<td>3</td>
<td>9.7%</td>
<td>15</td>
</tr>
<tr>
<td>4 or more</td>
<td>15.6%</td>
<td>24</td>
</tr>
</tbody>
</table>

5. What is your current grade point average?

<table>
<thead>
<tr>
<th>Grade Range</th>
<th>Percent</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>less than 1.45</td>
<td>0.8%</td>
<td>1</td>
</tr>
<tr>
<td>1.46 - 2.45</td>
<td>9.7%</td>
<td>15</td>
</tr>
<tr>
<td>2.46 - 3.45</td>
<td>67.1%</td>
<td>104</td>
</tr>
<tr>
<td>3.46 or better</td>
<td>22.8%</td>
<td>35</td>
</tr>
</tbody>
</table>

answered question: 154
skipped question: 2
6. What grade do you expect to get in this course?

<table>
<thead>
<tr>
<th></th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>64.4%</td>
<td>96</td>
</tr>
<tr>
<td>B</td>
<td>30.2%</td>
<td>45</td>
</tr>
<tr>
<td>C</td>
<td>5.4%</td>
<td>8</td>
</tr>
<tr>
<td>D</td>
<td>0.0%</td>
<td>0</td>
</tr>
<tr>
<td>F</td>
<td>0.0%</td>
<td>0</td>
</tr>
</tbody>
</table>

answered question 149
skipped question 7

7. Have you had all of the prerequisites for this course?

<table>
<thead>
<tr>
<th></th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>95.3%</td>
<td>141</td>
</tr>
<tr>
<td>No</td>
<td>4.7%</td>
<td>7</td>
</tr>
</tbody>
</table>

answered question 148
skipped question 8

8. Do you intend to withdraw from this course before the semester ends?

<table>
<thead>
<tr>
<th></th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>2.6%</td>
<td>4</td>
</tr>
<tr>
<td>No</td>
<td>97.4%</td>
<td>147</td>
</tr>
</tbody>
</table>

answered question 151
skipped question 5
9. Have you already withdrawn from this course?

<table>
<thead>
<tr>
<th>Response</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>1.3%</td>
<td>2</td>
</tr>
<tr>
<td>No</td>
<td>98.7%</td>
<td>147</td>
</tr>
</tbody>
</table>

answered question 149
skipped question 7

10. If you intend to withdraw, or have already withdrawn, from this course, please indicate why (Mark all that apply)

<table>
<thead>
<tr>
<th>Response Description</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. The material is too hard for me at this time.</td>
<td>12.5%</td>
<td>1</td>
</tr>
<tr>
<td>b. The instructor is not very effective.</td>
<td>25.0%</td>
<td>2</td>
</tr>
<tr>
<td>c. The online aspect of the course is a problem for me.</td>
<td>37.5%</td>
<td>3</td>
</tr>
<tr>
<td>d. There is too much material to sort through and digest.</td>
<td>50.0%</td>
<td>4</td>
</tr>
<tr>
<td>e. The other students in this course are a problem for me.</td>
<td>12.5%</td>
<td>1</td>
</tr>
<tr>
<td>f. I can’t get the help I need.</td>
<td>0.0%</td>
<td>0</td>
</tr>
</tbody>
</table>

answered question 8
skipped question 148
11. Overall, what grade would you give this course?

<table>
<thead>
<tr>
<th>Grade</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 “Poor”</td>
<td>0.7%</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>3.3%</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>4.0%</td>
<td>6</td>
</tr>
<tr>
<td>4</td>
<td>3.3%</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>7.9%</td>
<td>12</td>
</tr>
<tr>
<td>6</td>
<td>9.9%</td>
<td>15</td>
</tr>
<tr>
<td>7</td>
<td>19.2%</td>
<td>29</td>
</tr>
<tr>
<td>8</td>
<td>17.2%</td>
<td>26</td>
</tr>
<tr>
<td>9</td>
<td>13.9%</td>
<td>21</td>
</tr>
<tr>
<td>10 “Excellent Course”</td>
<td>20.5%</td>
<td>31</td>
</tr>
</tbody>
</table>

answered question: 151
skipped question: 5
12. Please rate items 1-14 below using the following scale: [1=Strongly Disagree, 2= Disagree, 3 = Somewhat Disagree, 4 = No Opinion, 5=Somewhat Agree, 6= Agree, 7=Strongly Agree]

