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SOCIAL ENGINEERING EFFECTS ON INSTRUCTORS AND STUDENTS
IN AN ELEARNING ENVIRONMENT

BY

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DISSERTATION

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Abstract

The University of Illinois through the Illinois Online Network has been offering an 8-week fully online course titled, *Online Learning: An Overview*, as part of the award winning Making the Virtual Classroom a Reality (MVCR) program for nine years. This course was specifically designed as an interactive student-led discussion-centered elearning experience as is typical for the distance education field in the United States. However, analysis of the history of distance education as well as current global course offerings shows that less social means of distance education have been and still are viable educational alternatives to the traditional classroom. Furthermore, evaluations completed for this course as well as final program evaluations in MVCR show that a significant portion of students would prefer an independent-study model. This study questions the dominant U.S. distance education paradigm by analyzing the same course taught at the same time by the same instructor under two activity-different but content-equivalent instructional designs. Variables analyzed through experiential case study, content analysis, an instructor journal, and surveys include student satisfaction and self-perceived learning, instructor satisfaction, instructor time requirements, and depth or level of student demonstrated knowledge.

Dedicated to my loving wife, my daughter who gives me hope,
and God who made it possible

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Chapter 1

Introduction

Background

      Distance education is not a new concept. In fact, it has evolved for over a century. More recently, the use of digital computer networks has transformed distance education into an electronic online learning (hereafter referred to as elearning) juggernaut that has come under a large amount of scrutiny. This thesis continues that scrutiny by analyzing two elearning courses using a case study approach to understand the influence of social aspects within an elearning virtual classroom.

      To begin, the elearning classroom as used in this thesis must be defined, as it can exist in many different forms. For instance, one could question what percentage of a course needs to be online for it to be considered elearning or whether it needs to be interactive or instructor-led to be considered elearning. The revision history of Wikipedia (www.wikipedia.org) shows a revision timescale of at least a once per day average (taken since 2008), demonstrating that the term is in constant flux. For the purposes of this thesis, a basal definition is required in which only the most core aspects of elearning are retained. As such, elearning will be defined solely and simply as the use of computer networks (whether synchronous or asynchronous) to instruct students through a guided program of study when students are not in the physical presence of the instructor or other students. To distinguish it from blended or hybrid learning, this study only considers courses where more than 95% of instruction takes place at a distance with no physical interaction between students or instructor and student to be considered elearning. The reason

100% is not used is that an elearning program may include an orientation period involving a face-to-face time, although the program that will be studied herein did not include such a period.

Although the use of networked information technologies for education dates back to at least the 1960's and PLATO systems (Engelbart, 1962), elearning began a rapid growth with visual browsing software and advanced information technologies in the 1990's. Today, elearning is flourishing across the globe (Allen & Seaman, 2003). Consider that according to the Illinois Virtual Campus (http://www.ivc.illinois.edu), 9,212 online course sections were offered in the spring of 2008 alone. The California Virtual Campus likewise had 8,812 courses offered in 2009 (http://www.cvc.edu). In some cases the demand may even be exceeding course availability. Many reasons for this growth can be postulated as extensions from the need for distance education in general such as the need for quick growth in education systems (Perraton, Creed, & Robinson, 2002), the demand for courses ahead of resources (Singh, 1982), the need for additional qualifications, personal fulfillment, and degree completion (Anderson, 1993; Barrett, 1998; Haehl, 1996; Peters, 1992). One item that elearning education succeeds at is allowing for an instructional interaction previously difficult to obtain or unavailable in distance education. With this interaction possibility, elearning instruction usually includes the creation of mediated activities and/or materials dispersal. These are not easy tasks or responsibilities, but numerous researchers have demonstrated that elearning instruction can be effective and of high quality (Phipps & Merisotis, 1999).

For nine years, the University of Illinois Department of Outreach and Public Service through the Illinois Online Network (ION) division sought to promote and build the foundations for developing, delivering, and supporting online enhanced education among its participants. One of its flagship programs is the Making the Virtual Classroom a Reality (MVCR) program

intended to parlay experience and expertise concerning online teaching and learning to those

interested in elearning. The primary audience has been higher education faculty who are

planning to teach online. Those completing the program earn a Master Online Teacher

Certificate (MOT) awarded by the University of Illinois. Prior to the summer of 2007, two

hundred forty eight individuals, including the researcher of this study, earned this certificate

from twelve U.S. states and two foreign countries (ION, personal communication). The program

begins with an eight-week fully online course titled, Online Learning: An Overview (OLO).

The OLO course was specifically designed as an interactive student-student discussion-

based elearning experience. Groups of students are led through the course by a facilitator who

paces student progression to keep all students together and discussing the same topics at the

same time. The course is so popular that as many as 50% of registering students are turned away

each of the five terms it is taught every year. In general, the student feedback in the program has

been overwhelmingly positive as well. Due in part to this popularity, the instructional design of

the course has never been questioned, nor does this study directly question this design, but rather,

it questions the viability of alternatives in the appropriate circumstances.

This study begins by considering the historical perceptions of distance education and the

role that social design has played. Chapter 2 contains a literature review that first looks at the

history and evolving definitions of distance education as a whole. It then compares the social

versus independent learning paradigms. The chapter concludes with a discussion on why

students want and need distance education in multiple forms. These wants and needs can then be

related to who the students are that are exploring elearning and how these students can best be

taught.

As chapter 2 reveals, the social orientation of the OLO course and instructor-facilitation style is currently very common in elearning in the U.S. and is often promoted as a best practice for student success and learning (Elbaum, 2002; Ko, 2001; Palloff & Pratt, 2004; White & Weight, 2000). However, analysis of the history of distance education as a whole shows that less social means of distance education have been and still are viable educational alternatives. Internationally, independent study options are also possibly still the most common form of distance education as a whole, although current numbers from China and Russia are difficult to assess. This interesting juxtaposition of seemingly contradictory modes of instruction has perhaps many explanations. One is simply that both work and that there is a student for whom each is effective or at least satisfactory. If this is the case, then there may be students taking the OLO course for whom a different instructional design is more effective or more satisfactory.

To center the discussion of the rest of this thesis, chapter 3 defines the research questions. These definitions are composed from both a general viewpoint of education and a viewpoint specific to the context of this study.

Chapter 4 then outlines the methods employed in this study. The chapter begins with a full description of the context of this study beyond the discussion in this chapter. The two course designs to be employed are then explained and rationalized. Participants within the study are defined as well as how they became a part of or were retained in the research pool. Following an outline of the data sources and collection methods employed, the chapter concludes with the analysis methods.

Participants in the study completed a pre-program survey at the beginning of the course. They then completed the course as they normally would by participating in various scheduled activities over the course of eight weeks. After the course, students completed an end-of-course

evaluation including questions specific to the impact that the design of the course had on their satisfaction and perceived learning. All of the discourse (or lack thereof in the independent learning model) within the course was also analyzed for indicators to be grounded as the analysis proceeds.

To avoid concentrating solely on the students, the effect that design changes have in terms of instructor variables such as time commitment, satisfaction, and perceived student learning were also explored. In this study, a single instructor facilitated both courses simultaneously. The instructor agreed to allow the researcher to observe both courses concurrently in order to come upon any experiential indicators of success in either course. The instructor also agreed to keep a journal with entries approximately every 48 hours indicating the instructor's perceptions concerning student learning and satisfaction, instructor satisfaction, instructor time commitment, and any other variables that may present themselves.

Chapter 5 holistically intertwines qualitative and quantitative data from a variety of sources in an attempt to present a conceptually structured case study of the OLO courses. The effect that design changes have on both the instructor and the student will be interpreted.

Finally, Chapter 6 presents a concluding discussion of the findings of this study followed by proposals for future directions of this research.

Statement of the Problem

The primary problem addressed by this research is the apparent lack of controlled research demonstrating a significant difference between elearning utilizing an instructional design paradigm following social learning theory versus an alternative independent learning model designed under a theory of andragogy. A preliminary analysis done in the spring of 2007

on student survey data from both OLO end-of-course evaluations and an MVCR end-of-program evaluation given to those earning the MOT, all of whom would have completed OLO one year prior on average showed that roughly 50% of those commenting or about 10-15% of total students indicated that various social aspects of the course served as the least or concurrently most effective, appreciated, or satisfying aspect of the course (Varvel & Tettegah, 2010). Interestingly, there is a dramatic omission in the research on student elearning with regard to an actual analysis of this lost population of students who do not want and may not benefit from the social paradigm in place. In the literature review in Chapter 2, not a single *controlled* study was found that looked at the impact that social design has on student learning and satisfaction in an elearning environment, although many uncontrolled studies exist. However, an uncontrolled study, if one existed, showing that students are satisfied and learn in a social setting would still not indicate whether all students are taught best in that setting or whether another setting might prove better for those students who succeeded in the social setting. If one considers that most students in the MVCR program are employed full-time with many other social commitments, it is perhaps surprising that they have the time for a socially designed course. Of course, it is also entirely possible that a social design may lead to greater student learning and satisfaction for all.

Purpose of Study

This study proposes to fill the above controlled-study omission in the body of elearning research by analyzing the extent of the impact that a socially designed elearning experience plays in terms of student satisfaction and learning in the presence of a controlled, independent learning alternative using adult learning theoretical frameworks. To this end, the OLO course has been modified and analyzed as described in Chapter 4. One instructional mode of the course remains

the historical MVCR model in that a social learning paradigm is employed including constant student-student interaction, instructor pacing, and group projects and assignments. The other instructional mode attempts to maintain equivalency of assignments in terms of topics covered and learning while redesigning the course as an independent learning option that is student paced but instructor supported. These two course designs are outlined in Appendix A. This appendix will only be available to the committee of this thesis due to copyright restraints.

Theoretical Frameworks

Two theoretical frameworks are juxtaposed by this research. One course design follows a social learning theory (Bandura, 1986) while the other follows a theory of andragogy (Knowles, 1984). In this dissertation pedagogy and andragogy will be used interchangeably; however, the participants were all adult learners.

Social learning theory. The OLO course has traditionally been designed and taught using the social learning theory of Bandura (1986). Several principles are keys to the social foundations of learning. The instructor's importance is paramount in the modeling of behaviors that sets the stage for the performance expectations of the students. The instructional design and pedagogical importance is seen in that the students are more likely to adopt behaviors when they value the outcomes that result from those behaviors. The social aspect plays a role throughout because the modeling of behaviors, re-enacting of behaviors, and the valuation of outcomes all take place within engaging social interactions. The engagement must take place in an effective manner that the students will value, repeat, and therefore be most able to intake.

This theory coincides closely with several other theories as well. For instance, in Lave and Wenger's (1991) theories regarding learning as a social practice, the student is a participant

in a social process requiring interaction and collaboration. By Rochelle's (1992) theory of

convergence, such a collaborative learning situation is required in order to provide various

knowledge representations. Through a reflective process, a convergence among viewpoints can

lead to a higher level of cognition. Returning to Lave and Wenger, knowledge within this

interaction would also be situated within an authentic social context.

Bandura's theories are often also compared to Vygotsky's (1978) theories regarding

social learning whereby one learns through interactions with others. Similar to modeling, one

gains knowledge by exposure within a particular zone from one whose knowledge is above one's

own. However, Vygotsky's work was primarily on youth, and this thesis will focus primarily on

adult learners.

Within the context explored in this study, the theories of Rogers (1969) are also

applicable. In addition to modeling behavior, the instructor is also facilitating learning. The

instructor serves to develop a collaborative relationship allowing students to build knowledge

together in a synergistic relationship allowing students to share knowledge together. Linking

Rogers' ideas with those of Lave and Wenger, a community of learning or of practice is what

one seeks.

Andragogy. The alternative design newly developed for this study followed the theory

of andragogy as outlined by Knowles (1984) and of applied independent learning principles.

Andragogy was chosen since Knowles developed his theories with adult learners primarily in

mind and the MVCR program primarily reaches this audience. In this theory, the control of

instruction has been shifted from the instructor to the student. It is argued that adult learning is

more self-directed and should therefore be allowed more control over the learning process to

increase motivation and learning. Adult learners should also be provided the ability to discover

more concepts for themselves but with the guidance of the instructor and with relevant learning activities.

Several other theories and practices would tie into the theory of andragogy as well. The instructor's guidance in an elearning setting would be quite similar to what Peters (1973) referred to as a guided didactic conversation in correspondence education showing the applicability of andragogical principles to distance education in general. Boud (1988) refers to autonomy as a primary component in independent learning just as student control in the learning process is a component in andragogy. Finally, the theories of meaningful receptor learning as discussed by Ausubel, Novak, and Hanesian (1978) list proper learning set (motivation and preparedness) and the potential meaningfulness of the task as primary components to learning. In other words, the relevance of the learning activities and the way in which individuals approach them are the most important aspects to learning.

Significance of This Study

Although the dominant U.S. elearning course design paradigm follows a social design theory, handbooks on effective practice do not present controlled studies demonstrating that one design is necessarily more effective than another. Rather, we know only that there is a population for whom the current design is proving effective at an acceptable level. Such knowledge does not tell us whether there is a more effective model or if there is a population for whom there is a more effective model. This study is significant in that it represents the first known attempt to study the effects of social design aspects of elearning within a controlled study. It seeks to determine if in fact there is a difference on variables such as student satisfaction and perceptions of learning when the social nature of an elearning course is altered.

Chapter 2

Literature Review

Before discussing this present study further, it is important to provide background information. To begin with, the history and evolving definitions of distance education as a whole are considered. This historical context demonstrates the constantly changing nature of quality and effectiveness considerations in the field of distance education. Yet at the same time, the old definitions are not necessarily disproved, but rather new definitions are introduced that have been proven effective in various settings.

These changing quality determinations can be centered by a discussion of social versus independent distance learning paradigms. Such terms as social constructivism, behaviorist, student-centered, and instructor-led among others are used consistently in distance learning literature. Therefore, the differences entailed by the different paradigms of instruction need to be delineated so that one can understand how course designs can and are influenced by the philosophical thought of learning being employed.

The chapter concludes with a discussion on why students want and need distance education, who the students are that are exploring elearning, and how these students can best be taught.

History and Evolving Definitions of "Distance Education"

If we take a broad definition of distance education as simply information delivered at a distance or in the absence of direct face-to-face contact, then the history of distance education extends to cave drawings or smoke signals that predate recorded history. However, information is not education. If one extends an intentional purpose of instruction onto the information

delivery process, cave drawing may still classify as distance education if they were created for more than recreation or direct storytelling with face-to-face contact among storyteller and listeners. Assertions on the instructional intent of asynchronous communications would likewise be able to extend distance education historically to any textually literate society. As such, some authors attempt to extend the origins of distance education to Plato's instruction to Dionysius or St. Paul's Letters to early Christian churches (Degree Info, 2003; Distance Education and Training Council, 2001; Willis, 1994).

Yet, through a refinement of one's view of distance education, education is more than a onetime instruction on a single topic but rather a process of developing an individual or group through a controlled program of study. With this refined definition, distance education becomes a more modern phenomenon. Looking at the requirements of such a form of distance education, one realizes that its foundations actually rest in important societal advances. Industrial advances such as the printing press and low cost, readily available paper and writing materials provided the opportunity for efficient information delivery to the masses (Hamilton, 1990). The industrial revolution and growth of an affordable and reliable postal service helped provide the needed infrastructure for the development of distance education. These two combined advances allowed for both the mass production and the dissemination of learning materials to the masses.

Being able to do something and having the need or desire to do something are not equivalent. The need for distance education follows closely from the ability to provide distance education in practice. In some large, sparsely populated areas such as Canada, Australia, China, and the Soviet Union, geographical influences and growing populations increased the need for distance education (Swindell & Vassella, 1996). Furthermore, our changing society requires a

more advanced work force, increasing the need for a fully educated populace. At some point, the needs began to overburden the capabilities of brick and mortar educational institutions.

These needs were initially met through the first generation of distance education, classified as correspondence education (Nipper, 1989). This generation highlights controlled educational programs at a distance. In 1837 England, Sir Isaac Pitman offered what many recognize as the first correspondence courses. These courses taught shorthand from a for-profit school in Bath, England using Britain's Penny Post (Neal, 2006; Sumner, 2000; Verduin & Clark, 1991). In 1852, Pitman's brother Benn founded the Phonographic Institute in Cincinnati, Ohio, teaching shorthand by mail and moving correspondence education to the United States and institutionalizing the process (Degree Info, 2003). Others argue that correspondence education began much earlier. On March 20, 1728, the Boston Gazette reportedly contained an advertisement from Caleb Phillipps titled "Teacher of the New Method of Short Hand" where enrollees would have several lessons sent to them weekly ("History of virtual learning environments", 2007).

Generation 1.5 of distance education began as correspondence education merged with traditional educational institutions through outreach, extramural, and correspondence programs. Educational institution-sponsored distance education began in the United States in 1874 at Illinois Wesleyan University and around that time at the University of Chicago ("History of virtual learning environments", 2007; McIsaac & Gunawardena, 1996). In North America, the correspondence movement was also pioneered by the Chautauqua movement (Nipper, 1989). From 1883 to 1891, the Chautauqua College of Liberal Arts was authorized by the state of New York to grant academic degrees to students completing a summer institute by correspondence (Nasseh, 1997; Watkins & Wright, 1991).