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Somewhat Disagree</th>
<th>No Opinion</th>
<th>Somewhat Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
<th>Replied</th>
</tr>
</thead>
<tbody>
<tr>
<td>The students often ask the instructor questions.</td>
<td>8.1% (11)</td>
<td>8.1% (11)</td>
<td>8.9% (12)</td>
<td>24.4% (33)</td>
<td>18.5% (25)</td>
<td>9.6% (13)</td>
<td></td>
<td>6 of 14</td>
</tr>
<tr>
<td>Students seldom answer questions that the instructor asks.</td>
<td>13.3% (18)</td>
<td>19.3% (20)</td>
<td>9.6% (13)</td>
<td>34.1% (46)</td>
<td>14.6% (20)</td>
<td>6.7% (9)</td>
<td>2.2% (3)</td>
<td></td>
</tr>
<tr>
<td>Students often state their opinions to the instructor.</td>
<td>5.1% (7)</td>
<td>7.4% (10)</td>
<td>9.6% (13)</td>
<td>27.2% (37)</td>
<td>19.9% (27)</td>
<td>22.8% (31)</td>
<td>8.1% (11)</td>
<td></td>
</tr>
<tr>
<td>Interaction between the instructor and the students is high.</td>
<td>5.9% (8)</td>
<td>8.8% (12)</td>
<td>8.1% (11)</td>
<td>16.2% (22)</td>
<td>19.9% (27)</td>
<td>28.7% (39)</td>
<td>12.5% (17)</td>
<td></td>
</tr>
<tr>
<td>The instructor seldom answers the students questions.</td>
<td>30.1% (41)</td>
<td>29.4% (40)</td>
<td>7.4% (10)</td>
<td>16.9% (23)</td>
<td>8.1% (11)</td>
<td>3.7% (5)</td>
<td>4.4% (6)</td>
<td></td>
</tr>
<tr>
<td>The instructor frequently offers opinions to students.</td>
<td>4.4% (6)</td>
<td>9.6% (13)</td>
<td>5.9% (8)</td>
<td>16.9% (23)</td>
<td>14.7% (20)</td>
<td>29.4% (40)</td>
<td>19.1% (20)</td>
<td></td>
</tr>
<tr>
<td>The instructor frequently asks the students questions.</td>
<td>6.6% (9)</td>
<td>8.8% (12)</td>
<td>14.0% (19)</td>
<td>19.9% (27)</td>
<td>14.7% (20)</td>
<td>25.7% (35)</td>
<td>10.3% (14)</td>
<td></td>
</tr>
<tr>
<td>In general, the instructor is effective in motivating students to interact in the course.</td>
<td>5.9% (6)</td>
<td>9.6% (13)</td>
<td>5.9% (8)</td>
<td>19.1% (26)</td>
<td>15.4% (21)</td>
<td>25.0% (34)</td>
<td>19.1% (26)</td>
<td></td>
</tr>
<tr>
<td>The level of interaction between all participants is high.</td>
<td>10.4% (14)</td>
<td>10.4% (14)</td>
<td>14.1% (19)</td>
<td>23.7% (32)</td>
<td>18.5% (25)</td>
<td>14.1% (19)</td>
<td>8.9% (12)</td>
<td></td>
</tr>
<tr>
<td>Interaction in the course is low.</td>
<td>14.0% (19)</td>
<td>18.4% (25)</td>
<td>11.8% (16)</td>
<td>18.4% (25)</td>
<td>19.1% (26)</td>
<td>9.6% (13)</td>
<td>8.8% (12)</td>
<td></td>
</tr>
<tr>
<td>There is little interaction between students.</td>
<td>8.8% (12)</td>
<td>16.2% (22)</td>
<td>11.8% (16)</td>
<td>16.9% (23)</td>
<td>14.7% (20)</td>
<td>19.1% (26)</td>
<td>12.5% (17)</td>
<td></td>
</tr>
<tr>
<td>In course, students seldom state their opinion to each other.</td>
<td>12.5% (17)</td>
<td>11.8% (16)</td>
<td>11.0% (15)</td>
<td>25.7% (35)</td>
<td>14.7% (20)</td>
<td>16.9% (23)</td>
<td>7.4% (10)</td>
<td></td>
</tr>
<tr>
<td>The students seldom ask each other questions.</td>
<td>11.0% (15)</td>
<td>8.1% (11)</td>
<td>11.0% (15)</td>
<td>23.5% (32)</td>
<td>13.2% (18)</td>
<td>21.3% (29)</td>
<td>11.8% (16)</td>
<td></td>
</tr>
<tr>
<td>There is little interaction between students.</td>
<td>10.3% (14)</td>
<td>15.4% (21)</td>
<td>11.0% (15)</td>
<td>16.9% (23)</td>
<td>16.2% (22)</td>
<td>15.4% (21)</td>
<td>14.7% (20)</td>
<td></td>
</tr>
</tbody>
</table>
13. YOUR THOUGHTS ABOUT SPECIFIC ASPECTS OF THE COURSE (Select all that apply).

<table>
<thead>
<tr>
<th>The learning objectives (sometimes called learning outcomes) for each module/unit of the course were stated clearly.</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>79.1%</td>
<td>106</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The required tests, quizzes, projects, papers, lab reports, and other types of products accurately measured my attainment of these learning objectives (outcomes).</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>70.9%</td>
<td>95</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The course was well organized.</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>72.4%</td>
<td>97</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The required assignments and activities contributed to my learning.</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>76.9%</td>
<td>103</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The instructor inspired interest and students' participation in this course.</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>53.7%</td>
<td>72</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Feedback by the course instructor was usually within 24 hours.</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>52.2%</td>
<td>70</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The course instructor's feedback was helpful.</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>59.7%</td>
<td>80</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The course instructor provided communication technology tools (e.g., blog, wiki, podcasts) for students to learn from each other (in Moodle, or in Blackboard).</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>56.7%</td>
<td>76</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The course instructor provided PowerPoint Skeletons to ease note taking for students.</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>41.8%</td>
<td>56</td>
</tr>
</tbody>
</table>

answered question 134

skipped question 22
14. The term "information literacy" is generally defined as the ability to access, communicate information, create products, evaluate information, organize, and manage information effectively by using technology as a tool to achieve academic success, and to acquire life-long learning success. Please tell us: OFTEN do you HAVE THESE NEEDS during this course?

<table>
<thead>
<tr>
<th>Need</th>
<th>1=Almost Always</th>
<th>2=Often</th>
<th>3=Sometimes</th>
<th>4=Rarely</th>
<th>5=Never</th>
<th>6=Don't Know</th>
<th>Rating Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Need to find a summary about a topic</td>
<td>12.7% (16)</td>
<td>27.0% (34)</td>
<td>27.8% (35)</td>
<td>15.9% (20)</td>
<td>13.5% (17)</td>
<td>3.2% (4)</td>
<td>3.00</td>
</tr>
<tr>
<td>Need to find the meaning of terms/language related to a topic</td>
<td>18.3% (23)</td>
<td>28.6% (36)</td>
<td>23.0% (29)</td>
<td>16.7% (21)</td>
<td>10.3% (13)</td>
<td>3.2% (4)</td>
<td>2.82</td>
</tr>
<tr>
<td>Need to figure out what an instructor wants, so I can try to get a &quot;good grade&quot;</td>
<td>19.8% (25)</td>
<td>19.0% (24)</td>
<td>27.0% (34)</td>
<td>17.5% (22)</td>
<td>13.5% (17)</td>
<td>3.2% (4)</td>
<td>2.95</td>
</tr>
<tr>
<td>Need to translate terms from one language to another language.</td>
<td>3.2% (4)</td>
<td>5.6% (7)</td>
<td>17.5% (22)</td>
<td>14.3% (18)</td>
<td>55.6% (70)</td>
<td>4.0% (5)</td>
<td>4.25</td>
</tr>
<tr>
<td>Need to figure out how far to go with the assignment, based on what the instructor expects.</td>
<td>11.1% (14)</td>
<td>19.8% (25)</td>
<td>30.2% (38)</td>
<td>13.5% (17)</td>
<td>21.4% (27)</td>
<td>4.0% (5)</td>
<td>3.26</td>
</tr>
<tr>
<td>Need to find what research has been published about a topic (i.e., online or print)</td>
<td>12.0% (15)</td>
<td>27.2% (34)</td>
<td>21.6% (27)</td>
<td>13.6% (17)</td>
<td>22.4% (28)</td>
<td>3.2% (4)</td>
<td>3.17</td>
</tr>
<tr>
<td>Need to figure out which search terms to use</td>
<td>7.1% (9)</td>
<td>21.4% (27)</td>
<td>28.6% (36)</td>
<td>13.5% (17)</td>
<td>23.0% (29)</td>
<td>6.3% (8)</td>
<td>3.43</td>
</tr>
<tr>
<td>Need to get full-text versions of research sources (e.g., books, articles, Web pages)</td>
<td>12.7% (18)</td>
<td>17.5% (22)</td>
<td>23.8% (30)</td>
<td>16.7% (21)</td>
<td>25.4% (32)</td>
<td>4.0% (5)</td>
<td>3.37</td>
</tr>
<tr>
<td>Need to look at some sample papers provided by instructor to consult a guide for how to prepare a paper for submission (e.g., footnotes, citations, bibliography)</td>
<td>10.3% (13)</td>
<td>19.0% (24)</td>
<td>19.8% (25)</td>
<td>14.3% (18)</td>
<td>31.0% (39)</td>
<td>5.8% (7)</td>
<td>3.53</td>
</tr>
</tbody>
</table>
15. A discipline-specific librarian frequently answers the students' research

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Somewhat Disagree</th>
<th>No Opinion</th>
<th>Somewhat Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
<th>Rating</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>1=Strongly Disagree</td>
<td>17.8% (21)</td>
<td>4.2% (5)</td>
<td>2.5% (3)</td>
<td>44.9% (53)</td>
<td>5.9% (7)</td>
<td>15.3% (18)</td>
<td>9.3% (11)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

16. Rate yourself with respect to each of the following items:

<table>
<thead>
<tr>
<th>Item</th>
<th>1=Definitely</th>
<th>2=Somewhat</th>
<th>3=No, not at all.</th>
<th>Rating</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>I can use internet and the Web to locate the information I need for</td>
<td>81.7% (103)</td>
<td>17.5% (22)</td>
<td>0.8% (1)</td>
<td>1.19</td>
<td>128</td>
</tr>
<tr>
<td>a requirement in this course.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I can use more than one search engine (e.g., Google) effectively.</td>
<td>84.9% (107)</td>
<td>14.3% (18)</td>
<td>0.8% (1)</td>
<td>1.16</td>
<td>128</td>
</tr>
<tr>
<td>I can use Google Scholar effectively.</td>
<td>50.0% (63)</td>
<td>35.7% (45)</td>
<td>14.3% (18)</td>
<td>1.64</td>
<td>128</td>
</tr>
<tr>
<td>I know how to effectively evaluate the quality of material I find</td>
<td>56.3% (71)</td>
<td>35.7% (45)</td>
<td>7.9% (10)</td>
<td>1.52</td>
<td>128</td>
</tr>
<tr>
<td>in online databases.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I can effectively organize material and create a report, presentation,</td>
<td>68.3% (86)</td>
<td>27.8% (35)</td>
<td>4.0% (5)</td>
<td>1.36</td>
<td>128</td>
</tr>
<tr>
<td>or other product for this course by using technology tools in course</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>creatively.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have a hard time finding resources and material I need for</td>
<td>12.7% (16)</td>
<td>34.1% (43)</td>
<td>53.2% (67)</td>
<td>2.40</td>
<td>128</td>
</tr>
<tr>
<td>requirements in this course.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

answered question 126  
skipped question 30
17. Does this course provide you with a link to an "embedded librarian?" For example, in Moodle, the librarian can provide you with a skeleton bibliography, online tutorials, and other library/librarian instruction support.

<table>
<thead>
<tr>
<th>Response</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>30.6%</td>
<td>38</td>
</tr>
<tr>
<td>No</td>
<td>69.4%</td>
<td>86</td>
</tr>
</tbody>
</table>

18. Does the course provide a link to the library, including information on how to obtain library access, request materials (owned and not owned by the library), access databases, and contact a librarian?

<table>
<thead>
<tr>
<th>Response</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>39.3%</td>
<td>48</td>
</tr>
<tr>
<td>No</td>
<td>60.7%</td>
<td>74</td>
</tr>
</tbody>
</table>

19. Type of Course Delivery in this course (Select One)?

<table>
<thead>
<tr>
<th>Response</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Hybrid&quot; (50% or More Online)</td>
<td>19.8%</td>
<td>25</td>
</tr>
<tr>
<td>&quot;Online (80% or More Online)</td>
<td>80.2%</td>
<td>101</td>
</tr>
</tbody>
</table>
20. What is the platform (Learning Management System) for the course delivery?

<table>
<thead>
<tr>
<th>Platform</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angel</td>
<td>0.0%</td>
<td>0</td>
</tr>
<tr>
<td>Blackboard</td>
<td>8.1%</td>
<td>10</td>
</tr>
<tr>
<td>Moodle</td>
<td>93.5%</td>
<td>115</td>
</tr>
<tr>
<td>WebCT</td>
<td>0.0%</td>
<td>0</td>
</tr>
</tbody>
</table>

answered question 123
skipped question 33
21. What technology tools/trends are used in the course?

<table>
<thead>
<tr>
<th>Tool</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blog</td>
<td>17.0%</td>
<td>19</td>
</tr>
<tr>
<td>Wiki</td>
<td>7.5%</td>
<td>8</td>
</tr>
<tr>
<td>Podcasts</td>
<td>9.4%</td>
<td>10</td>
</tr>
<tr>
<td>Facebook</td>
<td>5.7%</td>
<td>6</td>
</tr>
<tr>
<td>Skype</td>
<td>21.7%</td>
<td>23</td>
</tr>
<tr>
<td>Second Life</td>
<td>0.0%</td>
<td>0</td>
</tr>
<tr>
<td>YouTube</td>
<td>19.8%</td>
<td>21</td>
</tr>
<tr>
<td>Email</td>
<td>82.1%</td>
<td>87</td>
</tr>
<tr>
<td>Texting</td>
<td>1.0%</td>
<td>2</td>
</tr>
<tr>
<td>Tweet</td>
<td>0.0%</td>
<td>1</td>
</tr>
<tr>
<td>CD</td>
<td>5.7%</td>
<td>6</td>
</tr>
<tr>
<td>DVD</td>
<td>0.0%</td>
<td>0</td>
</tr>
<tr>
<td>Really Simple Syndication (RSS)</td>
<td>2.6%</td>
<td>3</td>
</tr>
</tbody>
</table>

answered question: 106
skipped question: 50
22. What type of internet connection(s) do you have at home?

- a) Cable: 42.9% (54)
- b) DSL: 42.9% (54)
- c) Dialup (56k modem): 0.8% (1)
- d) T1 line: 0.8% (1)
- e) satellite: 0.8% (1)
- f) Other/don’t know: 16.7% (21)

Answered question: 126
Skipped question: 30

23. Accessibility & ADA Compliance: Course instructions articulate or link to the University’s compliance procedure that adheres to the requirements of the Americans with Disabilities Act, including the recent Amendments Act, and Section 504 of the Vocational Rehabilitation Act of 1973 which prohibit discrimination on the basis of disability.

- Yes: 86.4% (102)
- No: 13.6% (16)

Answered question: 118
Skipped question: 38
24. Would you recommend this course to others?