These earliest forms of distance education were primarily text-based mailings, explaining

the terminology, "correspondence education." Other terms focus on other attributes, such as

location, "home study" or "external study", or structure, "independent study" (Keegan, 1996).

Early definitions of distance education in these forms include:

- "Distance education (*Fernstudium)* is a systematically organized form of self-study in which student counseling, the presentation of learning material and the supervising of students' success is carried out by a team of teachers, each of whom has responsibilities. It is made possible at a distance by means of media which can cover long distances. The opposite of 'distance education' is 'direct education' or 'face-to-face education': a type of education that takes place with direct contact between learners and students." (Dohmen, 1967, p. 9; Keegan, 1996, p. 41)

- "Distance teaching may be defined as the family of instructional methods in which the teaching behaviours are executed apart from the learning behaviours, including those that in a contiguous situation would be performed in the learner's presence, so that communication between the teacher and the learner must be facilitated by print, electronic, mechanical or other devices." (Michael Moore, 1973, p. 664)

- "Distance teaching/education (Fernunterricht) is a method of imparting knowledge, skills and attitudes which is rationalized by the application of division of labour and organizational principles as well as by the extensive use of technical media, especially for the purpose of reproducing high quality teaching material which makes it possible to instruct great numbers of students at the same time wherever they live. It is an industrialized form of teaching and learning." (Keegan, 1996, p. 41; Peters, 1973, p. 206)

- "The term 'distance education' covers the various forms of study at all levels which are not under the continuous, immediate supervision of tutors present with their students in lecture rooms or on the same premises, but which, nevertheless, benefit from the planning, guidance and tuition of a tutorial organization." (Holmberg, 1977, p. 9) Holmberg went on to discuss distance education in terms of a 'guided didactic conversation in which interaction creates a learning-centered system that actively encourages and facilitates learning.

- "Distance education is characterized by the privatization of institutional learning" (Keegan, 1996, p. 48; Smith, 1987)

- "*Correspondence teaching* is a method of teaching in which the teacher bears the responsibility of imparting knowledge and skill to a student who does not receive instruction orally, but who studies in a place and at a time determined by his individual circumstances." (Erdos, 1967)

The attributes of correspondence education ascertained from the above definitions can be summed up in the following list:

- Less of a relationship between an instructor or tutor or group of instructors and a single student as compared to traditional education.

- No physical contact between instructor and students and no necessary common point of reference geographically.

- Primarily one-way exchange of information from instructor to student that is made possible by means of media that can be shared across a distance.

- The influence of economic systems or organizations and sometimes educational and political systems and organizations.

- Rigidly planned educational activities.

- Grouping of students by interest.

- Industrialized.

- Inflexible.

- Transferring or imparting knowledge, skills, and attitudes to students.

This generation of distance education, while still in existence in some forms today, was soon supplanted. In 1915, the National University Extension Association realized that new pedagogical models and national guidelines for correspondence programs were needed (Nasseh, 1997). Then, in 1933, a University of Chicago faculty survey suggested that correspondence study should be seen as an experiment until research data led to improvements in the instructional methodology (Gerrity, 1976).

As technology advanced, so too did all forms of education. As print media was supplemented with new technologies such as cassettes, television, radio, and other forms of media used in education, the second generation of distance education began. In this generation, the purpose of the media as initially implemented was the collection and distribution of the

teaching materials rather than interaction or communication (Nipper, 1989). Demonstrating the shift in the field away from print alone, in 1982 the International Council for Correspondence Education changed its name to the International Council for Distance Education (McIsaac & Gunawardena, 1996). The shift actually began much earlier though. Pittman (1986) indicated that in the 1910's, visual instruction such as lantern slides and even motion pictures were used in many extension units. Furthermore, in the years between 1918 and 1946, the U.S. government granted radio broadcasting licenses to 202 educational institutions; however, by 1940, only one college-level course was offered through any of those licenses (Atkinson, 1941).

Like radio before it, television sparked a surge in educational technology with the hopes of reforming education through technology in general. Gale Childs initiated a study in 1956 with funding from the Ford Foundation to study the application of television instruction in conjunction with correspondence study. In her report, she did not see television as a method of instruction, but rather as a tool for the transmission of instruction from one place to another (Almenda, 1988; Nasseh, 1997). Education methodology was not the communication modality, but the manner in which the communication was put to use. Soon after this report, the first educational television program appeared. Sunrise Semester, based in Chicago, was a single instructor shown in front of a class. The program ran from 1959 through the early 1960's, but was not economically viable and failed (Freed, 1999). Childs also found no appreciable differences in regular classrooms by means of television, or by a combination of correspondence study and television (Almenda, 1988). The promise of television and other media was never realized in terms of transformation of education in the U.S. as evidenced by its decline in use.

In addition to changes in delivery media, communication methods changed with time in distance education. Communication was increasingly two-way (Draper, 1982; Garrison & Shale,

1987; Keegan, 1980). More stringent expectations began to develop concerning an interaction between the instructor and the student. Wedemeyer (1981) argued that no loss of interaction would occur in distance education due to new and varied communication means.

New definitions evolved for the newer media-enhanced and communicative forms of education. Definitions that emerged during this time included:

- "Whereas distance learning has been traditionally thought of as an individual enterprise, it will increasingly involve groups learning together, creating a support system. Distance learning is therefore likely to be interactive and reactive. It will also include more two-way communication between the learning resource and the learner." (Draper, 1982, p. 45)

- "Distance education implies that the majority of educational communication between (among) teacher and student(s) occurs noncontiguously. It must involve two-way communication between (among) teacher and student(s) for the purpose of facilitating and supporting the educational process. It used technology to mediate the necessary two-way communication." (Garrison & Shale, 1987, p. 11)

- "Distance education is all arrangements for providing instruction through print or electronic communications media to persons engaged in planned learning in a place or time different from that of the instructor or instructors." (M. Moore, 1990, p. xv)

- Keegan (1980) laid out the following six key elements of distance education: (1) Physical separation of instructor and students. (2) Influencing educational organization. (3) Usage of media to link instructor and students. (4) Two-way communication. (5) Learners as individuals. (6) Educators as an industrialized form.

- Peters (1991, p. 45) lists, "Distance education is a form of education characterized by:
    - the quasi-permanent separation of teacher and learner throughout the length of the learning process (this distinguishes it from conventional face-to-face education);
    - the influence of an educational organization both in the planning and preparation of learning materials and in the provision of student support services (this distinguishes it from private study and teach-yourself programmes);
    - the use of technical media – print, audio, video or computer – to unite teacher and learner and carry the content of the course;
    - the provision of two-way communication so that the student may benefit from or even initiate dialogue (this distinguishes it from other uses of technology in education); and
    - the quasi-permanent absence of the learning group throughout the length of the learning process so that people are usually taught as individuals rather than in groups, with the possibility of occasional meetings, either face-to-face or by electronic means, for both didactic and socialization purposes."

With the increased influx of online technologies, a third generation of distance education quickly emerged. Not just communication, but interaction and collaboration with other students became an integral part of many distance education definitions. Distance was something that was overcome through technology. People began to highlight perceived positive characteristics of the new media technologies. Terms began to become popular such as flexible learning (Van den Brande, 1993) and open education (McKenzie, Postgate, & Scupham, 1975) (although open education was in use in the United Kingdom when the Open University opened in 1969). The definitions below highlight this third shift.

- Barker, Frisbie, and Patrick (1989) extend the definition of distance education to include synchronous communications.

- Daniel and Stevens (1998, p. 162) write, "According to the U.S. Congress for Technology Assessment, distance education refers to 'linking of a teacher and students in several geographic locations via technology that allows for interaction.'"

- Harasim (2000) delineates online education from existing modes of teaching and learning through 5 attributes: (1) Many-to-many communication: a collaboration. (2) Place independent group communication. (3) Time independent communication. (4) Text-based communication. (5) Computer-mediated learning.

- McKenzie, Postgate, and Scupmham (1975, p. 21) see the terms open, education and learning as positive, while distance as a negative terms while also stating, "Open learning […] its very imprecision enables it to accommodate many different ideas and aims."

- "Enabling learners to learn when they want (frequency, timing, duration), how they want (modes of learning), and what they want (that is learners can define what constitutes learning to them). These flexible learning principles may be applied at a distance." (Van den Brande, 1993, p. 2)

Although the United States had been slow to enter distance education in large scale, this third generation offers scalability and perceived affordability and quality that quickly led to its growth. Although fewer than 10 states promoted distance education in 1987, by 1989, virtually all states were actively involved in distance education (McIsaac & Gunawardena, 1996). Economies of size and distribution have led to a growth of distance education in all sectors and

in industrialized as well as developing countries to where it is a global form of education (Rumble, 2000). This growth has continued with elearning. As John Chambers, chief executive office of Cisco predicted in 1999, "Education over the Internet is so big it is going to make e-mail look like a rounding error." (Neal, 2006) As we enter this third generation of distance education, we now begin to realize the growth and evolution of elearning.

However, when one looks at the history of distance education, we see that current models of education over the Internet particularly in North America seem to adhere to a specific elearning paradigm. This paradigm is one of socially oriented and student-discussion centered design unlike guided independent study or correspondence education in the past. Consider that rubrics intended to measure elearning effectiveness or course design quality generally place a high value on social aspects. In Illinois, the ION Quality Online Course Initiative contains an entire rubric section requiring communication, interaction, and collaboration (University of Illinois, n.d.). MarylandOnline's Quality Matters rubric, although less explicitly requiring student-interaction, includes it in sections 5.2 and 5.4 of their rubric, and implies its importance with student introductions to class in section 1.5 (MarylandOnline, 2010). The Blackboard Exemplary Course Program goes farther by including sections on both developing learning communities and inclusion of interaction logistics in their rubric (Blackboard, 2010). Interestingly though, while one can see that elearning is effective, especially when compared to traditional modes of education (Russel, 2002), little if any controlled research has demonstrated a clear educational advantage in one model of instruction over another, especially considering that there are many types of students, and they all may learn differently.

Social Versus Independent Elearning

With current elearning models in the U.S., we see a shift towards a more collaborative, social-centered format and away from anonymous self-paced programs. Polin (2004) argues that the goal of higher education is to increase a student's participation in their field of practice. As such, a sociocultural theory of learning is appropriate and necessary. Wenger (1998) argues that learning is an identity transformation within a community of practice. One of the powers of elearning is that the actual learning activity can be relocated to the appropriate community, perhaps one of which the student is becoming a part. As Lave and Wenger state, (1991, 53) "As an aspect of social practice, learning involves the whole person; it implies not only a relation to specific activities, but a relation to social communities – it implies becoming a full participant, a member, a kind of person." Within that community, discourse and joint activity should be the norm.

Nunn (1996) sees discussion as the center of any college classroom as well. Grabinger (2004) goes so far as to counterpoise traditional instructional design from sociocultural instructional design with attention to the way in which tools are used in the educational process to create new social structures. Ruhleder (2004) then discusses how these technologies, including online educational tools, can and should break down the structure interactions between students and instructor leading to increased peer relationships and a shift in authority in the online classroom. The result is successful student learning. Numerous authors argue that a socially constructed online classroom is therefore a best practice towards student learning (Elbaum, 2002; Harasim, 1990; Haythornthwaite, Kazmer, Robins, & Shoemaker, 2004; Ko, 2001; Palloff & Pratt, 2004; Papageorge, 2003; Rossett, 2002; & White & Weight, 2000). Haythornthwaite *et.al.* (2004, pp. 35-36) states,

The strong interpersonal ties shared by community members increase the willingness to share information and resources, setting the stage for collaborative learning […] Strong communal ties increase the flow of information among all members, and satisfaction with group goals, cooperation among members, and satisfaction with group efforts […] Trust in community fosters contribution and support in times of need […] Individuals benefit from community membership by experiencing a greater sense of well-being and happiness, and having a larger and more willing set of others to call on for support in times of need…

Some argue that a social design is appropriate and perhaps best in all modalities of instruction (Bransford, Brown, Cocking, Donovan, & Pellegrino, 2000; Chickering & Gamson, 1987)

Within such social models, meaning is created through the interactions among participants, who are led by an instructor now considered more of a facilitator of learning rather than simply deliverer of information (Rogers, 1969). The quality of interactions among students and between students and instructor are key to successful group learning (Barron, 2003). A collaborative (building knowledge together) and synergistic (sharing knowledge together) community are what one seeks. Within a technologically organized environment, members can engage in social interactions that Vygotsky argues are required for full cognitive development (1978). Bandura (1986) further argues for the social foundations of learning when discussing the modeling of behavior that can occur within engaging social interactions. In the broadest sense, Dillenbourg (1999) defines collaborative learning to contain multiple individuals learning something together. Context is not a variable by this definition. Rather, collaborative learning is based only on the interactions of participants in such a way to induce learning. Elearning under a social paradigm fits this definition in that it provides a construct in which participants come together and interact, often on footing more equal than face-to-face, in a way in which learning is functionally and intellectually effective (Russell, 2002). By Rochelle's theory of convergence (1992), a collaborative learning situation provides various knowledge expressions. Through reflective process, a convergence among the viewpoints will be sought, that is, activities are

required to summarize and reshape the viewpoints, eventually calling for a higher level of cognition.

As Barron (2003, p. 352) states, "learning outcomes as well as concurrent joint problem-solving outcomes are influenced by qualities of interaction." As Lave & Wenger (1991) would argue, this interaction involves the construction of identities, and online identities, even in a collaborative environment, are by their very nature a constructed entity (Gustafson, Hodgson, & Tickner, 2004 & Markham, 1998). Membership within this learning environment is thus an evolution rather than simply a dyadic participatory level, where both identity and knowledge are constructed over time and as part of a synergistic community with various levels of student/instructor input. Lave and Wenger (1991) conceptualize that instruction is not a dyad. Scaffolding through instructional design helps to both centralize and decentralize participation. In a socially designed online course, we see this principle especially in terms of discussion organization. Student learning is coordinated by the manner in which their interactions with one another are determined in part by the structure imposed by the instructor and on the social world within an online course setting.

Furthermore, the community being both developed and utilized must be conceptualized in terms of social networks, among possibly blurred social identities, rather than physical proximity, as traditional definitions, whether reality or ideals, no longer fit within this new environment (Kollock & Smith, 1999). As Markham states (1998, p. 23), "To be present in cyberspace is to learn how to be embodied there. To be embodied there is to participate." Within a virtual community, all interaction is in effect within the mind of the participants. It is a mediated environment in which everyone portraits everyone else in the form of mental constructs. We see that such a social system changes the meaning of social interaction. It is a

hybrid interaction between social and internal. It is an example of a purely mental form of social participation. Although Freud (1930, p. 38) stated that writing is "the voice of an absent person", online, we can see that rapid discourse beyond that of the postal mail system allows writing to provide a social and interactive voice (perhaps even beyond what the person would have in the absence of the online context), which can define an online personae.

However, this last development could occur in the absence of peer interaction and simply in the presence of instructor-student interaction. Furthermore, as one looks back at all of the benefits of social interaction as discussed above, one has to wonder how education succeeded for such a long time in its absence. Correspondence education has existed for over 100 years. Currently, independent study is probably the most prevalent form of distance education worldwide when one considers all available courses and includes Chinese markets.

It may not be correct to call non-social distance learning as independent study since most programs are still facilitated by an instructor or tutor. As such, a guided didactic conversation occurs resulting in student learning (Peters, 1973). In such situations, the instructor provides the necessary social stimuli for behavior modeling or interaction; however, other group synergistic processes discussed above are removed. But such distance education programs can still succeed in the absence of student-student interaction.

Jenkins (1979) discusses how different learning goals require different types of teaching strategies. In his tetrahedral model, one must take into account the nature of the content, the nature of the activity, the criterial tasks within that activity, and the characteristics of the learner. Just as community learning would have its place in such a model, so too does independent learning. The point is to match all of the variables to the students.

When a match occurs, students will learn in part because of their motivation level

linkages. As Ausubel, Novak, and Hanesian (1978, p. 4) state, "discovery and reception learning

can both be meaningful, (1) if the student employs a meaningful learning set (a disposition to

relate new learning materials meaningfully to his existing structure of knowledge), and (2) if the

learning task itself is potentially meaningful." If the students have the means to learn the

materials and the desire, then the presentation of potentially meaningful materials can lead to

learning. Furthermore, "It [school] must assume the burden both for presenting student with

learning materials that are substantially valid and pedagogically appropriate, and for devising

learning materials and teaching methods that are appropriately located on the rote-meaningful

and reception-discovery continua." The key to design in this model is not necessarily the social

interaction, but the meaningfulness of the information and the task associated with it. These

design elements do not necessitate social interaction and are common ties for both pedagogy and

andragogy.

As Knowles (1984) points out, a key when adults are the students is the relevance of the

learning activities. Additionally, centering learning on problems rather than content and

involving the student in the planning of the instruction are important. As such, the

empowerment of the student includes not just learning but instruction, and instruction can and

should take many forms. Gardner's (2006) research shows that students can learn in many

different manners including interpersonal where collaboration is preferred and intrapersonal

where one works with one's inner thoughts.