<table>
<thead>
<tr>
<th>Response</th>
<th>Percent</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>79.0%</td>
<td>98</td>
</tr>
<tr>
<td>No</td>
<td>21.0%</td>
<td>26</td>
</tr>
</tbody>
</table>

Answered question: 124
Skipped question: 32
APPENDIX B: CHECKLIST RATING

Table 1: Please indicate your level of agreement with each of the following statements using the following scale: 1= Not Evident, 2= Disagree, 3= Neutral, 4= Fully Evident

<table>
<thead>
<tr>
<th>Items</th>
<th>Overall Online Course Design</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Students interact with a variety of media and resources.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2</td>
<td>The course includes resources links to content from outside students’ familiar culture and immediate geography.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.3</td>
<td>Course facilitates learning from multiple points of view.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.4</td>
<td>Course supports different learning styles</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.5</td>
<td>Students are assigned relevant readings from appropriate print or web media (e.g., e-books and book review list).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.6</td>
<td>Students deepen an understanding of academic content through such activities as lab experiments, product design, e-portfolios, creating PowerPoint, creating Webquest</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.7</td>
<td>Writing assignments with student use of blog, wikis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.8</td>
<td>Assignments, including information and communication literacy that require student to interact with academic content and library resources, and retrieve information sources, evaluate, judge,</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
and make decision on the quality of these information sources.

| 1.9 | When given a problem or task, student can demonstrate the academic research processes for information retrieval and ethical and legal use. |
| 1.10 | Learning activities, including information and communication literacy assignments to help students demonstrate his or her ability to incorporate information while using a different media and communication formats. |
| 1.11 | Student/peers in online course participate in group project with educational technology tools. |
| 1.12 | Student/instructor interaction with instructor using technology tools to communicate, such as email, blog, wikis, mobile device, |
| 1.13 | Student assignments include opportunities for course instructor and students to interact using a variety of technology tools to interact, communicate, collaborate, and perform analytics and assessment. |

Note: The bold values are statistically significant at the point .05 level.
Table 2: Please indicate your level of agreement with each of the following statements using the following scale: 1= Not Evident, 2= Disagree, 3= Neutral, 4= Fully Evident

Note: The bold values are statistically significant at the point .05 level.

<table>
<thead>
<tr>
<th>Items</th>
<th>Instructional Involvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>Course instructor is formally prepared in the subject matter being taught.</td>
</tr>
<tr>
<td>2.2</td>
<td>Skilled or has previous knowledge and experience teaching online, including course design, planning, and implementation, organization, collaboration, and team building processes.</td>
</tr>
<tr>
<td>2.3</td>
<td>Conversant and experienced with various technologies ancillary to learning management systems (e.g., lecture capture, online testing, synchronous and asynchronous engagement, applications, current usage, and others).</td>
</tr>
<tr>
<td>2.4</td>
<td>Course instructor is familiar with the ACRL Information Literacy standards for higher education, and effectively incorporates IL guides in course design and consistently assesses research and writing assignments, whether using online assessment tool or collaborates with a college/university librarian to develop tutorials and assess student IL skills.</td>
</tr>
<tr>
<td>2.5</td>
<td>Course instructor integrates a variety of teaching and learning strategies (i.e. andragogy, adult learning processes).</td>
</tr>
<tr>
<td>2.6</td>
<td>Course instructor provides different types of learning assignments to meet the learning needs of diverse learners and different learning styles.</td>
</tr>
<tr>
<td>2.7</td>
<td>Course instructor monitors student postings of work and discussions on a regular basis and serves as a facilitator.</td>
</tr>
<tr>
<td>2.8</td>
<td>Course instructor provides appropriate feedback, guidance and direction and responds to student inquires within 24 hours.</td>
</tr>
<tr>
<td>2.9</td>
<td>Course instructor sets clear expectations and assumes a shared responsibility with online student to ensure that learning occurs.</td>
</tr>
<tr>
<td>2.10</td>
<td>Course instructor’s interactions with students are respectful and appropriate.</td>
</tr>
<tr>
<td>2.11</td>
<td>Course instructor has been trained to use instructional technology to enhance interactions, teaching presence, social presence, and cognitive presence within online course.</td>
</tr>
<tr>
<td>2.12</td>
<td>Course instructor uses has been trained to use instructional technology to enhance interactions, teaching presence, social presence, and cognitive presence within online course.</td>
</tr>
</tbody>
</table>

Note: The bold values are statistically significant at the point .05 level.
Table 3: Please indicate your level of agreement with each of the following statements using the following scale: 1= Not Evident, 2= Disagree, 3= Neutral, 4= Fully Evident

<table>
<thead>
<tr>
<th>Items</th>
<th>Student-Content Interaction</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1</td>
<td>A course orientation program or service exists for students.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.2</td>
<td>Student can access all ancillary materials necessary for the hybrid or fully online course.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.3</td>
<td>Students receive training and information to help them in navigating the hybrid or fully online course.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.4</td>
<td>Students receive training and information to help them in accessing library’s resources including reference (catalog, databases), interlibrary loans (ILL), government archives (archives and special collections), as well as instruction on how to find and use digital libraries and repositories.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.5</td>
<td>Students receive lots of links from the course instructor engaging the student in book review lists and papers published in the field.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.6</td>
<td>Students receive links appropriate community of experts and leadership.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: The bold values are statistically significant at the point .05 level.
Table 4: Please indicate your level of agreement with each of the following statements using the following scale: 1= Not Evident, 2= Disagree, 3= Neutral, 4= Fully Evident

<table>
<thead>
<tr>
<th>Items</th>
<th>Course Support</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1</td>
<td>Course description is available to students before registering (e.g., some faculty post a syllabus, links to appropriate community of experts, leaders).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.2</td>
<td>Course description includes specific examples of course objectives, issues, concepts, and ideas that are covered in the course.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.3</td>
<td>Technical requirements for acceptable use of computers, e-books, e-journals, and other electronically available support for higher education purposes as related to online course.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>4.4</td>
<td>Authenticity of student work is verified by appropriate means.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>4.5</td>
<td>Students are assessed by several different methods over the duration of online course including such measures as contributions and responses to online discussions, completion of assignments, e-portfolios, group projects, and presentations, as well assessment (quizzes, tests, writing assignments).</td>
<td></td>
<td></td>
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<tr>
<td>4.6</td>
<td>A professional support system is in place to ensure teacher success in delivering online courses.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>4.7</td>
<td>Faculty and staff development and support to facilitate ease of use of online course technology.</td>
<td></td>
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</tr>
</tbody>
</table>

Note: The bold values are statistically significant at the point .05 level.
Table 5: Rating 12 Items on Students’ Role