Empowering the student includes turning over control to the student, and that control

includes direction of the learning. Self-directed learning where the learner takes the initiative is

one aspect of Knowles andragogy (1984). Furthermore, when considering theories of

independent learning, autonomy is a primary component, as the individual must take responsibility for one's own learning (Boud, 1988). Moore (1973) includes such aspects as separation of time and space in the discussion of student autonomy with regard to a theory of independent learning and teaching. It is interesting that the advantages of anytime and anyplace seen as an advantage of elearning are also an advantage to autonomy and by extension independent learning, but they are not often discussed as such.

In the end, it is possible that the overall effectiveness of a course may suffer when social aspects are removed. Independent learning may be adequate, but is it equivalent to a socially designed model? Presumably, there must be a student for whom an independent model may be the best model. For example, some students enter distance education specifically from a desire for anonymity. If the student is forced into an uncomfortable modality of instruction (and this can work both for and against any type of instruction), unsuccessful learning outcomes may result.

Why Do Students Want and Need Distance Education

With any instructional design methodology, at some point, the audience needs to be analyzed in terms of their wants, needs, abilities, and other variables. With many elearning education programs, MVCR included, the wants of the students have taken a back seat to the perceived needs of those students. The students in this program need to learn how to teach online, and the administration has chosen the best way to teach them based upon perceived incoming abilities of students. Technology literacy or the ability to make use of the technological tools within the educational program is infused into the MVCR orientation

program to help insure student success; however, rarely is there an option of how to learn with this technology.

There are two basic reasons to take student wants into account when planning an adult elearning education program. For one, student wants are somewhat determined by their actual needs in their lives and workplace. For another, addressing their wants help to motivate them to learn, increasing the propensity for positive educational outcomes. As Kemp (1988, p. 30) states, "There is a direct link between how students learn and their level of motivation in the classroom. If a student's needs are met, motivation for learning is increased." Of importance to this study is that student wants are not limited to what they want to learn, but also how they want to learn and how they could best learn the material.

In the MVCR program, workplace needs are addressed by a series of elearning instructor competencies (Varvel, 2007). In the case of these competencies, a direct alignment is seen with social learning theories. In line with the importance of workplace needs, Waniewicz (2002) found that 44% of learners listed job-related reasons for taking distance education courses. Rudestam and Schoenholtz (2002, p. 6-7) found that, "Most current online students are adult professionals looking for additional training […] Moreover, adults have complex lives with multiple demands on their time and energy; they appreciate flexibility and individualization in their learning experiences." Here we see an intersection of needs with wants. Students need to improve in the workplace, but they want flexibility and individualization.

But students do not necessarily want to be left on their own. According to Holmberg (1977, p. 33), students want autonomy as a primary reason for choosing correspondence education (here extrapolated to elearning), however, "It is evident that what these people are

after is not only self-instructional material." Students want instructor interaction, as Holmberg would say, as part of a guided didactic conversation.

Other student desires for distance education and elearning are brought out by other authors. Anderson (1993) found that of 382 students at the University of Alaska at Anchorage, 65% took distance education courses because the courses fit into their work schedules. Convenience becomes a factor in why students choose elearning. Aslanian and Bricknell (1980) saw additional factors. In their study, 83% listed a change in life as a reason whereby they needed to complete a given course to obtain a new career, extend personal knowledge, or, for 46%, a change in current careers. Similarly, over 40 years ago Erdos (1967) found reasons including exam preparation, general education, refreshing knowledge, degree completion, and in-service teacher training as reasons for student enrollment in correspondence courses.

In none of these reasons, was a need for social interaction discussed. However, it is important to keep in mind that just as in traditional education, all learning styles will be present online, and we should teach to all of them. Just as there are students who want or need anonymity and internal reflection, there are students who want and/or need social interaction for learning. Some students will have their own social support networks outside of the online classroom, and others may not. Some students are introverted with little capacity or desire for external expression, others will be extraverts who appreciate other people despite self-importance, and others will be a combination of the two (Jung, 1976).

As Anderson (1993) points out, the majority of adult students in a distance education course are capable of taking control of their own learning and have a desire to do such. Instructors have to supply environments (not environment) where that learning can take place. As Haehl (1996, p. 9) found, "With a skilled facilitator, students can be taught to design their

own learning plans, diagnose their learning needs, and formulate objectives and strategies for learning." Some students will implement these designs best in social settings and others in a more self-directed, individual setting (Cross, 1981; Knowles, 1975; Wagner & McCombs, 1995). The key is to provide a system that will meet the needs of both types of students.

Chapter 3

Research Questions

The purpose of this study is to determine how the student and instructor variables of satisfaction, learning, and amount of work relate to the social design of an elearning course. The context chosen for this study is the Making the Virtual Classroom a Reality (MVCR) series of online faculty development courses offered by the University of Illinois through the Illinois Online Network (ION) division of the Department of Outreach and Public Service. The purpose of this program is to "promote and build the foundations for developing, delivering, and supporting online enhanced education throughout the world." (http://www.ion.uillinois.edu) This series of online faculty development courses was designed to help faculty members acquire the skills and knowledge necessary to be successful elearning instructors. ION was chosen due to its award winning educational program with clear educational objectives and instructional designs, and it was chosen due to the unique opportunity it afforded as discussed below.

The program offers several attractive attributes for this study. Access to the program is readily available. As a faculty member within the program, this researcher was able to negotiate access to research within the program. Instructors within the program were also willing to try alternative methods. In addition, although the specific demographics vary, the majority of students fit into clearly definable categories that will allow comparison to other studies as needed. The similarity among students limits generalizations to other programs, but will help insure that the control and treatment samples are similar in the current study. Historical data and survey results from various aspects of the program are also readily available allowing for comparison when applicable. Finally, the administration of the program was willing to allow for

an alternative instructional design approach to be employed for one semester of the course, which was of vital importance and a necessity to this study.

The introductory course in the series, Online Learning: An Overview (OLO), has been offered for 8 years, and was selected as the course content for this study. It was an 8-week course teaching participants key concepts while providing a broad overview of online education. This course is currently still offered and usually has the highest enrollment in the program, making multiple sections easy to fill at the same time. The instructor was experienced with online education and has been teaching this particular course for five years.

The course has always been designed and taught using social constructivist aligned theories. Since all courses in the program utilize the same teaching principles, the first course in the series was chosen for study so as to analyze student perceptions before the program may bias them. Following a preliminary study of historical course and program surveys (Varvel & Tettegah, 2010), the administration of the program sanctioned this development and study of an alternative course design. As stated in the literature review, no controlled studies have compared a course designed following the principles of social design theory to one following independent learning or andragogy principles in an elearning context.

Issue 1: The Importance of Social Interaction in the Learning Process

A social constructivist or social learning model suggests that student-student interaction is vital to the learning process. However, adults can utilize many learning strategies for success and their social support can extend outside of the classroom. Furthermore, many adults prefer to learn on their own at their own pace; hence the popularity of advertisements such as anytime, anyplace, any pace. At issue are fields of thought on how students learn and the interaction of

these fields with elearning among adults. Elearning is retained under the simple definition of the use of computer networks (whether synchronous or asynchronous) with the purpose of instructing students who are not in the presence of the instructor or other students.

To address this issue, this study asked the following question, does social design within an online course affect student learning in the presence of self-selection for instructional design? The rationale for student self-selection began at the insistence of the MVCR administration (MVCR is the context chosen for this study discussed in Chapter 4); however it feeds into the needs of this research. If individuals can have many ways of knowing and learning, then multiple methods of instruction should enable more individuals to learn in their preferred or most effective manner.

Since this study did not actually perform quantitative pre and post test measures of student performance or validated measures of student learning, learning was looked at primarily indirectly by experiential observation and case study analysis. In addition to observations throughout the course of study, student performance was assessed through stringent application of the instructor-developed scoring rubrics to select assignments for comparison across course sections.

Students' personal reflections were also taken into account to examine the importance of social interaction in the learning process. Students should perceive that they are learning at the same level between the two courses. To address this question, the end-of-course evaluation includes an item asking the students' self-perception of learning. A possible confounding variable in this determination is that student satisfaction often relates to self-perception of learning. Prior to an actual application of the information learned in practice, it is difficult for the student to accurately determine learning and more importantly retention.

Secondary measures also included analysis of course discourse and instructor journal entries for items that code to social interaction. This qualitative analysis of student work and instructor journal included grounded identification of learning instances and identification of any tangible differences between the two modalities of instruction in terms of concrete v. abstract, descriptive v. evaluative, and other taxonomies found to apply using a grounded approach.

Issue 2: The Importance of Social Interaction for Elearning Student Satisfaction

Although many argue that student-student interaction is important to student success in the online classroom, possible differences among students' psychological stances and needs suggest that a socially aligned course may not be for everyone. In terms of education, the issue is not just learning but student satisfaction, which in addition to learning can affect student retention in an individual course and program as a whole. If a student is dissatisfied, it is difficult to learn the content.

To address this issue, the following question was explored: Does social design within an online course affect student satisfaction with the learning experience in the presence of self-selection for instructional style? In the absence of a difference, students should be equally satisfied by either method. This satisfaction should be at the level of both their performance, and the course itself.

To address this question, the end-of-course evaluation included items questioning student satisfaction of their experience as a whole, the course design and curriculum, the instructor and instruction, and their own learning. Another primary measure was the course content itself for comments coded to student satisfaction indicators. A secondary measure was the researcher and instructor journal entries coded to student satisfaction indicators grounded in the data analysis.

Issue 3: Instructor Workload in Elearning Courses

Although the discussion so far has focused on the student, the importance of the instructor cannot be ignored, for the instructor is a key to the success of the student. Over the course of 8 years, a continual discussion point among MVCR instructors has been time commitments or workload and online courses. Workload can be affected by experience with the given course, instructor time management skills, and with the given instructional paradigm and its relation to the instructor's teaching style, among other things. Not just actual workload, but perceived workload can have implications toward instructor satisfaction, success, retention, and quality. It can also affect the success of the program as a whole. At the same time, the social design within MVCR courses may help to alleviate some instructor work by placing the responsibility upon students to teach each other.

To address this issue, this study investigated the question: Does the design of an online course, in terms of social interaction, affect instructor workload? This issue was analyzed at both the level of the instructor's self-perception and an actual workload analysis. The instructor's self-perception of workload was studied through recorded journal entries at the time of instruction. Following the course, an instructor interview was also conducted to question holistic experiential feelings. The instructor's perception was checked against a time analysis of the course activities. The instructor was asked to actually document how long it took to perform certain actions within the courses in the instructor journal. These entries were checked by comparing the time that the instructor was actually logged into each course and the time it took between concurrent posts in a given course activity.

Issue 4: Instructor Satisfaction in Elearning Courses

Instructors have preferential teaching styles just as students have preferential learning styles. While there may be many reasons for a given preference, performance within the course and therefore student learning and satisfaction may be affected by how well the instructor performs in the given modality. If the same instructor concurrently teaches the same course using two instructional styles, many factors may interact and affect instructor satisfaction and therefore performance.

To address this issue, the following question was explored: Does social design within an online course affect instructor satisfaction with the teaching experience? If the two courses are equivalent in a manner affecting instructor satisfaction, then the instructor should be equally satisfied with both courses. The instructor who agreed to teach the course during this research claims to have no instructional preference, but experience within this given course has been limited to only the social modality so far. If a significant difference in satisfaction is seen between the two courses, other measures for issues 1-3 may be confounded and need re-evaluation.

This important question was measured first by the instructor's perceptions as recorded in the research journal as well as an instructor debriefing following the experience. Since the instructor may have had an internal desire for both courses to be equally effective, another primary measure was the researcher's perceptions of instructor performance during the course. Indicators evolved within the course discourse suggesting instructor preference one way or the other. For example, time commitment differences were determined as discussed under issue 3 above.

Chapter 4

Methods

The primary questions that this research asked were how student and instructor perceptions such as satisfaction, learning, and amount of work relate to the social design of an online course. To answer these questions a controlled mixed-method inquiry into the perceptions and realities of social design within an online course was utilized. Two sections of the same 100% online course were taught at the same time by the same instructor for two course sessions. The courses were designed so that one would fit a socially designed model of instruction while the other would follow a guided independent study model.

Course Designs

Two separate sections of the Online Learning: An Overview (OLO) course were developed for this study. The original, socially designed course remained unchanged. A second primarily independent study version of the course was designed. An effort was made to maintain the academic standards of both versions of the course. In the two courses, each activity was maintained as equivalent as possible between the two course designs in terms of curricular content and assignment requirements. The primary shift was in social engineering.

While the contents in terms of instructional materials (including readings and lectures) were the same between the two courses examined in this study, the assignments of the two courses were divergent. As these were online courses where all of the information was delivered to the students through text, a complete outline of both courses prior to instruction was possible. Appendix A outlines the two courses as they appeared. This appendix is only available to the committee of this study and not in the print dissertation due to copyright restrictions.

It should be noted that students were not prohibited from interacting in the independent learning course; it was simply not required within the given activities. Although it was desired to remove student-student interaction features from the course, the program administration required that the students have that option available if they wished; however, it was not advertised in the independent study model, and students apparently did not realize it was there since it was not observed to have been utilized. Any students using collaboration features such as messaging within the course may have affected final analysis, but students did not make use of the feature in the independent study course sections. It could have been that there was a natural pull towards socialization when it was possible, resulting in an entirely new direction for future research in this field, but an alternative study would need to be completed to measure that pull since it did not manifest itself in this study.

Participants

All students (N = 88) who registered for the OLO course were invited to participate in this research after they had already been accepted into the course. The MVCR program and the OLO course were both voluntary faculty development opportunities. No monetary incentive was applied to recruit participants and decisions to participate or not to participate did not affect the student's enrollment in the program. A request was automatically sent out by the registration system inviting them to participate. Only those replying to the request in the affirmative were included in the research pool. No additional screening was used of applicants other than the voluntary choice to participate in the program. No student under the age of 18 registered for the course.

Both participants and non-participants completed the same courses at the same time, and the instructor did not have knowledge of which students were and were not included in the research pool. At the end of the courses, the entire contents of the courses were copied to new courses. In these new courses, all content from non-participants was removed. All participant identity information was replaced in the copy course by pseudonyms, Student A and so on. Participants had the ability to be removed from the research pool at any time, but no participant chose to be removed.

During the registration process, all students were given the option to take the course using social design, independent study, or no preference option. This option occurred after initial registration and prior to enrollment by an email contact (See Appendix B). A maximum of 23 students was allowed into each section of the course. In the end, each section of the first 8-week session had 17 students and each section of the second 8-week session had 14 students. The typical student in the program obtained from demographic data was age 25 to 45, 60% were female, they generally had knowledge of the Web but not online education, and they were usually a community college or university instructor with traditional teaching experience (ION, personal communication). No vulnerable population was targeted by this research, nor was any demographic specifically targeted. Demographic specifics were an artifact of the students actually desiring to complete the program because there was no active advertising of this program.

The instructor for the course also served as a participant in this research. He held an appointment as an English faculty member at an Illinois Community College. At the time of this study he taught this course and others online for over 5 years. He taught in the program (at the time of data collection), and he also earned a Master's Certificate in Online Teaching. As the

program was socially oriented when he completed it, it is possible that his perceptions were biased; however, he personally expressed an interest in experiencing the course from both designs.

Data Sources and Collection Methods

There were four data sources used in this study. The primary data source for the experiential case study was the researcher's journal as a non-participant observer. The two sources of student data included student surveys and the complete course archive from two sessions of two concurrent courses instructed by the same individual. The final data source was an instructor's journal.

Student data. Three sources of student data were utilized for this research. The primary student data source was the entire course dialogue occurring with that student and the instructor or any other participants as well as all assignments turned in by that participant occurring as course dialogue. Course communications and archived content from the secure course management server were retrieved. The course was then copied and student data replaced with pseudonyms prior to analysis. This archive was to be maintained for three years; however, a shift in University programming resulted in its removal after 1 year. This researcher has a digital copy of text now maintained as an archive.

The other primary student data source was content from student surveys. After the course, all students could fill out a voluntary course evaluation that was standard for the MVCR program (See Appendix C). By querying the database to include data only from participants, responses from participants in the study were extracted. The exact nature of this survey in terms of questions added specifically for this research was grounded in the ongoing analysis. Several

questions were pre-existing in the survey instrument including: (a) How satisfying was this experience? (b) How would you rate your learning in this course? (c) On what criteria do you base your rating of your learning in this course? (d) Rate the importance of student-student interaction to this experience? (e) How did student-student interaction affect your course experience? (f) Rate the importance of student-instructor interaction to this experience? (g) What was the most educational aspect of this course? (h) What was the least educational aspect of this course? (i) What was the most enjoyable aspect of this course? (j) What was the least enjoyable aspect of this course? (k) Would you take another course like this one again?

All students were requested to fill out a voluntary survey at the start of the course. This survey includes demographic information and diverse elearning questions (See Appendix D). The survey data collection system was designed so that only students participating in the research received an additional variable in their survey. Surveys were saved without reference to the individual completing the survey, however, the presence or absence of the additional variable served to separate participants from non-participants.

For surveys, all data was collected using a secure Web site available only to students after logging into the site. The data was stored in a secure SQL database. Data tables used in this research were accessible only by the researcher and system administrators who were not aware of the coding of the data. Participant data was extracted via MS SQL Enterprise Manager into SPSS for analysis. The database server was located in a secure campus office. Raw data will be stored for at least three years and then deleted.

The program administration did not approve direct researcher-student contact. Furthermore, individually identifiable information was not collected, retained, or reported as part of this research.

Instructor data. The primary instructor data source was an instructor journal. The instructor agreed to complete a journal entry for each course at least once approximately every 48 to 72 hours during the 8-week duration of the courses. This journal was kept in a password protected Microsoft Word document. The instructor was directed to enter information related to at least the following points:

- Perceived student learning in each course.

- Level of student learning in terms of concrete-abstract, descriptive-evaluative, etc.

- Time commitment in each course.

- Pedagogical effectiveness of the given assignments.

- Andragogical differences perceived between the two courses.

- Satisfaction with the progress of each course.

- Degree to which student-student interaction was affecting learning.

- Degree to which isolation may inhibit learning by some students.

- Differences in instructor-student interactions between the two courses.

A final entry was included in the journal at the conclusion of the course in which the instructor reflected on the experience and compared/contrasted the two courses in terms of his overall satisfaction, his overall workload, student overall workload and interaction differences, and a final summary of all points already addressed.

To help understand and further analyze the instructor journal, the instructor was interviewed at the end of each course session. In this unscripted, open-ended interview, the researcher began by re-addressing the points listed above and then redirected from these items to develop a deeper understanding of the instructor's experience.

Researcher data. In order to gain an understanding of the experience that the instructor and students were going through, the researcher also kept an ongoing journal of course activities as a non-participant observer using the methods of experiential observation outlined by Stake (1995). As Mann and Stewart (2000, p. 86) write, "By 'lurking' unseen, [researchers] are able to watch the interaction without intervening in any way." The researcher addressed the same topics as the instructor in his journal, but from an external perspective. The researcher also composed vignettes of particular 'telling' experiences that arose. Telling experiences were those that seemed to encompass a feeling in the moment that could help explain many other minor observations simultaneously occurring.

Analysis

The following methods were employed for analysis of the data. Some of these methods involve *in vivo* aspects to the experience and do not necessarily draw on physical but rather experiential data. It is hoped that through the multiple methods employed, a more complete understanding of the research questions was obtained. Furthermore, each method spoke to a slightly different aspect of each question that may illuminate in ways other methods cannot. New questions arose in the process of analysis, but these have been left for future research prospects and will be discussed in the conclusion.

Case study method and experiential knowing. As Stake (1995) writes, the nature of qualitative research lies in attaining a personal understanding as we experience a context. We are not trying to explain as much as understand a situation. In this study, the case method as described by Stake was employed to achieve a holistic interpretation of the instructor and student experiences within this system based upon continued unobtrusive observation.

The situation or case in question for this analysis will be the MVCR program in terms of the OLO course. As the experimenter experienced the ongoing computer-mediated communication (CMC) interactions in the two courses, a refinement of understanding was achieved. Reflections on current and past journal entries aided in achieving a holistic situational understanding of the data. Vignettes were then written to describe experiences in context in a manner that relates the experience to the readers of this thesis.

Achieving an effective case study depends on some form of conceptual structure upon which to base observations. In this case study, issues as outlined in chapter 3 served as a focusing structure.

In a qualitative study issues sometimes emerge. One benefit of case study analysis is progressive focusing (Parlett & Hamilton, 1976). If an early direction or question does not work or lead to a coherent understanding, or if a new issue becomes apparent, the entire design can be changed in progress. Thus, during the process of ongoing perception, the journal direction sometimes diverged to accommodate emerging ideas. The end result is therefore an open book with the final purpose of understanding the given context. Initial impressions did not limit the research direction.

This analysis was not limited to the researcher's final perceptions. By taking the instructor perceptions into account as seen in the instructor journal, the researcher was able to acknowledge the existence of multiple interpretations to the given context and actually present those alternatives. The alternatives were compared and contrasted to achieve a more complete interpretation of events.

Text analysis. Although as anticipated, the socially designed course had much more discourse than the independent study model, both models resulted in large amounts of text. In

the independent study model, this text was entirely between the instructor and student, while it was more diversified in terms of participants in the socially designed course. Discourse and all assignment submissions from both systems were analyzed via corpus methods modified from Yates (2001). Key points in the analysis included determining differences in language use, in lexical choice, in the complexity of discourse, the substantiality of information shared, and in the level of discourse between the two course frameworks as concrete or abstract and descriptive or evaluative. Taking each discourse thread independently from others and then holistically determining whether it did or did not meet the criteria being measured made the aforementioned determinations. The standards used for each scoring category along with examples used are given within the analysis chapter.

Assignment submissions from both independent and social sections of the courses were also analyzed by comparison to best answer solutions and supplied instructor rubrics (See Appendix F) for analysis of knowledge demonstration by students. The instructor supplied the best answer solutions. The scoring rubric was the same scoring rubric used by the instructor and supplied to students within the course. This rubric has been used for years within the course and by numerous OLO instructors, but was rigorously applied by this researcher. FERPA regulations did not allow direct comparison with the instructor's scores; however, the instructor scores were generally higher than those returned by the researcher. Examples demonstrating application of the rubrics are given within the analysis chapter.

Interactivity was also measured in terms of message length and responsiveness as modified from Cherny (1999). Lengths of total exchange and reciprocity were measured as a determinant of involvement and transitory exchange among participants and instructor as well

(Preece, 2001). Measurements used included posts per student, total words posted, words per post, posts per thread, and discussion participation.

The specifics of outcomes related to learning and social aspects were targeted by this research. The overall intent of this content analysis was to focus on the ordinary talk of the online classroom in the two contexts to reveal ways in which meaning was accomplished in both courses and how this meaning differs in complexity and sociability. Furthermore, by observing the courses in action, items may become apparent that are worthy of further research as well as inclusion in the post-course evaluation survey.

Survey method. During instruction, students often leave much unsaid. While learning can be somewhat gauged by their assignment submissions, their satisfaction with instruction and perceptions of the other students and instructor are often not a topic of virtual classroom discourse. General impressions may not even come up in interviews when lack of anonymity may preclude negative sentiments. In order to quickly obtain general impressions that students have about various aspects of their learning experience, survey methodology was therefore employed to capture perceptions.

Participants voluntarily completed optional surveys before and after their learning experience. The surveys are located in appendix C (post-course evaluation survey) and D (pre-MVCR program survey). Both of these surveys were regular parts of the MVCR program. The surveys serve several purposes unrelated directly to this research such as program evaluation and improvement; however, certain items were included that are pertinent to this research. For both surveys, all responses were private and confidential. Completed survey data was stored in a secure SQL database. Compilation of the surveys including statistical analysis of Likert scaled items was completed using ASP code. This compilation process extracted surveys completed so

that only participants in the research were considered. Statistical analysis included basic descriptive statistics, chi-squared analysis, and t-tests.

The compilation also extracted all comments in open-ended questions. These comments were analyzed for identifiers grounded in the research questions via progressive focusing by organizing the comments around various issues including social aspects of learning, learning in general, satisfaction of experience, group cohesion and community, and others (Cohen, Manion, & Morrison, 2007). Open-ended responses in this survey were particularly telling regarding the students' impressions that social aspects or lack thereof had on their experiences.

For the post-course evaluation survey, all students completing the course were sent an automated email on the last day of the course requesting that they completed the survey. They then had two-weeks to complete the survey. Prior to taking the survey, instructions and consent information were provided. After selecting the go to survey link, students were provided the questions. They could opt out of the survey at any time by simply not submitting the survey. Students must first be logged into the course management application prior to accessing this survey to prohibit unauthorized access.

The pre-MVCR program survey was available to anyone in the general public that created an MVCR account and logged into the system.   Prior to taking the survey, instructions and consent information were provided. After selecting the go to survey link, participants were sent to the survey. They could opt out of the survey at any time by simply not submitting the survey. Responses to this survey were additionally analyzed by statistical comparison of comparable items from this survey and the post-course evaluation survey.

Chapter 5

Data Analysis and Results

Self-Selection and Social Versus Independent Learning Comparisons

As a method to help center the discussion of this analysis, each section where possible

will begin with vignettes as taken from the researcher's journal that capture the moment. These

vignettes contain experiential perceptions that pertain to the topic of the particular section. The

only exception is the first one, in that it presents a hypothetical account of the researcher's

thought processes of how a student may have perceived registration when presented with a

choice for the first time in this program between two different modalities of instruction.

> *Day Zero: Jane, an instructor at a Midwest Community College surfs a Web browser to http://www.mvcr.org/ after being directed there by a brochure about online education, something this instructor is getting ready to take part in at the given college. She sees a description for the first course in the program, called Online Learning: An Overview. It teaches everything she is interested in learning about before getting started with online instruction at her institution, and it is free at her school. Eight weeks of anytime, anywhere instruction also seems appealing; so she creates a MyMVCR account to get started. Then she selects registration for the desired course. Clicking on a few buttons, she gets confirmation that her registration has been received, but in this email confirmation, she is asked whether she wants to take the course independently or in a social environment. Hmmm, she thinks, one says that there are group projects and student-student interaction. The other says it is self-paced and independent. She wonders which one is best for her.*

The brief story above provides what could be a typical student signing up for the Online

Learning: An Overview (OLO) course through the Making the Virtual Classroom a Reality

(MVCR) program. However, unlike students in the past, she was presented with a new option,

whether to take the course via a social or independent learning model. This vignette is provided

to give the reader a feeling for the student experience at the beginning of the OLO course. This

choice represents something new to students in the program and a decision point for students in

this study. Proper selection into an instructional model that suits the student is hypothesized by some researchers to affect learning effectiveness (Gardner, 2006; Jenkins, 1979).

The reason for this choice is centered on an audience analysis that suggested a population existed for whom an independent course design was desirable. This fact was part of the validation required by the administration of the MVCR research setting allowing this research to take place. This validation came about as part of a pre-study from end-of-course evaluation surveys from OLO participants from the previous 5 years and students completing an end-of-MVCR program survey (Varvel & Tettegah, 2010). In these surveys, although all Likert-scaled results were statistically positive, showing the high overall quality of the course and program, open-ended comments to these questions and short response items showed that while approximately 50% of the total comments were positive towards collaborative or social aspects, 50% of the total comments were also negative towards the same aspects, and these comments accounted for 20% of the total survey responses (since not all surveys contained comments). Students also listed numerous personal barriers such as family, work, time, etc. that inhibited full participation in social aspects of the courses. Further analysis also showed that students significantly favored instructor feedback over student feedback on assignments on both surveys, even though the OLO course in particular was designed around attempting continual student feedback, support, and group synergy. The conclusion suggested that a significant population existed for whom the dominant socially organized modality of instruction utilized in OLO may not have been favored by a large population of students and for whom an independent model of learning may have been more beneficial. Once such an independent learning course was a reality though, did the students still present themselves as wanting it? The simple answer was yes.

Two eight-week sessions of the OLO course used in this research were scheduled for the fall of 2007. Each session contained one section open for enrollment for either independent study or socially organized study. Students first registered for OLO and then selected their desired mode of instruction. Therefore, a total of two independent study and two socially organized study OLO courses or four total courses were eventually offered and studied.

Enrollments in each section and each session of the course turned out to be identical, but more students specifically requested the independent learning sections. For the fall 1 session, each course had 17 active students after the 10th day of instruction. Of those students, 12 in the independent learning section and only 5 in the social section had specifically requested that section. For the fall 2 session, each course had 14 active students after the 10th day of instruction. Of those students, all 14 had requested the independent section while only 6 had requested the social section. No student requested a change of section after the beginning of the course, although a few students noted confusion over the meaning of independent learning after having started that section. Student numbers are reported as 'active' students in that while a non-participating student was automatically dropped from the social section roster, all students were retained on the independent section roster unless they specifically requested removal. However, there was no incentive for them to directly request removal since these students were taking the course free of charge. Students finishing the course with a final grade percentage below 10% were therefore considered inactive and not included in the final enrollment calculations, resulting in the numbers shown above.

Although final numbers were identical for the two course designs, they were not identical in terms of initial registration. The independent sections had a total initial enrollment of 42 while the social sections had an initial enrollment of 46. The maximum enrollment for any given

section of the course was set at 23 based on historical best practices in the program yielding high student and instructor satisfaction. This number was found to result in the best quality discussion in the social section as well as a manageable number of assignments and students' posts for a single instructor (ION, personal communication). Students who did not provide a preference for social versus independent learning were placed into the social sections until these sections were filled, and then students were placed in the independent section since the social section had a longer standing tradition in the program.

The numbers above resulted in a higher retention rate and a higher selection rate for the independent section of the course. Two retention rates could be calculated. The first was the final enrollment compared to initial registrations. This number varied slightly for the two sections, being 68% overall for the social sections and 74% overall for the independent learning sections. Since this retention rate was skewed by the differences in initial registrations due to the assignment process, it was difficult to draw any conclusions concerning these differences. Furthermore, the retention rate in terms of final enrollment versus those actually finishing the course was 100% for both courses (See Table 1).

Still, differences in self selection were statistically significant between the two course options (χ^2(1, N=62) = 29.524, $p < .001$) showing that a significant population of students desired an independent study mode. Overall, 83.9% of the students counted in the final enrollment for the independent learning section had specifically requested that section, while only 35.5% of the students in the final enrollment for the social learning section had specifically requested it . This represented more than a two-fold difference and validated the belief that a population existed for whom the independent section would be desirable. It was not considered endemic to the system as a whole. The higher self-selection rates in this study could be the

Table 1

Self-Selection and Retention Rates for Social Versus Independent Learning Sections

Course	Self-selection	Total initial registrations	Final enrolment	Retention rate (%)	Self-selection rate
Social					
OO0741	5	23	17	74	29.4
OO0751	6	23	14	61	42.9
Independent					
OO0742	12	22	17	77	70.6
OO0752	14	20	14	70	100.0
Total social	11	46	31	68	35.5
Total independent	26	42	31	74	83.9

result of the fact that the independent learning sections were being offered for the first time. Students who previously had refrained from enrolling may have been motivated by the option of the new format, thus temporarily increasing the number.

Selection into one course or the other did not appear to follow any demographic lines. As best as could be determined, the demographics for each course were basically the same. Biography assignment posts and student MVCR orientation survey responses showed that there was an equally wide range of skills, genders, and backgrounds in all sections of the course. Exact ages were not collected for the sample, although it was deduced from the biography assignments that the students tended to be adults over the age of 30 involved in some educational setting. Prior analysis by the program administration involving the pre-program survey (ION, personal communication) also shows this demographic spread to be true of the program as a whole.

Despite self-selection being mandated by the program, a pedagogical assumption of this study included that a successful motivating factor for student success is the ability to self-select learning methodology. However, there were some problems with self-selection. Although no one mentioned anything on the course choice in the social sections dialogue or surveys, two of the students who chose the independent section made note in their course evaluations that they had chosen incorrectly due to a lack of understanding of what was meant by independent (despite an email explaining it) or because they simply made a mistake. The entire purpose of self-selection was to allow students to put themselves into the course that they most preferred. Failing to properly select could result in some students providing a final evaluation below the expected value. This potential must therefore be considered when analyzing any student evaluation data for the independent section of the course. Taking these two students into account

in the self-selection data presented above concerning choice of section and retention did not change the fact that a significantly higher count of students were selecting the independent study. Adjusted numbers show 24 (26 minus 2) students selecting the independent section and 13 (11 plus 2) students selecting the socially-aligned section.

Another potential issue brought up by the instructor in the end of course debriefing was that a few students who were apparently only taking the course as a requirement of their institutions had self-selected into the independent section of the course with the apparent perception that it would be inherently easier or less academically challenging than the standard social section. This was only a perception of the instruction and could not be empirically validated, but still warrants mention. It was also unclear if these were the same or different students from the ones who mentioned in their course evaluations that they had lacked an understanding of what was meant by independent as mentioned above. The two students here took the independent course at the same time and repeatedly did only the minimal amount of work while providing the bulk of the complaining (albeit the total amount of what could be considered complaining was minimal) according to the instructor. When analyzing data in later sections of this thesis, variables were tested with these students removed from the sample set after the variables were found to have significant differences. In all cases, even with these two students removed from the numerical analysis of survey data, all significant results remained, suggesting that this factor did not affect the outcomes of the study.

While several students were unhappy with some aspect of their independent course experiences, some students were happy to have the option to take an independent section. From my experience as an observer of the courses in action, just as there were comments being made by students who did not like some aspect of the independent nature of the course, there were also

clear indications that some students liked them. For example, a few students took advantage of the open schedule of the course and completed assignments before they would be available in the social section. More pertinent to self-selection issues, several students expressed thanks in emails concerning having this option available for the first time. Finally, since this option was not available in later sessions, several students emailed after this study proclaiming disappointment that they had missed the opportunity to take the course independently.