<table>
<thead>
<tr>
<th>Item</th>
<th>Students’ Role—Please indicate your level of agreement with each of the following statements using the following scale: 1=Not Evident, 2=Disagree, 3=Neutral, 4=Fully Evident</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1</td>
<td>Students post questions and respond to the comments and questions of other students on a regular basis.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>5.2</td>
<td>Students use blogs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.3</td>
<td>Students use wikis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.4</td>
<td>Student discussion via (e.g. iPhone) connected to course activities or assignments.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>5.5</td>
<td>Student discussion with classmates is under the guidance teachers who raise the level and broaden the scope of the discussions.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>5.6</td>
<td>Student/teacher weekly discussion is encouraged.</td>
<td></td>
<td></td>
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<tr>
<td>5.7</td>
<td>Discussion areas are clearly designed for communications among students, as are sites for private student/teacher interactions.</td>
<td></td>
<td></td>
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<tr>
<td>5.8</td>
<td>Student participates in team-based assignments and projects, as appropriate.</td>
<td></td>
<td></td>
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<tr>
<td>5.9</td>
<td>Students have adequate time to work in groups.</td>
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<tr>
<td>5.10</td>
<td>Assignments are structured to require weekly efforts from students through the term.</td>
<td></td>
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</tr>
<tr>
<td>5.11</td>
<td>Student asks for feedback or clarification as to instructor’s expectations.</td>
<td></td>
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<tr>
<td>5.12</td>
<td>Students engage in self-reflection, self-assessment, and evaluation as part of coursework (Assignment journal).</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
Note: The bold values are statistically significant at the point .05 level.

**Table 6:** Please indicate your level of agreement with each of the following statements using the following scale: 1= Not Evident, 2= Disagree, 3= Neutral, 4= Fully Evident.

<table>
<thead>
<tr>
<th>Items</th>
<th>Students’ Rights</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.1</td>
<td>Read and understand, sign an agreement explaining student rights and responsibilities in hybrid and online courses (e.g. computer use, transfer of information, copyright, speech, conduct and discipline).</td>
<td></td>
<td></td>
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<tr>
<td>6.2</td>
<td>Policies and systems are in place to address student complaints, appeals, and recourse if the hybrid or online course is not delivered as described in the university catalog and in the course syllabus.</td>
<td></td>
<td></td>
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<tr>
<td>6.3</td>
<td>Policies and systems are in place as to inappropriate student behavior (offensive, hate speech, and others) and issues of due process.</td>
<td></td>
<td></td>
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<tr>
<td>6.4</td>
<td>A secure grading system is provided, with opportunities for students to review grade as appropriate.</td>
<td></td>
<td></td>
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<tr>
<td>6.5</td>
<td>Assessment and evaluation, equal treatment.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.6</td>
<td>Notice of student e-records, and limited disclosure to third parties without consent.</td>
<td></td>
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</tr>
</tbody>
</table>

Note: The bold values are statistically significant at the point .05 level
**Table 7:** Please indicate your level of agreement with each of the following statements using the following scale: 1= Not Evident, 2= Disagree, 3= Neutral, 4= Fully Evident

<table>
<thead>
<tr>
<th>Items</th>
<th>Assessment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.1</td>
<td>Students are given criteria regarding the performance indicators of the online course.</td>
<td></td>
<td></td>
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<tr>
<td>7.2</td>
<td>Scoring rubrics</td>
<td></td>
<td></td>
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<tr>
<td>7.3</td>
<td>Course documents are posted in the learning management system, including course calendar, assignments and the weights given to each, due dates, and penalties for late submissions.</td>
<td></td>
<td></td>
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<tr>
<td>7.4</td>
<td>Proctor agreement read, understands, and signs before examinations are proctored, and notice that during or after examination student cannot print exams.</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>7.5</td>
<td>Multiple types of assessment for diverse learners and different learning styles.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>7.6</td>
<td>Consistency and uniformity in assessments of student coursework, grading, and reporting behavior</td>
<td></td>
<td></td>
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<tr>
<td>7.7</td>
<td>Consistency and uniformity in giving/receiving feedback on the quality of participation and coursework.</td>
<td></td>
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<tr>
<td>7.8</td>
<td>Students actively participate in evaluating their own coursework.</td>
<td></td>
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<tr>
<td>7.9</td>
<td>Multiple types (forms) of assessment selected and measured.</td>
<td></td>
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<tr>
<td>7.10</td>
<td>Assessments are aligned with learning objectives.</td>
<td></td>
<td></td>
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<tr>
<td>7.11</td>
<td>Course grading policy is stated clearly.</td>
<td></td>
<td></td>
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<tr>
<td>7.12</td>
<td>Drill and practice, re-write opportunities to help student improve coursework.</td>
<td></td>
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</tr>
</tbody>
</table>

Note: The bold values are statistically significant at the point .05 level
**Table 8:** Please indicate your level of agreement with each of the following statements using the following scale: 1= Not Evident, 2= Disagree, 3= Neutral, 4= Fully Evident

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Telecommunication and Technical and Infrastructure</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.1</td>
<td>Learning Management System (LMS) provides necessary resources for effective delivery of the course.</td>
<td></td>
<td></td>
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<tr>
<td>8.2</td>
<td>LMS has the necessary system capacity.</td>
<td></td>
<td></td>
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<tr>
<td>8.3</td>
<td>LMS provides necessary tools for administrative functions, such as enrollment, grading, maintenance of student records and storage of student work.</td>
<td></td>
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<tr>
<td>8.4</td>
<td>LMS provides appropriate tools for interaction, collaboration and communication, and analytics.</td>
<td></td>
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</tr>
<tr>
<td>8.5</td>
<td>LMS and its technical requires to students is clear.</td>
<td></td>
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<tr>
<td>8.6</td>
<td>Course contains instructions on how to access technical information or post technical questions (e.g. 24 hour Help Desk with friendly support that can help).</td>
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<tr>
<td>8.7</td>
<td>Students and course instructor receive timely (within 24 hours) help, user-friendly responses to technical questions.</td>
<td></td>
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<tr>
<td>8.8</td>
<td>Students have access to appropriate hardware and software on a regular and convenient basis.</td>
<td></td>
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</tr>
<tr>
<td>8.9</td>
<td>Connection speeds are sufficient for communication and accessing all course materials.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: The bold values are statistically significant at the point .05 level
**Table 9 Accessibility**

Please indicate your level of agreement with each of the following statements using the following scale: 1= Not Evident, 2= Disagree, 3= Neutral, 4= Fully Evident

<table>
<thead>
<tr>
<th>Items</th>
<th>Accessibility</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.1</td>
<td>Link to institutional governance, policy and procedure documents. Course instructor and/or student should not have to click down more than three pages to find these institutional documents.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.2</td>
<td>Link to the institution’s Digital Millennium Copyright statement, policy, and procedures for infringement. Course instructor and/or student should not have to click down more than three pages to find these institutional documents.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.3</td>
<td>Link the institution’s ADA statement, policy, and procedures for infringement. Course instructor and/or student should not have to click down more than three pages to find these institutional documents.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: The bold values are statistically significant at the point .05 level
APPENDIX C: DOCTORAL RESEARCH STUDY CONSENT FORM

A Study of the Relationship Between Information Literacy, Online Interactions, Students’ Learning, and Success in Distance Learning Courses

Vivica D. Pierre, University of Louisiana at Lafayette, Edith Garland Dupre Library, Room 152, (337) 482-1171; 8:00-4:30

Survey, observational, and interview data will be collected from all faculty, students, and librarians in online teaching and learning during the fall 2010 academic term at the University of Louisiana, Lafayette.