In final analysis, having the option of an independent learning section was well received. There were a surprisingly greater number of students self-selecting into the independent learning section, validating earlier research suggesting that this population existed. The total number of students requesting the independent learning course was 26. Only 11 students requested the social section; less than half the number for the independent learning selection. However, of those self-selecting into the independent section, at least two were doing so based on ill-conceived notions. Although most if not all best practice documents concerning online instruction point to the significance of social learning models, these documents fail to perform a clear cross-analytical study comparing a controlled alternative, but have rather simply shown that social learning models are successful without showing that alternative models are not. Furthermore, they have often taken student needs and desires and limited them to the fact that humans are inherently social beings rather than also having self-determined desires for learning modality. This analysis has shown that such modality choice concepts should however be considered when designing elearning programs, perhaps with the addition of a resource for students to read in order to obtain additional information explaining the differences in the two instructional models.

Pedagogy & Design

Day One: Initially, these courses feel very similar. The welcome message that the instructor sent for each course was basically the same. They were sent at the same time from the same instructor with the same content. The only difference was that one had all of the students in the "To:" field while the independent section message had only one student per message in the "To:" field. When you first login to the course, they initially look the same too. The graphics and the layout are identical. It is only after taking a careful look around that the few differences can be seen, differences that may or may be apparent to a student who only has access to one of the views. The social course has a few more icons for discussion forums and a wiki. The social course also has a Participants box that the independent section does not have. Basically, the extra options for the social section clearly align to social practices such as added discussion and student-student interactions. However, both courses made me feel equally welcome, perhaps because they basically look the same and both contain welcoming messages from the instructor. They also seemed equally user friendly. All of the necessary course information such as the syllabus, technology support, and contact information were available in the same locations. Navigation through content was the same. It will be interesting to see how the students interact with the interface…

Day Three: It did not take long before the differences in these designs became clear. Approximately half of the students have logged into the social course. Many have already started responding to one another in the various orientation activities, especially since these are the only activities available to them at this time. Meanwhile, the independent section is empty feeling by comparison. About the same number of students have logged in, as evident by having instructor level access to the course and viewing the activity log, but when viewing the content from a student's perspective (an option available within the course management system), it is a solitary endeavor. I do not have a total feeling of loneliness because I know that I have the instructor present as well as my own local support network. But within the pages of the course, there is nothing in terms of social interaction. The interactions are mainly student-content with some student-instructor, although at this point it has been instructor to student. In terms of content though, the whole world seems open to me in the independent learning section. Students have access to all of the course content to go at in any order and at any pace they want, as long as they get it done within a given end time frame. Social section students have only the orientation to keep them occupied, but that is setting the stage for future social interactions necessitated by the pedagogy employed by the course…

Day Fifty: By now these courses are definitely different while remaining oddly similar in ways. It is hard to put into words. The social section was buzzing with activity that often came in spurts aligned with due dates, while the independent section had activity spurts in the student-instructor interactions along the same times, this is not really manifested visibly within the course…

The observational journal entries presented above show an evolution in the researcher's perspectives as these courses progressed. When taken as a blank slate, only minor differences showed at the surface of these two courses. Within just a few days, clear differences began to manifest. Then, by the end of the course, with the exception of the content, the two seemed like entirely different entities. For now, we look solely at the pedagogical differences observed between the two section designs.

During the course design as described elsewhere, great care was taken to try to keep each course pedagogically different yet educationally equivalent in terms of content, organization, instruction, and assessment. Only the social aspects, a major pedagogical factor, were altered. The course content, organization, management system, and visual design were identical for each course, but the method by which the students would demonstrate their knowledge was varied due to the changing interaction structures.

As a designer of the course with purposeful intent, my own personal bias of their educational equivalency makes personal comparison of the two sections in terms of pedagogical equivalency difficult at best. Still, to the best of my ability while experiencing the courses in action and observing student and instructor inputs, very little if any noticeable difference was observed in the ability of the students or instructor to obtain similar educational intent via the differing instructional modalities in either section. By observation, analysis of student evaluations, and instructor interviews, various perceptional differences between the two

pedagogical shifts became clear. Although one could construct an entire chapter outlining the

variety of pedagogies in place for these two designs, the purpose here is to bring out the

observations that were apparent in the moment to a participant of the various course designs.

As Table 2 summarizes, many of the course aspects were equivalent. Overall

presentation and look of the courses were the same, creating a similar visual experience for the

students. Students logged into both courses identically and were presented with identical

homepages. The MOODLE ™ (http://www.moodle.org) course management system (CMS) was

used by the MVCR course program and presented the online course in three vertical panes in

which management tools like grade books were to the left, content items were in the larger

middle pane, and communication items were to the right. Each home page began with a

metaphorical online learning graphic and a welcome message in the middle from the instructor

giving any announcements and containing contact information and tools to reach the instructor.

A welcoming atmosphere with an instructor presence was initially created.

The actual course content was mostly the same as well. All of the readings were identical

and presented as links that were all available online with no required textbooks. Each course

module included introductions and summaries provided by the instructor that served to center the

discussion on objectives and then clarified key points of the readings.

The first observable and major pedagogical difference between the two sections was the

availability of materials. Students in the independent section had instant access to all course

content, providing the advantage of being able to work on what they wanted, when they wanted,

in the order that was desired. Therefore, the middle pane of the CMS was noticeably fuller at the

onset of the independent section. Students in the social section were provided access to new

materials on a scheduled basis. Online education advocates often argue for the anytime,

Table 2

Similarities and Differences in Course Designs

	Social learning	Independent learning
Identical	Course management system ; course organization; course instructor; course time frame; assignment due dates; guest lecture; course content; assignment: final project; end of module overview; end of course evaluation	
Different		
Discussions	Mainly student-student;	Only instructor-student
Assignments: discussion / question answer	Discussion-based: answer 1 and discuss 2	Independent: answer 2 and no discussion
Assignment: course evaluation	Group project	Independent project
Assignment: reflection	Public via discussion	Private via journal
Assignment: resource review	Public via wiki	Direct to instructor
Feedback	Mostly student-student	All instructor-student

anywhere aspect of elearning, but the independent model also afforded any order learning, and was therefore more open.

While the open nature of the independent section can be thought of as an advantage, another advantage discussed for online education is the new levels of interaction missed by earlier forms of distance education and sometimes lacking from lecture-based face-to-face education (Palloff & Pratt, 2004). In the social section of OLO, interaction was quickly set in motion that was constantly reinforced and reapplied, from the initial orientation activities to the group projects and discussions. The right pane of the CMS was devoted to communication items. In the independent section, this pane was somewhat absent. On the first day, the difference was somewhat unnoticeable since dialogue had not yet begun, but as that student-student interaction began, the right pane began to quickly fill with recent postings in the social section, and these current events were lacking in the independent section. The student-student interactions were clearly evident in the social section of the course through the continual discussion forum postings as well. At times, one could feel that the students seemed to be garnering enjoyment from the interaction. At other times, to be fair, some students seemed burdened by it. Coming back to the course after two days away and having numerous messages to read before one even gets to the actual prepared course content can seem like one more course requirement that needs to be met. Sometimes the discussion added to the perception of learning, at other times, it seemed to bog down activities. However, my overall experiential observation of the proceedings left me with a feeling that some advantages were gained through the additional inputs by students in a social setting.

Getting more specific, a major activity in each course was the discussion question / question answer activity. Many authors recognize the discussion question activity as an example

of best pedagogical practice in online education, albeit directed to a social course design (Elbaum, McIntyre, & Smith, 2002; Harasim, 2000; Ko & Rossen, 2001; Palloff & Pratt, 2004). This activity occurred continually throughout the OLO course and offered a broad contrast between the two course designs in terms of student interaction and pedagogy. In the social section of OLO, students answered one assigned question and then responded to the posts of two other questions. In the independent section, each student answered two assigned questions independent of any discussion. Rather than an interactive forum, the answers were posted directly to the instructor who then provided a grade and feedback. In the social section, each student had access to the discussion of all questions as compared to the independent section where students were presented with a final answer sheet addressing all of the potential questions. In neither case could it be verified whether the students were partaking in the additional knowledge gathering since one cannot actually see them reading it.

One aim of the social pedagogy was that the ensuing discussion would provide additional learning and reinforcement opportunities for the students, while the independent pedagogy required students to directly address additional questions and forced them to try to provide a full analysis upon initial posting. In observations, each possibility was somewhat realized. The social section students were discussing the questions; however, most of this discussion seemed cursory and there was limited discussion surpassing single response without additional counter-responses. The social section did not reach its pedagogical potential. Communal sharing of knowledge requires multiple students participating in multiple rounds of information sharing on each topic. The independent students did appear to post more thorough answers in general initially; however, the lack of additional discussion sometimes left out additional insights into the answers.

The instructor's activity also varied greatly in the assignment. The instructor was barely present in the social section, as the students were responsible for the bulk of the discussion. The student-student interaction was clearly utilized as the primary component of the activity. In the independent section, the instructor responded to each student, potentially increasing perceived instructor presence. Students were also provided with "best" answers from the instructor that perhaps held more weight than they might in the social section (who did not receive but perhaps should have received the same answer sheets) where student-student interaction may already have increased answer selection bias among participants. The consistently high value placed on student input could serve to undermine instructor authority if a student-led discussion were to result in an answer contrary to the instructor provided response.

The instructor brought out another primary pedagogical difference between the two sections on this assignment from his perspective. He stated, "Historically, I have attempted to tailor the assignment of DQs to the students based upon what I learn about them during the course discussions." In other words, the social activity in terms of student-student discourse in the social section provided the instructor insight into the student's desires, personae, and background knowledge. This information was then used to help personally assign initial posts in the discussion section to areas that might be of most interest to the students. In the social section, this placement was enhanced throughout the course based upon the instructor's current perception of each student. Pedagogically, the instructor felt that this worked out better for the social students since they could be given questions more directly in line with their interests. However, he wasn't sure how much it mattered in the end, since the biographies tended to provide enough information even in the independent sections to make relevant determinations of which questions to assign to students at the start of the independent learning courses. One could

also expect that the instructor would get an improved feel for the independent learning students as the course progressed as well. While the instructor thought that this method could improve student satisfaction in the social section by directing some questions to their desires, it should also be noted that it could also limit the student learning into areas outside of pre-existing expertise at the same time.

The next activity within the course of pedagogical note involved the annotated bibliography activity. In the social section, the activity was performed using a wiki with students directly posting their references collectively with notes to the instructor. In the social case, students could quickly create a co-produced annotated bibliography document. The independent section students instead posted their bibliography directly to the instructor each module. They then waited until the end of the course when the instructor provided them with a compilation of resources. The final outcome in terms of product was basically the same, but the process was very different. According to the instructor though, "I see no inherent pedagogical advantage in using a wiki for the purpose rather than threaded public discussion postings. The MOODLE ™ wiki is flaky and unstable…" This comment seems to be more against the technology than the pedagogy and could be a situation of techno-frustration. The clear advantage was that a single, final document could be collectively created without overlap and taken away by the students when they worked in the wiki. The comment also points to a possible student issue for them not properly following directions. The instructor continued, "I've had problems with some individuals posting in random physical locations […] individuals have wiped out others people's postings through personal incompetence. Then I have to take the time to do a rescue and reconstruction." The end result was additional work for the instructor to keep the product 'clean'

for the social students, while he only had to compile documents through cut-and-paste for the independent section.

The next assignment analyzed was possibly the most pedagogically divergent between the two sections. Each section contained an exemplary course evaluation assignment during which the students would apply the Quality Online Course Initiative (QOCI) rubric to a course ranked as a WebCT Exemplary Course and include comments demonstrating their understanding of key design issues taught so far in the course. The difference was that the social section students completed this assignment in groups of 3-5 while the independent students completed the assignment individually. Also, the rubric for the independent section required that only one section of the evaluation rubric be completely addressed and other sections only in a general sense, while the social section students, due to the fact that they could divide up the work, were expected to address every section of the rubric thoroughly. In theory, each student would demonstrate in depth understanding of at least one section of the rubric while being exposed to all of the other sections.

It was difficult to assess whether this activity proved itself as a pedagogical advantage, disadvantage, or just as a difference between the two courses. From the independent course perspective, there was little to observe. This lack of observable activity made it perhaps the quietest period during the course. The students were probably at their busiest in terms of the amount of work that they had to complete, but at their quietest in terms of the amount of posting to the instructor until they actually had to post the assignment. On the contrary, it was the busiest period in terms of postings in the social section as the students had their regular assignments on top of the group assignment, which required group organizational activity.

Clearly, the group project could not be described as a pedagogically exemplary collaborative assignment however. When looking at the dimensions that Spada, Meier, Rummel, and Hauser (2005) lay out for assessing the quality of the collaborative process in computer supported collaborative learning, one could see that nearly all of the quality dimensions are missing from the student-student interactions observable within the group process in OLO. This case study did not measure the collaborative process, in part since there would be no comparison between the two modalities of instruction; however, it was clear upon observation that only one of the four groups in the second session, for example, showed any signs of reaching consensus. In that group, they posted their work to the group forum for peer review prior to consolidation and final submission. None of the groups showed any strong signs of shared task alignment. For example, in the one group where a student failed to complete his/her section, the rest of the group simply left that section incomplete. In fact, the only dimension shown by all group was task division in that all groups used an initial post to divide the work and then proceeded to complete the work individually. Despite its shortcomings though, at least the social section students had the opportunity to become exposed to an online group project, which whether a positive or negative experience was nonetheless an experience that the independent learning section students lacked.

Another activity of pedagogical note was the reflection exercise. Once again as in other activities, the social section utilized a public forum within which to post key points. In this way, they could see what other students were experiencing and perhaps comment on other student's activity. The independent section students wrote their reflections using a journal activity. The instructor required activity was equivalent for each section since he came in at the end and provided a grade. He did appear to provide more comments in the independent section, but this

is not a reflection of the potential for each pedagogical alternative, but rather its application. In observation, the social section did not appear to take advantage of the social nature of this activity. Very little if any discussion occurred in this activity and only rarely did a student post a comment on another student's reflection, although that was not necessarily within the goals of the activity. Of course, the presence of the other student reflection still affords the social students the opportunity to read what other students are thinking, even if they did not comment on it. Such cross-posting was not a graded requirement in the social section. At the same time, the independent section students went beyond the expectations of the rubric for their activity in a few cases. A pedagogical advantage became apparent as a few students utilized the reflection activity journal to provide more than a module-based key points post, but instead provided an evolutionary tale of their knowledge development, sometimes with two to three posts for each module rather than simply the required single post. The instructor would therefore gain the advantage of seeing an evolutionary tale of the student's knowledge growth.

The discussion so far centered on pedagogy shows that the two courses were strikingly different in type of activity and in instructor activity. Advantages and potential disadvantages of each mode were present. At times there were aspects that might not have been within pedagogically "best practice" parameters according to some online theorists (Palloff & Pratt, 2004). Some might argue that the social section group project never truly was a group project but was rather a divide-and-conquer project for instance. However, the students were still exposed to such a project. The social section course was also clearly social in nature. The constant forum postings and student-student interactions were testament to that fact. Many posts were of a social and non-content basis as well in that section.

As a final personal reflection, while the core learning content of the two designs may have been the same, experiencing these two designs presented two clear pedagogical shifts. The two instructional designs led to entirely different emotional and interactional experiences that may or may not have led to different educational outcomes. These outcomes are discussed in the next sections of this chapter.

Student Learning and Demonstration of Knowledge Through Activity Analysis and Observation

> *Day Fifty Six: Throughout this experiment, I have tried to keep an eye on all of the content moving from the students to other students or the instructor with attention paid to demonstration of knowledge. However, at this point, I am just not sure. Clearly there are differences in activity. The independent section just feels quiet since all of the interaction is one-on-one. It is also hard to tell at this point how effective all of the social interaction was at delivering content since it was often more social or directorial rather than instructional or content-aligned in nature. Clearly there have been times when the student-student interaction has added to the discussion and perhaps led it to areas it would not have gone otherwise, but at the same time, when I observe the actual content that the students are turning in, there is very little difference in terms of basal quality level, and perhaps more work is done per student that directly demonstrates knowledge in the independent section. The feedback provided in the independent section also seemed more thorough. However, something tears at me wondering whether there is anything significantly different in terms of end knowledge gain by either group of students. I am left now to undertake a more careful analysis of the student work and dialogue in order to help uncover what my initial perceptions may be missing.*

Perhaps the question that the majority of people find most interesting and also one of the most difficult questions to answer was what affect the differing designs in this study had on student learning. In other words, in the presence of student self-selection, was there an observable difference in student learning between guided independent study and socially organized study where course content, instructor, medium, and timing were the same? At the end

of this study, one is left to question whether the two courses succeeded in being academically equivalent or whether one course design succeeded where another one failed or performed less well. The brief journal entry above highlights how difficult these questions were to answer in the moment of experiencing these courses.