Signing this consent form documents my agreement to participate in the student (1) the web-based survey, (b) a phone interview, (c) by email correspondence, and/or (d) focus group exercises conducted by Vivica Smith Pierre as part of her dissertation research.

I understand that:

- My participation in this research is voluntary, and may be terminated at any time by my request.
- Participation in this study and/or withdrawal from this project will not adversely affect me in any way.
- Responses will have identifying components. These identifiers will be available only to the researcher and will not be released, shared, or discussed with any other person. This strict confidentiality applies to all phases of this study and to the publishing of the final dissertation report.
• Publication of this research could be disseminated to national, state, or local educational entities or governmental groups. My identity will not be attached to the final data in any way.

There are no known risks involved in being a part of this project greater than daily ordinary occurrences. I may direct additional questions to the researcher, Vivica Smith Pierre, at the above address or phone number. Email contact is (vpierrl1@louisiana.edu) or at (vpierrl1@lsu.edu). Her research advisor is Dr. Eugene Kennedy (ekennedy@lsu.edu). If you have questions about subjects’ rights or other concerns, I can contact Dr. Robert C. Matthews, Chairman, LSU Institutional Review Board, (225) 578-8692.

I agree to participate in the study described above and acknowledge the researchers’ obligation to provide me a copy of this consent form if signed by me.

Signed____________________________________Date__________________
APPENDIX D: FACULTY QUESTIONNAIRE

Dear Faculty:

I am requesting your voluntary help. In preparation of my manuscript for the dissertation, I am reviewing online courses at our university for fall 2010. I would like for you to take a look at the checklist items, tell me what you see in light of the checklist, and provide access to your online course(s).

Instructions: The following statements have been formulated to assist in the development of effective online courses in higher education that faculty can use to rate their online courses. Interactions in online courses, your technology use in teaching this online course, your technology use in instructional delivery, and technology usage that you require from your students in this online course. The checklist has 9 standards:

Standard 1-Instructional Design; Standard 2- Teacher/Course Instructor Quality; Standard 3-Student Role; Standard 4-Assessment; Standard 5-Management and Learner Support; Standard 6-Course Resources; Standard 7-Student Rights; Standard 8-Technical and Infrastructure; and Standard 9-Accessibility.

This 152-item questionnaire should take approximately 25 minutes to complete. Your responses are extremely valuable contributions to this dissertation study and your effort and time spent are sincerely appreciated. In addition, I would like to conduct an interview with you as a follow up.

Please check (√) or write the response that most clearly represents your opinion, attitude, situation, experience, or knowledge.

Please indicate your level of agreement with each of the following statements using the following scale: 1= Not Evident, 2= Disagree, 3= Neutral, 4= Fully Evident
A. General Perspectives 1 2 3 4

a. My knowledge and strategies of technology incorporation in this online course is the result of institution-provided professional development.

b. My knowledge and strategies of technology incorporation in this online course is primarily the result of informal collegial instruction or support.

c. My knowledge and strategies of technology incorporation in this online course is primarily self-taught.

d. Teaching an online course is an important aspect of my professional career.

e. Technology incorporation into teaching and learning is very important for my students.

f. Effective technology incorporation can be a positive change agent, facilitate instructor and student interaction, student and students interaction, and student and content interaction, which promote students’ learning within my online course.

g. I value communication with colleagues concerning effective technology incorporation and ways to facilitate interactions and promote students’ learning in online courses.

h. My teaching philosophy reflects my beliefs that students learn most effectively through teacher-student interaction.

i. My teaching philosophy reflects my beliefs that students learn most effectively through student-student interaction.

j. My teaching philosophy reflects my beliefs that students learn most effectively when provided opportunities to interact with content and construct their own learning.

2. Barriers to Technology Incorporation 1 2 3 4

a. I do not have enough personal technology skills to integrate technology into teaching and learning in online courses.

b. I cannot depend upon readily-available tech support.
c. While designing my online course(s), I feel that the inclusion of technology requires too much of my time.

d. Technology integration into teaching and learning requires too much of my class preparation time.

e. Technology incorporation requires too much time within my online course delivery.

f. Using technological means (e.g. email, blog, wiki, Facebook, YouTube, etc.) to communicate with my students requires too much of my time.

g. Technology incorporation efforts are not important for my tenure and promotion process.

h. I cannot depend on access to essential hardware.

i. I cannot depend on access to essential software.

j. There are limited institutional professional development opportunities at my university.

k. My university does not provide enough professional development opportunities that target the use of technology in instruction.

l. There is little or no administrative support for the incorporation of technology into online teaching and learning.

m. There is little collegial sharing, discussion, or support in my department.

n. The online course(s) I teach does not lend itself to technology incorporation.

o. I lack essential knowledge of how to effectively incorporate technology into instruction to benefit student learning.

p. I have no concerns about using technology in teaching online courses.

3. **Motivation for Technology Integration**

   1  2  3  4

a. Technology incorporation benefits my students.

b. I am personally gratified from learning new technology skills and strategies.

c. I see technology in teaching as a welcome challenge.
d. Technology online course(s) results in recognition among my peers.

e. I follow technology incorporation advice from a colleague.

f. I observed successful use of technology incorporation in someone else’s online course.

g. I received student requests to incorporate technology into my

h. I received administrative requests to teach this online course.

i. I am following an inevitable educational trend.

j. I participated in shared-decision making concerning departmental online courses offered or to

be offered in the future.