Learning is by definition a change in behavior or knowledge. In elearning, as an observer, although one loses the ability to physically observe moments of enlightenment by students, one gains a continuous record of the educational process that is stored for retrospection in the text of the course. An observer is not visibly able to see the students or the interactions taking place. Observations are not even occurring at the same time as the text entries entered by the students. One can't directly experience 'ah ha' moments by students or always engage them in real-time discourse to quickly discover their deeper understandings. One has to draw this understanding out from the context of the whole, after the experience has occurred. One then realizes that one is only looking at an endpoint without a beginning. An understanding begins to unfold of what the students are showing concerning their knowledge representations if an observer takes the time to review the course record.

Some change in student understanding over time became apparent during this research, but the OLO courses were only eight weeks in length, and no pre-tests were conducted with students who were already shown to be from an educated demographic. Therefore, what these observations were really recognizing were demonstrations of knowledge rather than learning. One could then contextually place these demonstrations of knowledge for comparison between the socially designed and independently designed modes of elearning. Then, through reflection, differences could be seen within this continuous online course record.

Upon continued introspection, one realizes the difficulty delineating differences in student demonstration of knowledge due to the mode of instruction. These two courses resulted in experiences that were so different in terms of interaction and organization of the interactions that did occur that it was difficult to clearly draw parallels and intersections in knowledge without looking at assignments specifically. Overall one leaves the experience feeling that students in both sections had demonstrated their knowledge adequately to pass the course, with a greater range of quality in the independent section but more social interactions blurring knowledge acquisition somewhat in the social section. One is therefore eager to see what further analysis might reveal about the truths of overall impressions and the hidden aspects waiting to be discovered.

One can begin to look at student knowledge by analyzing the actual work being conducted by the students. Keeping in mind that there were the same numbers of students in each section, that the timing, instructor, and overall content of the courses were the same, and that the student populations were equally diverse, student performance in the two courses should be relatively equivalent if the two course paradigms are equally effective.

Discussion question versus direct question activity. To begin questioning demonstration of knowledge equivalency, all discussion question dialogue in the social section was compared to all of the question assignment posts and feedback from the independent section of the first session of the course with particular attention paid to the second module. The second module was highlighted because by that time in the course, the students were familiar with the parameters of the exercise, and that module does not have other major projects such as the group project of module 3 or the final project at the end of module 4. Sections from the first session were used because only during that session did this researcher have continual access to the

course content during this activity, however qualitative comparison across the two sessions present a holistically similar looking range of work.

The analysis began by looking at a qualitative level at the content of the information being shared. All posts were taken into account from the social section discussion question activity compared to all answers and instructor responses in the independent section. There appeared to be a few differences in the content of information between the two sections in several fields, although for the most part, they were the same. For example, in terms of similarities, in all sections the grammar, spelling, and perceived lexical level seemed similar within responses overall (a thorough analysis of lexical level was not performed, but the impression existed by observation during the case study that they were basically the same). Likewise, because the questions directed the type of knowledge displayed, it was no surprise that there were equivalent instances between the sections of descriptive recitation of information versus evaluation of information. In other words, the question asked dictated the type of answer. If the question asked for the student to describe a concept, then the concept was described.

For any given answer or discussion thread, a student might also choose to provide answers containing information from course content, personal experiences, or both. Clear indicators within a post coding an item was coming from the content included, "[author] indicates", "according to our readings", "in our readings this week", etc. Indicators of personal experience included "Last night I attended my first f2f podcast …", "I do this by posting certain questions and asking for responses …", etc. A few questions were predispositioned towards course content or personal experience, but in general, student responses tended to pull from both sources independent of the question. Furthermore, a student who answered one question from personal experience would not necessarily answer another question from personal experience,

and likewise, a student who answered a question using a direct indicator of course content would not necessarily use a direct course content indicator in other posts. Interestingly, all three types of answers appeared in similar proportion for each section (4:7:6, content: personal: both in social; 3:8:6, content: personal: both in independent section).

Embedded within an answer or discussion thread, examples could be provided that directly related to practice or empirical research versus purely theoretical responses or both. The aspect of an instance within a thread that coded it as hypothetical or theoretical was that it linked to a theory in the readings or that it presented itself as a theory to explain a behavior. For example, a student stated, "The lurker may be helped with other tools such as 'teacher immediacy' as shown by…" A student defending a position based on explaining a behavior includes, "I think the instructors who have the most difficulty making a transition to online facilitating are those who feel threatened by giving up total control of the learning environment." Once again, the proportion of answers was approximately the same for both sections (7:6:4, research:hypothetical:both in social; 6:7:3 in independent). So in many respects, the answers demonstrated the same level and types of knowledge representation.

Differences began to appear when comparing whether answers were concrete versus abstract. Here, concrete and abstract are indirectly referring to "by observation" or "by definition" as defined by Gagne (1985) in that an entry was coded as concrete when it referenced an empirical observation, and an entry was coded as abstract when it referred to a belief that did not provide a rationale. When a rationale was provided, the item was coded into the theoretical/hypothetical category. An example abstract post stating a belief lacking evidence or rationale included, "I believe that it is important for online students to have this [housekeeping] information as well" when answering a question concerning ideas for making the classroom a

comfortable environment for students. Each section had equivalent instances of concrete

responses to questions (14 social: 13 independent). The independent section had more instances

of abstract or hypothetical principles or 'I think' type responses though (4 social: 8 independent).

The difference was enhanced by the fact that more independent students included answers that

contained both elements (1:4, social: independent). Despite what appeared to be an open

environment in the social section where students continually posted social comments, the

students seemed less willing to post their beliefs. It could be that they felt a lack of an ability to

provide clear evidence to defend their proposition left them unwilling to post an unsupported

statement with which someone else could potentially disagree.

Moving away from the actual content of the posts for a moment, differences continued

when looking at the amount of information posted.   In the social section, of 109 posts in 16

threads (6.8125 posts/thread) for this activity the instructor accounted for 12 posts having 2 posts

in 1 thread and 0 posts in 5 threads resulting in 11.0% of posts being the instructor's and 7.4% of

all words posted. A total of 15,850 words were posted. After taking out the extra words put in

by the Course Management System (CMS), there resulted an average of 125.4 words per post.

Each student posted a total average count of 715.5 words when taking discussions into account.

By contrast, the instructor contributed 17 posts in 17 threads with 34 total posts (2 posts/threads;

50% instructor) in the independent section. Furthermore, 16.4% of the total words posted were

the instructors, and 13,687 total words were posted in the independent learning section. After

taking out the extra words put in by the CMS, it resulted in an average of 382.5 words per post or

more than 3 times the number of words per post per student as in the social section. If only the

17 student posts were counted, the average was 672.8 words per student post. Therefore,

students in the independent section posted more information or words in their initial responses,

but more total words were posted by each student in the social course. However, this information in the social section was also spread out over more topics with more social content such as "good job on…" and "I agree with…" posts that may not contribute to the same degree of critical thinking.

Continuing the discussion analysis for the social section, each student posted in 3.8 threads on average. They were required to post in 1 thread as an initiator and two additional threads as a responder. Two students did not meet this requirement, 5 students posted in 3 threads, 5 students in 4 threads, 4 students in 5 threads, and 1 star student in 6 threads. Looking at the timing of the Discussion Question / Question (DQ) posts, students tended to respond to whichever question was currently at the top of the topic list when they logged in to post their own initial response. The stars tended to respond to several posts at this time. Only 2 students posted to several threads over time. The end result was that although it was supposed to be a discussion forum where student explore other's posts, it tended to be a forum where students would answer their question and then only interact with the other questions that they were interested in at the time of their initial posts. The level of knowledge when demonstrated could be excellent; however, there was no indication that students were exposed to all of the discussion items or all of the module content, nor that they were taking full advantage of the discussion aspects of the course. Also, the number of posts per student was 5.7/student. This number results in only 1.5 posts per required thread (since each students posted in 3.8 threads on average from above), which does not appear to be a true conversation but merely a response and counter-response.

A premise of this research was to compare a social design to an independent course design; however, the implementation appeared to be lacking in this exercise in terms of this data

although the content of the posts and general social demeanor that text took when a student would bring in personal information into a post or provide positive reinforcement to another student suggested that social aspects were occurring.

Returning to the meaning within the posts, these words need to actually demonstrate content understanding. One should question what the actual post contents said about the level of knowledge demonstrated within a given domain or the thoroughness of answers. When looking at demonstration of content acquisition in terms of actually answering the question and how thorough the answer was, a difference was seen between the two modes of instruction. Each answer for each question in each section was compared against the 'standard' answers provided by the instructor. The initial post and the entire thread for the social section or the single post for the independent section was rigorously applied to the course grading rubric for the assignment and compared by the researcher and instructor (only researcher scores can be shown due to program guidelines, see Appendix E for rubrics). Criteria in the rubric included: well-developed ideas, introduces new ideas. The criteria were set forth as follows: (5-6 pts); clear evidence of critical thinking-application, analysis, synthesis and evaluation. Postings were characterized by clarity of argument, depth of insight into theoretical issues, originality of treatment, and relevance. Sometimes include unusual insights. Arguments are well supported. (5-6 pts); Posted before deadline Standard English mechanics and grammar were used. (4 pts).

To begin, 8 out of 17 initial posts (almost half) in the social section did not demonstrate content knowledge, based on the rubric. Examples included providing an answer that only drew from what the individual knew from prior experience without contextualizing it to the content, answers that were speculative, or answers that aligned somewhat with the readings but were incomplete. If an answer included only items from personal experience and hypothetical

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discussions for example, then there was no indication of content acquisition. As an example, when answering a question concerning how to get quality student postings in an online course, one student responded, "I do this by posting certain questions and asking for responses." There was no reason why this activity should be done or why it would be a quality assignment. No depth of insight into theoretical issues was presented and no originality of treatment or support of the argument was included. One additional answer was substantive and accurate; however, it did not actually answer the question that was asked but rather another question entirely.

The pro of the social section was that the discussion thread could sometimes bring out additional aspects of the issue. Each post was categorized by whether or not it was educationally substantive, non-substantive, off-topic, or purely social. A substantive post included any initial post that answered the question demonstrating content understanding plus any additional posts that added a missing choice or concept with a rationale or that added a new idea or context that was on the same topic. The item was scored per the entire thread, not per post, so a single post could be substantive by providing a substantive contribution as outlined above and therefore contributing to the final rubric score. When analyzing posts in the discussion forum for the social section, 41 of the total 109 posts contained substantive information in terms of the given educational content. An additional 21 posts were educational in terms of applying the concepts studied in the course but were off topic of the actual question supposed to be answered in the thread. Another 34 posts, which included one of the initial student answer posts, were non-substantive in terms of content. These posts were simple 'I agree' statements, provided an example that was identical to one already presented, provided a restatement of what was already said without adding anything new, or provided a new item to a list without explanation or based solely on personal feelings without a clear educational rationale. In other words, this group of

posts didn't add anything substantial or new to the content of the discussion. One post was purely social in nature. The remaining 12 posts were from the instructor. None of these were substantive in nature, nor was that intended. These instructor posts either redirected questions, provided acknowledgement or reinforcement, or presented new questions. Surprisingly, the instructor at no time provided a summary answer to any question. The end result of the above analysis is that only 41 posts or 37.6% of posts actually directly addressed the question being asked, and 56.9% were either substantive or educational in some respect in the social section. When one then observes at every question that was answered in the social section and asks over the entire thread how many questions were answered at a level consistent with the highest level of the rubric, one could be surprised to see that only 12 out of the 17 threads or 76.5% contained answers that attained a rubric score of 14 or higher.

Overall, the independent students provided better initial responses. The independent section showed only 5 out of 17 students providing responses that did not demonstrate acquisition of content knowledge on at least one of the two questions posed. Unlike the social section, the independent section students each answered two questions since they did not have to also participate in the discussion of other questions. There was also no discussion but only an initial post to the instructor. Only 6 of the 34 total questions addressed did not show clear demonstration of content knowledge. Only 1 student provided non-substantive responses to both questions posed while 12 provided substantive responses to both questions posed. Also, unlike any of the instructor posts in the social section, the instructor posts in the independent section always provided direct feedback to the answer and in some cases a corrected response. In the social section, the instructor failed in a few cases to provide feedback in cases where thorough

attention to the question was lacking. In the end, 26 out of 34 or 82.4% of the questions were

answered with a rubric score of 14 or higher in the independent learning section.

Each student in each section could gain exposure to other questions beyond those directly

participated in, whether through reading the final instructor prepared answer sheet in the

independent section or reading the sum total of all discussion forum posts in the social section.

Herein lays a subtle difference in the analysis of potential content exposure. The answer sheet

provided by the instructor in the independent learning section delivered thorough answers to all

questions. The discussion found in the social section did not always reach such a level.

Furthermore, there were 20 questions for 17 students, and there were 4 questions that were never

addressed by the social section (2 students were assigned the same question) meaning that at

least 4 content points received additional attention for the independent section. Since more

questions were directly asked of each independent section student and the final instructor

compiled answers were of higher quality, it was possible that the independent section students

were exposed to information addressing more concepts at higher quality. As a corollary, in the

second session, the instructor suggested providing the compiled answers to students in each

section, but then he did not follow through on this suggestion.

Summing up the findings from the analysis of this assignment (See Table 3), the

independent section students did a better overall job of demonstrating their knowledge on the

question activity. In many ways the responses were similar, but in a few distinct ways, the

independent section demonstrated more. The independent section students had a higher

proportion of substantive answers. The answers provided were more comparable to 'standard'

answers provided by the instructor. The answers also had a slightly higher percentage of both

concrete and abstract thought. The social section students posted more total words than the

Table 3

Discussion Question Versus Question Activity Comparison Summary

Aspect	Social	Independent
Grammar, spelling, lexical level	Equivalent	
Content driven : personal experience driven : both	4 : 7 : 6	3 : 8 : 6
Practice or research directed : theoretical : both	7 : 6 : 4	6 : 7 : 3
Concrete : abstract : both	13 : 3 : 1	9 : 4 : 4
Average total words posted per student per period	715.5	672.8
Posts containing substantive knowledge demonstration or educational content (%)	56.9	82.4
Initial post demonstrated content knowledge (%)	52.9	82.4
Full thread demonstrated content knowledge (including instructor posts (%)	76.5	100.0
Observable question participation per student	3.8	2.0
Posts per student	5.7	1.0

independent section students, but these words contained more non- substantive or off-topic items. The only factor that favors the social section results from the participatory nature of the activity. By design, social sections students were required to participate in 3 threads thus demonstrating participation in at least 3 questions. In practice the average was 3.8 discussion threads per students, which means 3.8 content items participated in per student, but a post could have been social in nature. Independent section students only observably participated in 2.0 content items. However, only 16 questions (17 students were asked 16 different questions) were addressed by the social section in all compared to 20 for the independent section.

In the end, although two students in the independent section provided at least one response of the lowest quality, the overall quality of the independent section student posts (82.4% substantive) was higher than the social section students (56.9% substantive) leading one to initially conclude that the independent students were demonstrating more knowledge acquisition through this activity. Overall knowledge may be similar between the two methods; however, since comparing the full thread demonstration of knowledge in the social section (76.5%) was close albeit smaller to demonstration of content knowledge (82.4%) by the independent section prior to instructor posting.

But the independent sections students did not have to wade through social discussion to access this content and they appeared to be more directly relating content information to the instructor. The modality of the interaction was one of student-instructor where the student is concentrating on demonstrating what s/he knew in the independent section. The instructor also provided posts to all students that gave direct content feedback. On the contrary, in the social section there was a sense that the important interaction was the student-student relationship. The students primarily provided reinforcement and feedback with the instructor primarily providing

redirection and reinforcements. Furthermore, the students' scores received on the assignment reinforced continued behavior in both sections in the same manner. Continued participatory observation in the course gave a continued impression that the students continued to behave in the same manner of achievement in future modules.

Course evaluation activity. The next assignment analyzed was also the most divergent pedagogically between the two course designs. As described previously, each course section included an exemplary course evaluation project; however, the social section students performed this activity in groups while the independent learning section students completed the assignment on their own. Other assignment differences were described in the previous pedagogy section.

The course evaluation activity was processed in several ways. Initially, the activity was observed as it occurred. In so much as it was occurring, there was nothing to observe in the independent section. It was the quietest time of the course. The students were at a time when there was a time lag between due dates. This same lag existed for the social section students; however, activity was still necessary due to the social nature of the other activities such as the discussion questions and article annotation activities, but also the early requirements of the group activity. Before any group activity can begin, the group must come together and align to the task, get to know one another, assign tasks, etc. Of the dimensions that Spada, Meier, Rummel, and Hauser (2005) lay out for assessing the quality of the collaborative process in computer supported collaborative learning though, very few were present in the social section early dialogue. Coordinating communication was mostly handled by the asynchronous course management system. Primarily task division was sought in these initial conversations. Only one group showed signs of reaching consensus when deciding on a format for the final report, but this did not necessarily affect the final content in a critical manner but rather how it was

organized. What was seen was a divide and conquer strategy, but it did create a social

atmosphere in the course involving student-student reliance albeit without student-student

interaction necessarily between the initial task dispersal and final bringing together of the

evaluation parts.

Each evaluation was secondly skimmed as it was turned-in by quickly reading to evaluate

quality. At this time, a couple of noticeable similarities and differences were seen between the

works from different course designs. At this point make note that the requirements for the

assignment were modified for the different learning modalities to reflect the differences in the

assignment. Since the independent learners completed the assignment individually, they were

only required to go into a high degree of depth for one section of the assignment instrument,

while the social section groups were expected to go into a high degree of depth for the entire

instrument. However, when looking at the final products, the independent learning students

tended to complete the entire assignment at a level similar or higher than the social section

students. It was expected that an obvious difference in favor of the social section would be seen

due to the increased expectations on the group assignment, the division of labor, and the

potential for synergy among the group participants, but that was only the case for a few parts of

the evaluations. Furthermore, the students in the independent section were more likely to adhere

closely to the provided QOCI evaluation instrument as described in the assignment. In other

words, from a single glance at the evaluations one could see that the social section students

looked at the QOCI instrument as only a guideline to follow when completing the evaluations

while the independent section students saw it as the format to be used in the final report in most

cases. Although in retrospect the assignment could have been clearer on the final report format,

it was clear on usage of the instrument. Students in the social section also did not provide an

overall analysis with a scored rubric. The final analysis was based entirely on text-based

discussion without a numerical analysis that was clearly present in the QOCI instrument. Once

again, the independent section students were more likely to adhere to the instrument. On initial

viewing, the independent section's students appeared to be completing this assignment in closer

adherence to the anticipated outcomes.

Thirdly, to assess whether students were actually doing an equivalent amount of writing,

which links to knowledge demonstration, total word counts were assessed for the products. For

the social section, the word counts of the final assignment ranged from 1,069 to 3,043 with an

average response length of 2,099 words per group. When looking at individual contributions,

each student contributed 524 words on average to the final evaluations. For the independent

learning section, the word counts of the final product ranged from 868 words to 3,335 words

with an average response length of 1,694 words per person. This number resulted in each

student from the independent section contributing more than 3 times as much total content to the

course evaluation project. While this result does not measure quality, the independent students

were completing more work despite having less expectation placed upon them.

Next, to assess whether students were demonstrating an equivalent level of knowledge

demonstration by completing this project, each assignment was rigorously applied to the

supplied course grading rubric used by the instructor and further analyzed (See Appendix E for

rubrics). This rubric was supplied to the students within the course management system and was

available prior to beginning the assignment as a guide to its completion. The rubric grades the

assignment on mechanics and detail (5 points social/10x2 points independent), group cohesion (5

points social section only), individual participation and contribution (10 points social section

only), application and suggestions for improvement (5 points), and critical thinking depth and quality (10 points social/10x2 points independent).

When looking at mechanics and details, none of the reports showed any major spelling or grammatical errors. No clear differences were seen to warrant deeper lexical analysis. All of the reports were also adequately organized. However, even though it was provided for them, twenty-five percent of the groups in the social section while 18% of the independent section student did not clearly follow the QOCI evaluation instrument. The categories within the instrument were generally followed, but the layout of the instrument was not used in the final report. In one evaluation for the independent section, the overall organization of the evaluation was random and poorly constructed with topics referring to other topics that were not next to one another, reducing the mechanics score. Mechanics suffered in the social section more from a lack of editorial input. Final reports were clearly spliced together in at least two cases. One group simply put their own names on each section that they did and pasted them together. For another group the quality in terms of aspects such as critical thinking was clearly divergent among sections creating clear demarcations across sections. Scoring within the social section groups was 3, 4, 4, and 5 for an average of 4.0 and the independent sections scored 2, 4, 4, 4, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5, and 5 for an average of 4.6. Overall, the students in the two sections were similar in terms of mechanics and details except that the group scoring was hurt by the disjointed reports.

A large observable difference between the two sections appeared when looking at the application of course information involving suggestions for improvements of the evaluated course. In the social section, one group provided absolutely no clear suggestions for improvement or had at most one or two comments that might allude to potential improvements

despite multiple members who could have noticed this omission. Of the others, one group stated in their conclusion that they found areas for improvement, but only one clear example could be found in the report itself. Another group provided suggestions for improvement, but all were presented in a negative rather than constructive tone and most were not pedagogical but mechanical in nature involving color choice or font style. On the other hand, the other group provided very good constructive suggestions on both technical and pedagogical issues in a clearly designated section that earned full credit. For example, they suggested to, "Provide detailed information on instructor availability to enhance student-instructor interaction." This suggestion stated what to do, why to do it, both are valid, and it was presented in the appropriate section of the evaluation. By comparison, 4 evaluations analyzed in the independent section scored as poor due to a lack of rationale, context, or clear direction, but all had some sort of suggestion. Of the rest, 11 were included in their own area and 4 addressed issues at the highest level. These suggestions linked to rationales and were presented in the appropriate location. For example, when discussing the section of the QOCI instrument area on student evaluation and assessment, one student provided the following pedagogically valid suggestion for improvement and placed it in a positive frame of reference. "The instructor does communicate a great deal about what the assignments are and how much they are worth, however, the instructor does not state how, when, or what kind of feedback will be given based on these assessments. While the instructor is available for communication, I think stating these assessment feedback standards up front will encourage greater teacher-student communication in the course." Several comments such as these would earn a score of 5 from the grading rubric. Overall, the scores in the social section were 0, 2, 3, and 5 with an average score of 2.5, and the scores for the independent section were 1, 2, 2, 2, 3, 3, 3, 3, 3, 4, 4, 4, 4, 5, 5, 5, and 5 with an average score of 3.4 or almost

one point higher than the social section. Basically, the independent section did a better job on average providing clear suggestions for improvement with pedagogical rationales that demonstrated acquisition of course content.

Another clear difference involved providing actual scoring within the QOCI instrument as mentioned earlier. The QOCI instrument was designed to allow the evaluator to give each aspect of the course a descriptive and numerical score. Seven out of 17 of the independent section projects included numerical scoring per the QOCI instrument. None of the social section groups provided a numerical score. In careful analysis of the assignment as written, it may not have been clear that the students were to provide a numerical score, but it was interesting to see that only students in the independent section decided to provide such a score. In fact, the social section students in no case returned a QOCI scored instrument, but instead only used the instrument as a guideline to organize their evaluations.

The largest part of any single rubric item towards the grade was critical thinking. To analyze critical thinking for this study, two items were simultaneously considered. First, were all of the items of the evaluation rubric addressed in a clear manner? The rubric scores a 10 for critical thinking as "Reviewed course in depth and applied criteria in the selected rubric. Demonstrated a high degree of critical thinking and ability to apply the concepts in a practical manner." Items underlined indicate a difference from the next lower grade item. Critical thinking was defined based upon the criteria of the National Council for Excellence in Critical Thinking in 1987 to include clarity, accuracy, precision, consistency, relevance, sound evidence, good reasons, depth, breadth, and fairness (Foundation for Critical Thinking, 2009). Critical thinking for this analysis was secondly addressed by asking, did the evaluation include a clear rationale for the items addressed? In this way, the rubric was being applied in a strict sense so

that any analysis within the QOCI instrument must not only apply the concept, but must include a rationale for any application for highest marks. These scores were taken holistically over the entire document and were not required of every instance.

Beginning with the social section group projects, two groups provided very good analysis of the QOCI criteria with adequate rationales throughout although one of the groups did not clearly follow the provided QOCI instrument. The other groups provided good criteria analysis for the most part, but were sometimes very brief and at least half of the time lacked any rationale for the evaluation. One problem of assessing these assignments was that since they were conducting a group assignment, unless everyone in the group performed at the same level, clear differences in quality would exist in different sections of the final report. For example, the following statement shows no critical thinking. "Copyright and fair use laws were followed in this course. There is a link to netiquette standards for students to view within the course syllabus." The rest of the section around this statement was the same and simply contained declarative statements of what the course does or does not have per the QOCI instrument. In the same group however, under communication, interaction, and collaboration was the statement, "In general, tasks were clearly defined in terms of what was expected, due dates for projects, and grading criteria…There was no indication that the instructor would be available to comment on responses or to help guide questions…Assignments in general appeared to be that of data collection without a lot of exchange of ideas." The response was truncated for space, but clearly one could see an example of critical thinking from the same project but in another section that was written by another student who was showing a higher level of work. Another project provided entries that all fell somewhere in the middle where they were informative but did not tell why the statement was true, important, or led to a positive score on the evaluation. The entry

therefore showed little critical thinking but was valid in terms of evaluating the course.   For

example, one stated, "The instructor provides all pertinent information, explains grading policy,

the technical competency needed to complete this course and provides a calendar of important

dates. The student is also able to gain a clear understanding of the content of the course from an

initial browse of the material." It would appear in the end that at least half of the students in two

of the groups, meaning 4 to 6 students were clearly not demonstrating a high degree of critical

thinking in this assignment in the social section. The overall scores based on the in-course rubric

for the social section were 7, 7, 9, and 9 with an average score of 8.0.

To the contrary, critical thinking appeared to be slightly more prevalent in the

independent section on average. For example, when describing student evaluation and

assessment, one student wrote,

> The tools provided include both informal and formal assessment and a weighted
> assignment value system. These tools provide appraisal, rate of learning, and a guide to
> future opportunities…Just as in design; thinking has a defining portion, a practice
> segment, then an application component. The applications section has the heaviest
> weight as this is the indication of learning and comprehension. There is a good link
> defined between theory and practices, examples to support the theory and shared thoughts
> that goes beyond the descriptions of the information…

Continued discussions of this level including a discussion on whether or not the student could

understand how to measure the application of a theory demonstrated higher order critical

thinking in this case. Furthermore, rationales were provided for each rating within the

instrument. Only 1 of the 17 independent section students provided a project that coincided with

the lowest level seen in the social section. Four out of the 17 independent section evaluations

scored a 10/10 regarding critical thinking, while none of the social section groups scored higher

than a 9/10. The overall scores for the independent sections for critical thinking were 7, 8, 8, 8,

8, 8, 8, 9, 9, 9, 9, 9, 9, 10, 10, 10, and 10 with an average score of 8.8. Interestingly, even though

the social section group project should provide an opportunity for those with higher order thinking and writing skills to make up for those lacking in the group, the final products did not demonstrate this potential. Instead, the clear lack of critical thinking in one or more sections generally brought the overall score down.

Group cohesion was a major portion of the grade in the social section, and although it was not present in the independent section, it deserves mention. Yes, there was demonstrable group work being conducted in the group forums within the social course. However, these discussions appeared to basically be utilizing a divide and conquer methodology. As mentioned earlier in the section on pedagogy, only the group process dimension of time management was shared by all groups where they would come together to decide who would do which section of the rubric. Each person would then complete the rubric in isolation. In no case did a group observably assign any overlap for comparison. Although some students posted their sections early enough for others in the group to review, such review dominantly consisted only of positive 'good job' type replies. If it was true that students were only applying the instrument to the aspect assigned to them in the social section, then independent section students who were applying the entire rubric were being exposed to more instrument aspects and potentially demonstrating more content acquisition by completing the entire instrument. Of course, the social section students were having the opportunity to be exposed to online group work and were able to demonstrate their task management ability.

Initially, as these assignments were turned in, it did not appear that there were major differences between the sections. The constant monitoring of the group forums and the student-student exchange provided for a stronger presence of the work flow in the social section. It was not until a closer analysis of the final products was performed, that demonstrable knowledge was

seen to shift more towards the independent section students. The independent students tended to contribute up to 3 times more total content per student by the end of this project. The independent students also did a better job providing clear suggestions for improvement that included pedagogical rationales. Furthermore, the level of critical thinking demonstrated in the independent section was higher on average. All of these findings are made more surprising by the fact that the expectations placed on the independent section students were lower in terms of the requirements of the assignment.

One important corollary to consider though is that while the independent students were demonstrating more in their final products, the very fact that the social students were participating in an online group exercise meant that they were being exposed to an aspect of online education that the independent learning students were not. For this reason, the social section students would presumably be better prepared to implement and assess such an activity in their own practice than the independent section students.

Final project. The assignment analysis continued by looking at the culminating project for the course. The final project represented an assignment that was relatively identical for the two courses. In terms of demonstrating that the students were in fact grasping the major components of the course, this assignment should have provided abundant opportunities. Upon initial analysis as the courses were coming to a close, the overall quality and appearance of these assignments between the various sections of the course were basically the same. An easily discernable difference was not evident in the quality or extent of the final project work being turned in by the various students. Although there appeared to be a greater range in the quality of the work turned in by the independent students, the average quality appeared to be the same. The average instructor grades for all sections were basically the same as well for this assignment.

Further analysis of this assignment might showed that a difference did exist; however, any differences seen would provide no indication of how much work was actually done by the students as a result of this course. During this researcher's conversations with the instructor of the course, it became clear that at least some of the students and perhaps more were in fact turning in work that they already possessed. In other words, the final project required that students turn in a work in progress concerning a course unit modified for the online environment. Many students already possessed access to courses designed for online delivery and were turning in final projects that were basically pre-existing documents. Often, these documents were collaborative projects within a department as well. Therefore, it was not really a valid measure of student knowledge acquisition, but was confounded by quality lesson availability and collaborators at their institution that could not be measured or determined. Thus, further analysis of this assignment was not performed for the purposes of this study.

Reflections. The final assignment analyzed was similar between the two course designs with the requirements and grading rubric the same for the different sections. At the end of each module, students turned in a reflection that was supposed to answer a series of questions regarding what they learned, why it was important, how it could be applied in the student's own practice, and any suggestions for improving the module being reflected upon. The only difference being that the social students did it in a forum open to all students and the independent students did it using a journal tool that they added to as they went. In some ways, the reflection was one of the best ways that the instructor had of telling whether the students were actually learning the materials. Its open-ended nature allowed students to explore content that most interested them and reflect on those content items revealing their knowledge to the instructor.

Based on this nature, it became clear from reading the reflections that the majority of students in each section were grasping or at least recognizing the key ideas from the content. Approximately 95% of the time, students in each section would discuss how the given content had or would influence their practice. Likewise, approximately 90-95% of the time students in all sections discussed key take away lessons from the given module paying particular attention to concepts they found most beneficial. Then approximately 50% of the time, students in each section discussed ideas for changes to the course or remaining questions they had. The same proportion of students performed poorly in this activity as well, with approximately 3 students in each section completing the activity at a minimal level by providing only a few key points with no connections to content or any other rubric requirements used in scoring the assignment (see Appendix E).

Students in each section also often pulled out the same key points. The same point in given module readings or the same aspect of a given activity (such as a particular section of the QOCI rubric) would be cited by multiple students in each section even though the methods of activity completion were often highly varied. The only clear differences in these types of comments came during the group activity in which some students hated it or loved it in the social section, while the independent learners did not have this type of activity to comment upon.

The primary differences seen between the social and independent learning sections did not center on changes in knowledge acquisition. Instead, these differences in key points centered on style or participatory aspects. For example, perhaps because the independent students completed their reflections in a private journal (except to the instructor) while the social students used an open forum, the independent students tended to be more personal in their responses. Items might start with a personal discussion such as, "It's been a rough week" or "This last week

has been crazy" in the independent section, but such quotes were not apparent in the social section. While all sections equally discussed personal aspects such as how the content might relate to personal practice, the independent students were more likely to add discussion on non-content related personal items. It is possible that this discussion was taken care of in other areas of the social section course through constant student-student interaction availability. It was interesting that this social discussion, however, was left out of the key point discussion, as if the social section students failed to recognize the social aspect as a key aspect of the course or the direction of the assignment was always centered on the content in the social section but somehow allowed to meander into social aspects in the independent section. Perhaps the lack of any social outputs in the rest of the course and the possible connotations existing within the word usage of the journal tool provided the independent section student a necessary outlet as well. Of course, these types of comments were only consistently seen with 3 out of 17 students in the independent section, so it is not a high enough proportion to draw any steadfast conclusions either.

The styles apparent in this assignment also differed in terms of temporal aspects of student participation. In the social section, students regularly posted at or in a few cases after the due date for the exercise. To the contrary, although not requested in the activity description, at least three students in the independent section gave an ongoing journal of their thoughts, sometimes posting as often as three times per module. For these students, the journals allowed the instructor to see an evolution of student knowledge rather than an afterthought on key points. If the purpose of the exercise is to provide a metacognitive exploration for the students, then these students were exploring their thoughts more than others.

Regarding participatory aspects revealed through the reflections, two students in the independent section mentioned missing other students with the comments, "I do miss people" and "I worry about missing the social aspect." Both of these students still rated the course high in later evaluations and were positive in other respects, but were clearly exploring their feelings. At the same time, interactions with other students were rarely mentioned in the reflections of students in the social section as already mentioned. Only during the group project were such comments seen, and these comments were targeted towards that activity and were equally positive and negative.