4. Goals for Technology Incorporation 1 2 3 4

a. Through the use of technological tools, I am able to present more complex work to my

students.

b. Through the use of technological tools, I expect an increased level of collaboration among my

students.

c. Through the use of technological tools, I am better able to tailor students’ work to their

individual needs.

d. Through the use of technological tools, I will spend less time lecturing to the entire class.

e. Through the use of technological tools, I will spend more time working with smaller groups

who are pursuing project-based work.

f. Through the use of technological tools, I will spend more time preparing materials and

resources for instruction.

g. Through the use of technological tools, my students will more fully master my course content.

h. Through the use of technological tools, my students will increase

   collaborative/communication skills.
i. Through the use of technological tools, my students will show improvement in learning tasks, such as writing, analyzing data, or solving problems.

j. Through the use of technological tools, my students will demonstrate a higher level of interest in the subject.

k. Through the use of technological tools, my interaction with students will increase.

l. Through the use of technological tools, my students can work in an environment which appeals to a variety of learning styles.

m. Technology integration in my course provides a means of expanding and applying what has been taught.
APPENDIX E: FACULTY INTERVIEW PROTOCOL

Part I: Notes for the Interviewer

1. Tape-record the interviews if permission is granted (Note. The researcher did not record, because interviewee (faculty and students) indicated they did not feel comfortable with a tape recorder. However, the researcher used a journal and took notes in it.

2. Interview in a neutral setting.

3. Each interview should last 55-60 minutes.

Interview Methodology:

The interviews will use a customized approach allowing for an in-depth investigation. Probe with follow-up questions to stimulate interviewee memory.

The Interviewer will use a Semi Structured Question Design.

1. A predetermined set of questions pertaining : (a)

2. All predetermined questions was the same for respondents

3. A single page form requesting demographic and job/career-related data is to be completed prior to the interview.

   a. Demographic Survey

   b. Interview Number:_____

Name of Interviewee: ________________________________________________

Location of Interview: ________________________________________________

Date: ______________________________

Start Time: __________________________

Finish Time: _________________________
Part II: Components of the Interview

1. **Components of the Interview**
   
   a. Introduction (5-10 minutes)
   
   b. Review confidentiality and consent form.
   
   c. Create a relaxed environment
   
   d. Dialogue

   **Question**: Have you received my introductory correspondence explaining my research and the format that was used?

   **Question**: Are there any questions?

   1. **Explain the purpose of the interview**

   The purpose of this interview is to explore factors that influence your decisions. During the time we have together I would like to get an understanding of your experiences and observations of what motivates you to make the choices you do pertinent to the subject matter of the study.

   1. **Ask permission to record interview**

   With your authorization, I would like to tape-record our discussion to get an inclusive record of what is said, since the notes I take will not be as comprehensive as I will require. No one other than myself will listen to anything you say to me. Only I will have access to the records the research result will describe what you and others have said predominantly in summation. No responses was ascribed to you by name.
The ten open-ended questions are intended to obtain your personal experience and perceptions. The interview time may take about 45 minutes. If you agree to volunteer and participate in the research process, please sign the informed consent page and confidentially agreement. Do you have any questions before we begin?

Part III: Interview Questions

a. One of the advantages of teaching/taking a course online is that class times are flexible.
b. The interaction and/or lectures with the instructor are greater in a regular classroom setting than in an online class.
c. Online courses are among the most difficult to teach/take.
d. I believe taking a course online allows studying at your own pace.
e. In my opinion, this course should not be offered online in the future.
f. Meeting with other students or the professor outside of class is important to me.
g. The fact that in an online class there is no structured classroom-type environment appeals to me.
h. I would miss the student-to-student, or student-to-instructor, student-to-librarian interaction in an online course.
i. Please describe perceived/actual benefits of web-based technology in online courses (blogs, discussion boards, Facebook, Podcast, Skype, text messaging, Wikis)? The technology described above in this question increases value of the experience.
j. The information literacy and communication activities in this online course increase the value of the experience.
k. If you would recommend this course to others, why/why not?
l. What role should technology play in causing positive change in online courses?
m. What role does information literacy play, if any, in information access and exchange?
n. What role does information literacy play, if any, in an individual’s ability to interact with people anywhere in the world?

THANK YOU FOR YOUR PARTICIPATION.
APPENDIX F: STUDENT INTERVIEW PROTOCOL

Part I: Notes for the Interviewer

Tape-record the interviews if permission is granted (Note. The researcher did not record, because interviewee (faculty and students) indicated they did not feel comfortable with a tape recorder. However, the researcher used a journal and took notes in it.

4. Interview in a neutral setting.

5. Each interview should last 55-60 minutes.

Interview Methodology:

The interviews will use a customized approach allowing for an in-depth investigation. Probe with follow-up questions to stimulate interviewee memory.

The Interviewer will use a Semi Structured Question Design.

4. A predetermined set of questions.

5. All predetermined questions was the same for faculty respondents and student respondents.

6. A single page form requesting demographic and job/career-related data is to be completed prior to the interview.

   a. Demographic Survey

   b. Interview Number:_____

Name of Interviewee: ____________________________________________

Location of Interview: ____________________________________________

Date: ___________________________

Start Time: ___________________________

Finish Time: ___________________________
Part II: Components of the Interview

2. **Components of the Interview**

   a. Introduction (5-10 minutes)
   b. Review confidentiality and consent form.
   c. Create a relaxed environment
   d. Dialogue

*Question:* Have you received my introductory correspondence explaining my research and the format that was used?

*Question:* Are there any questions?

**Explain the purpose of the interview**

The purpose of this interview is to explore factors that influence your decisions. During the time we have together I would like to get an understanding of your experiences and observations of what motivates you to make the choices you do pertinent to the subject matter of the study.

**Ask permission to record interview**

With your authorization, I would like to tape-record our discussion to get an inclusive record of what is said, since the notes I take will not be as comprehensive as I will require. No one other than myself will listen to anything you say to me. Only I will have access to the records the research result will describe what you and others have said predominantly in summation. No responses was ascribed to you by name.
The ten open-ended questions are intended to obtain your personal experience and perceptions. The interview time may take about 45 minutes. If you agree to volunteer and participate in the research process, please sign the informed consent page and confidentially agreement. Do you have any questions before we begin?

Part III: Interview Questions

1. One of the advantages of teaching/taking a course online is that class times are flexible.
2. The interaction and/or lectures with the instructor are greater in a regular classroom setting than in an online class.
3. Online courses are among the most difficult to teach/take.
4. I believe taking a course online allows studying at your own pace.
5. In my opinion, this course should not be offered online in the future.
6. Meeting with other students or the professor outside of class is important to me.
7. The fact that in an online class there is no structured classroom-type environment appeals to me.
8. I would miss the student-to-student, or student-to-instructor, student-to-librarian interaction in an online course.
9. Please describe perceived/actual benefits of web-based technology in online courses (blogs, discussion boards, Facebook, Podcast, Skype, text messaging, Wikis)? The technology described above in this question increases value of the experience.
10. The information literacy and communication activities in this online course increase the value of the experience.
11. If you would recommend this course to others, why/why not?
12. What role should technology play in causing positive change in online courses?
13. What role does information literacy play, if any, in information access and exchange?
14. What role does information literacy play, if any, in an individual’s ability to interact with people anywhere in the world?

THANK YOU FOR YOUR PARTICIPATION.
APPENDIX G. INSTITUTIONAL REVIEW BOARD APPROVAL

Application for Exemption from Institutional Oversight

Unless qualified as meeting the specific criteria for exemption from Institutional Review Board (IRB) oversight, ALL LSU research projects using living humans as subjects, or samples or data obtained from humans, directly or indirectly, with or without their consent, must be approved or exempted in advance by the LSU IRB. This form helps the PI determine if a project may be exempted, and is used to request an exemption.

- Applicant, please fill out the application in its entirety and include the completed application as well as parts A-E, listed below, when submitting to the IRB. Once the application is completed, please submit two copies of the completed application to the IRB Office or to a member of the Human Subjects Screening Committee. Members of this committee can be found at http://www.lsu.edu/irb/screeningmembers.shtml

- A Complete Application Includes All of the Following:
  (A) Two copies of this completed form and two copies of parts B thru E.
  (B) A brief project description (adequate to evaluate risks to subjects and to explain your responses to Parts 1 & 2)
  (C) Copies of all instruments to be used.
    - If this proposal is part of a grant proposal, include a copy of the proposal and all recruitment material.
  (D) The consent form that you will use in the study (see part 3 for more information.)
  (E) Certificate of Completion of Human Subjects Protection Training for all personnel involved in the project, including students who are involved with testing or handling data, unless already on file with the IRB.

Training link: (http://phrp.nihtraining.com/users/login.php)

1) Principal Investigator: Vivica Smith Pierre Rank: Doctoral Student

Dept.: ETP Ph: 337-482-1171 E-mail: vpierr@lsu.edu

2) Co Investigator(s): please include department, rank, phone and e-mail for each

   * If student, please identify and name supervising professor in this space

   Dr. Eugene Kennedy, Associate Professor

   Department of Educational Theory, Policy, and Practice

3) Project: A Study of the Relationship Between Information Literacy, Interaction, and Academic Success in Distance Education

4) LSU Proposal? (yes or no) If Yes, LSU Proposal Number

   Also, if YES, either
   C This application completely matches the scope of work in the grant
   OR
   C More IRB Applications will be filed later

5) Subject pool (e.g., Psychology Students, College/university students, online courses)

   * Circle any "vulnerable populations" to be used: (children <18; the mentally impaired, pregnant women, the aged, other). Projects with incarcerated persons cannot be exempted.

6) PI Signature: Vivica Smith Pierre ** Date 9/9/10 (no per signatures)

   ** I certify my responses are accurate and complete. If the project scope or design is later changed I will resubmit for review. I will obtain written approval from the Authorized Representative of all non-LSU institutions in which the study is conducted. I also understand that it is my responsibility to maintain copies of all consent forms at LSU for three years after completion of the study. If I leave LSU before that time the consent forms should be preserved in the Departmental Office.

Screening Committee Action: Exempted X Not Exempted Category/Paragraph

Reviewer: S. Kim MacGregor Signature: S. Kim MacGregor Date: 9/9/10
VITA

Just four years after Brown versus Board of Education of Topeka, Vivica D’ Jamala Smith was born in Los Angeles, California, on March 7, 1958. Vivica’s parents served in the U.S. Army, as a military service family, and lived in Germany, France, Italy, and Spain. Her early education (K-5th grade) years were in schools on military bases. The importance of this experience is that on military bases students population was diverse in the 1950s even before Brown v. Board of Education. And so, her classmates were students from all over the world. When Vivica’s father was activated to serve in Viet Nam, the family was moved off post to a home in the civilian population of Atlanta, Georgia, and for the first time, she says she was aware of race, inequality in resources in education because at her new school (Miles Elementary), our books had already been circulated and written in before we received them as “new.” Just two decades after Brown v. Board of Education, Vivica enrolled in high school and completed with a high school diploma, awarded by Northside High School, in Georgia.

The seed of getting a bachelor’s degree from Spelman College was planted in my mind by fifth grade teachers. Among a few, one teacher was a Jewish male teacher who in the late 1960s had travelled from New York to Atlanta to teach in the Atlanta Public School System to “save” black students and encourage them to reach for higher education (Dr. Frederick Broder). Other educators who served as guides and light posts during those years of Vivica’s education were Dr. Benjamin Mays, who visited the young students to share with them his vision, and also Maynard Jackson, who visited the young students and announced his goal of then becoming the first Black mayor of Atlanta—the first. While there were others, these were the seers that inspired Vivica forward.

Vivica enrolled and completed her undergraduate studies at Spelman College. Spelman, because that’s where Dr. Broder stated we could achieve our dreams if we followed the river or
voice that forged us forward along the trajectory to success. And so, with a Bachelor of Arts Degree in economics in May 1980. Vivica began working in the private sector at Eastern Airlines, later at Hartford Insurance Financial Group, and subsequently MetLife, and as a commercial property underwriter. Subsequent to that Vivica started IRM (Information, Research, and Marketing of America) in Long Beach, California, and 3R Vision Technology, in Atlanta, Georgia.

Vivica left the business world, married, and became the mother of one child, Toussaint Renaldo Pierre. After that, she entered law school at Southern University Law Center, and earned a Juris Doctor in May 1992. She received a research fellowship and entered the graduate law program at the University of Arkansas in Fayetteville, and earned a Master of Laws in May 1993. While at U of A, Vivica researched for Drs. Donald Pederson and Donald Copeland in the National Center for Agricultural Law and Information.

Vivica entered the graduate program at Louisiana State University A & M in Baton Rouge, Louisiana, in the spring of 2003 semester. She completed the graduate program in Library and Information Science, and earned the M.L.I.S. Degree. She entered the doctorate program at LSU in the fall of 2007 semester. Vivica Smith Pierre completed her doctoral dissertation and earned the Doctor of Philosophy Degree in December 2011.

In addition to teaching undergraduate and graduate courses (College of Business Administration, in the Department of Finance, Real Estate and Law at California State University, and Georgia State University, J. Mack Robinson School of Business in the Department of Risk Management and Insurance), Vivica also served as a librarian (South Louisiana Community College, and as the records manager at the University of Louisiana, Lafayette). She has also served as an associate director of continuing education (Clark Atlanta University), and as an assistant of the distance learning teaching and learning center (Clark
Atlanta University). Vivica has taught online undergraduate and graduate students. Vivica has mentored and continues to mentor students from diverse race/gender and ethnic backgrounds and students with diverse learning abilities, life circumstance, and the will to succeed, academically. Vivica is passionate about lifelong learning and seeks to inspire others who share the vision. Vivica Pierre may be reached at vpierrl@lsu.edu