Instructor participation in this assignment also differed between the two modes of instruction. In the social section, the instructor was not nearly as thorough in responding to every student. For example, as many as 50% of the students' reflection posts received a grade with no written feedback per module. To the contrary, in every module the instructor would respond to every student's journal in the independent section with not just a grade but constructive feedback. However, while he did not respond to every post in the social section, the posts that were made were sometimes more substantial, often including linkages between what was said and what had been in the course discussion or in previous posts. Still, comments in both sections from the instructor were always positive, informative, and reinforcing.

Although a few clear differences were observed in the reflection assignments between the two instructional modes, overall, there was no clear difference in student demonstration of knowledge. The overall content within the posts was similar with students attending to the assignment rubric, providing key point, influences on practice, and suggestions for improvement. The key points provided by both sections were often the same as well. But differences were seen in both student and instructor aspects. The instructor participation was much higher in the

independent section, and perhaps more would have benefitted the social students through additional feedback. At the same time, having the ability to see all of the keys from every student may have also benefited the social students. Yet, the different style seen in the journal posts in the independent section yielded a more personal interaction with the instructor and a more detailed reflection on the student's learning in some cases. Advantages and disadvantages could be seen in both cases.

Student Learning and Demonstration of Knowledge Through Instructor Perceptions

Day Post Course Session 1 Wrap-Up: Having now had the chance to interview the instructor, some of his views concerning student learning are becoming clear. For one, and by comparison to his journals, he is very keen on experiential learning. While for the most part, he believes that both sections learned equally well and equally much, he appears to have a nagging feeling that something was missing in the independent section in terms of having experienced what it is like to be in a social section. At the same time, he failed to recognize that the social section students were likewise not sensing what it would be like to be in an independent section. I'm not sure at this point is it is a probable bias by the instructor in that he admits to prefer the social mode in terms of his teaching although he likes to learn independently, or if perhaps he sensed that the independent section students had not been exposed to social learning systems previously, which I doubt since most of the students in these courses have graduate experiences that probably involved both discussion sections and large lecture halls. In any case, in the end, he brushes this concept aside and reports that he felt that learning was equivalent and that both sections seemed to understand the constructivist/collaborative dimension of online courses in general.

The next angle to address the question of student knowledge demonstration was the perception of the instructor. In both the instructor's journal and debriefings, the topic of student learning was discussed. These discussions were parsed and organized by topic to show how various differences in the courses may have affected student learning. Overall, as the post

interview observation relayed above suggests, he felt that the two modes yielded equivalent results.

The instructor's perception of student learning in the discussion question versus non-discussion question activities presented the first insight into differences in student learning. Initially, the instructor worried about the independent section students hearing only his voice. He served as their primary point of contact in all discourse, and he delivered all of the content. Perhaps he feared the course was approaching a typical lecture structure for which he was biased against. In viewing his comments, the instructor failed to recognize the voices of non-student peers, family, and the actual text of the course as providing other voices. In fact, content-student interaction was never mentioned. However, in terms of expert living interactions, the instructor had a valid point, excepting that halfway through the course, both sections experienced a guest lecturer, providing one alternative voice.

In the social section, the instructor's voice was definitely not dominant in this course. In these sections, the instructor didn't get involved in every discussion if the students were "coming to the desired insights". The instructor would, "let student interaction carry the load." In some cases though, the lack of instructor input left me, as an observer, feeling that the students had no clear way of knowing whether their insights were in fact correct. A caveat to consider is what to do in a social section when the other voices are students and those students do not know the material as well and who may often make mistakes. In such a case, the instructor must assert authority so that his view is accepted by the students forced to compare two viewpoints unless it is a case where multiple viewpoints are acceptable. In my experience, the instructor did not intervene except in one case where the potential existed for feelings to be involved in which a statement could have been construed as a personal attack. In one case, the actual discussion

question was never answered as the student a provided an answer addressing something totally different and the follow-up posts discussed only the new topic. Therefore, as an observer, I would restate the instructor's opinion on voice to indicate that in terms of the visible in-course dialog, the 'voices' seen in the social section were multiple and dominated by students while in the independent section they were singular and dominated by the instructor, with the texts providing an additional unnoticed voice.

One assignment during which the instructor often had many comments about was the discussion question / question answer (DQ) activity. At most points, he relays that the two courses seemed to be equivalent in terms of student demonstration of understanding within this activity. Yet, there were instances where he let his bias show concerning the usefulness of student-student interaction. In one instance, while discussing his misunderstanding of a student post and the subsequent discussion with that student he stated, "if there had been a discussion thread in response to [the student's] initial posting, [the student] might have had occasions to make additional comments which would have shown [the student's] familiarity with the readings and dispelled my assumptions." This statement presupposes that a dialogue did not exist between the instructor and student that could bring about the same understanding in an independent learning section.   In favor of the independent section activity, the instructor stated, "I think that the practice of sending out DQ answers prepared by an expert (me) in the subject matter of the course may have resulted in better learning for the a-social section." This statement was true, but failed to note that the same document could and should have been given to the social section as well. In the end, the bulk of preliminary comments made by the instructor seemed to favor the social section based upon the learning taking place during the discussion; however, he admitted that some of this perception may be biased by his own reliance at times on

the social section discourse carrying the burden of the teaching load and a slight preference for that style of teaching.

In more developed comments during the instructor interview, the instructor continued the above lines of thought stating, "I think interaction is aiding learning [in the social section], but I'm not sure that the learning is 'better' or more extensive than what's going on in [the independent section]. […] you could say that interaction is definitely carrying the load in effectuating learning in [the social section]." His exposition admitted that he stayed out of the social section and therefore, the students were somewhat required to do the learning as a group. It was the design that drove the form of learning. He then later stated as a way of summarizing his view, "as long as the key concepts get articulated, it doesn't seem to make a difference in terms of their learning whether they talked with just me or half a dozen people."

Moving to other activities, a key assignment in the social section of the course was the group activity involving a course evaluation and replaced with an independent course evaluation in the independent section. Here, the instructor seemed to switch perceptions slightly between the two sessions. In the first session, he felt in his journal that the quality of work was the same between the two sections stating, "quality of evaluations of the WebCT Exemplary courses seem equal in both courses. This may be the best overall benchmark of relative success – the authentic assessment." In an interview later though, the instructor mentioned, "With regard to the group project … the collaborative learning doesn't live up to the advertising. The groups chunk and compartmentalize the tasks a lot, with diminution of learning…I think it may be possible that the individuals in [the independent section [had better learning, person for person, on the course evaluation activity, than in [the social section]." In the second session however, the overall cohesion he felt manifesting among the students in the course led him to state that the social

aspect was "definitely aiding in terms of the group project." In the end, the factors of overall course socialization and cohesion affected whether the instructor perceived any benefit or hindrance caused by the group project, leading to a nullification of a negative comment in one session by a positive one in the following session.

One remaining point that the instructor kept returning to was experiential learning. In the social section, the students were being exposed directly to the social design of online instruction, which was the best practice paradigm in most of the course readings. The course curriculum presupposed the value of socially designed online instruction, but the independent section students did not get to experience it first hand from a student's perspective. Comments to this effect were made at various times throughout both course sessions and during the final interview by the instructor. At the same time, the instructor often spoke in terms of cognitive mastery. He related this as the ability to explain a concept rather than perform a function. In these terms, he repeatedly felt that there were no differences between the social and independent sections. The independent students were missing an experience that the instructor valued, but not knowledge surrounding the experience. Of course, the bias here was that the social section students likewise did not get to experience an independent mode of instruction; however, given that most online courses in the United States follow the social model, it was important to note that the independent students may have missed a useful experience.

Student Learning and Acquisition of Knowledge Through Student Perceptions

Continuing from the instructor perceptions, student perceptions of their own learning was questioned next. This question was addressed by studying the responses to end-of-course evaluations completed by students. In all sections and sessions, responses to Likert-scaled

questions concerning student learning resulting in significantly positive results. Therefore, the analysis can begin by saying that for all of the courses, students felt that they were learning in a positive manner and being satisfied with their experience.

Furthermore, there were no statistically significant differences for any variable related to student learning between sections. In other words, the student perceptions of learning were equivalent for all sections of the course whether independent or social. Independent of the actual demonstration of knowledge acquisition, there was no difference in the perceptions of learning among the students in all sections of the course. For example, when asked, "The course required me to engage myself in analysis, synthesis, and evaluation." students responded with averages of 4.85 & 4.57 for the social sections and 4.82 & 4.50 for the independent sections where 5 = strongly agree and 1 = strongly disagree, $\chi^2(6, N=62) = 6.219$, $p = .399$. The question, "I have successfully accomplished the learning objectives of this course." resulted in averages of 4.77 & 4.86 for the social sections and 4.75 & 4.88 for the independent section, $\chi^2(3, N=62) = 0.689$, $p = .876$. The only question with a visible yet not statistically significant difference came when asked, "The course activities helped me to learn more than I would have myself." The responses averaged as 4.77 & 4.71 for the social section and 4.58 and 4.25 for the independent section, $\chi^2(9, N=62) = 11.882$, $p = .220$. A slight difference here might be suspected considering the self selection process however, since independent learners may be predisposed to learning well on their own to begin with. For a summary of survey responses see Table 4.

Extension of this survey analysis was done by considering open-ended question responses. Many of the scaled questions included open-ended exploratory comments sections, and several of the questions were open-ended by design. Still, as with the Likert-scales, by far, most of the comments to these questions were positive for all sections. However, some key

Table 4

Student Course Evaluations

Question	Average Responses by Section[*]	
	Social	Independent
The course required me to engage myself in analysis, synthesis, and evaluation.	4.85 & 4.57	4.82 & 4.50
I have successfully accomplished the learning objectives of this course.	4.77 & 4.86	4.75 & 4.88
The course activities helped me to learn more than I would have myself.	4.77 & 4.71	4.58 & 4.25

Note. [*]No average response differences were statistically significantly different between the social and independent sections. 1 = strongly disagree, 5 = strongly agree.

comments both positive and negative can be linked to other findings in this research, and they are discussed below.

Basically, the number and content of any negative comments coincided with comments made by a few students in the course dialogue. In general, any negative comments were aimed at the instructor or the course in general non-specific terms, and not the course content or learning. For example, a few students were dissatisfied with the instructor turnaround time for feedback in both sections and sessions.

Only one student entered negative comments directly pertaining to the course design. This one student clearly did not understand the nature of the self-selection into the independent learning section and made reference to that fact and the ensuing dislike of that style of course. However, many other students entered comments to the contrary discussing how they were greatly helped by the option of an independent section. For example, students liked the "flexible" nature of the independent section and stated that it was "Good to be able to work ahead."

All comments regarding course topics were also positive for all sections. However, a few comments suggested that the rigor of the course may have been above the expectations of some students. Although students entered comments that the assignments were "good" and "practical", two students in the independent section said that there was too much work at times while one student in the social section said that it was "too vigorous". Still, the Likert scaled question regarding course content was significantly positive for all sections and there were no differences seen between the two modes of instruction.

There were interesting differences and similarities between the two course styles concerning the most educational aspect of the course. In the social sections, of 20 comments, 13

were social in nature. Five of these comments pertained to the discussion questions, 6 to the group course evaluation project, 1 to the guest lecture Elluminate session, and 1 to student interaction in general.   If one takes the equivalent course aspects in the independent section though, one sees that of 21 total comments, 8 cited the individual course evaluation project, 2 selected the guest lecture Elluminate session, and 1 selected "communication and vocabulary"; however, none of the independent section students cited the question/answer assignment that coincided with the discussion question assignment in the social section. One possible explanation to this omission is that the social nature of the discussion question assignment in the social section involving a large amount of student-student interaction, was seen as an enjoyable course aspect that might have been missed in the independent section; however, it was interesting that one student still listed communication as the most educational aspect of the independent section in which all communication was instructor to student. This result was also intriguing in that analysis of the discussion question versus direct question assignments in the two modes of instruction earlier seemed to indicate that there was a greater demonstration of knowledge acquisition occurring in the independent section of the course. This finding could be interpreted to mean that while there may be more demonstration of knowledge in the independent section, there was satisfaction in the activity of the demonstration of knowledge taking place in the social section during this activity.

Another difference was that the independent style students tended to list general course elements rather than specific assignments as the most educational aspect of the course. Three students in the independent section entered all assignments in general, 1 cited application of information, 2 cited instructor feedback and module wrap-ups, 2 referred to the readings, and 1 cited communication and vocabulary in the independent sections. Only 2 students citing

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"theories" and the one selecting student interaction from above made reference to items that were not specifically a given assignment in the social section. Finally, the culminating project of the course in which the students were supposed to display what they have learned was cited 5 times by the social section students as the most educational aspect of the course, but only once by the independent students.

Summarizing the student perceptions of their learning, students in both sections generally found themselves as learning satisfactorily. The end-of-course evaluations showed no statistically significant differences in Likert-scaled questions regarding learning and all knowledge-based questions were positively skewed. Nearly all open-ended responses were likewise positive and when negative referred not to the content or to learning but rather to the instructor or other aspects. The only definable differences began with one student who perhaps did not understand the nature of independent learning, but other comments in both styles of learning cited positive aspects. Finally, no social section students cited instructor feedback as the most educational aspect versus two students in the independent section, demonstrating the higher value placed upon the instructor in that mode of instruction as implemented in these courses. Interestingly, six social section students and eight independent section students cited the course evaluation project despite the highly divergent group vs. independent project designs used for that assignment, showing the value of the core assignment over the pedagogy employed. Finally, five students in the social section demonstrated the value of the social aspect of the course by citing the discussion as the most educationally valued aspect, demonstrating that it fills an educational need for these students and perhaps equating to the instructor feedback dimension highlighted by the independent section students.

Student Satisfaction Through Observation and Student Perception

> *Day Forty-Two: In terms of student satisfaction, I would be unhappy to be in the group that had a student no-show. They did a good job of filling in the gaps as they could. Still the social course did well with the group project. I'm sure that there will be those in the end that say that they hated it when filling out the course evaluation, but these types of comments are not coming out in the course discussion really. Interestingly, although it is especially hard to determine student satisfaction in the independent course because of the lack of discourse to analyze, the reflections suggest that perhaps the social course students are happier. This is a hard call though, because I get the feeling that there is definitely 1 and maybe 2 students who selected the wrong course when opting for the independent study. At the same time though, my feelings should be offset by the group project, and yet I feel that the social course is yielding greater student satisfaction. I'll just have to wait to see what the course evaluations say.*

Student satisfaction is an important variable in any measure of course success. More satisfied students are likely to feel as if they learned more. They are also more likely to be retained in the course so as to learn and to even take a future course within a given program. In the beginning, it seemed as if it would be impossible to determine any satisfaction measures based upon observation from these two courses, primarily because although one could easily observe the interactions within the social course, the independent students were not as available. However, as the courses progressed, and especially with the help of the student reflections, feelings did begin to develop.

Two perceptions presented themselves with respect to the social sections of the course. First, some students clearly thrived in this environment. There were star students that came ready to participate. At times one might have wished that some of the students might participate a little less. The shear amount of their postings could almost be a burden to weed through to get to the core content. But their friendliness helped make the environment feel pleasant and lend itself to the community feeling discussed so positively in elearning. It was anticipated that such students would rate the course positively and that they would positively influence other students'

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experiences on a social level as long as the amount of their postings did not begin to become too much. Since there were only a small number of students in the course overall, the total postings probably did not become a problem.

Conversely though, there were those students that did cause problems due to the social nature of the course leading to the second impression that presented itself. No problems were caused by disruptions such as disregard for feelings or insulting behavior, but rather lack of participation when such participation was necessary or required by all as in a group project. For example, the group project of the course was designed to require all students to participate to create a collaborative product. In practice, it became more of a divide and conquer project however, where students failed to truly collaborate and instead simply divided the work and then continued independently. When one student failed to do that student's work, then a glaring hole appeared in the final project. Another group was able to reallocate their resources to make-up for one student's shortcomings. Of course, this was all a part of the group learning process and could be considered a positive learning aspect of the course outside of the primary content learning objectives, but it could have a negative impact on student satisfaction. These same influences would not be seen in the independent sections of the course.

As was stated, at first it appeared an impossible endeavor to interpret the satisfaction of the independent section students in an experiential manner; however, several of the student journals began to show some signs of satisfaction as the course progressed. The types of satisfaction shown were not of a personal level but more on a learning level. At times, students would enter passages about their progression in the course that led one to feel that they were satisfied with their learning or where the course had taken them so far. For fairness, there was one comment showing some dissatisfaction with the course aimed primarily at the feedback.

The satisfaction that was being observed was different for the independent and the social sections. When observing the social section, satisfaction observations centered more on the personal, while in the independent section, they focused more on the learning. This delineation did not reveal itself until the analysis began. Both students seemed satisfied, but in different ways. Reflecting back upon the experience, it seemed true that the social sections students were also in general satisfied with their experience. Their reflections were just of a different nature so that it was not the first item that was observed and not to the same level.

Satisfaction could thus be separated into satisfaction of experience and satisfaction of learning. The observations suggested direct evidence that the independent students were satisfied with their learning since there were positive statements in student's journals concerning learning progression. Students in the independent sections rarely if ever commented about the experience though, so satisfaction in the experience could only be inferred. At least one student was unsatisfied based upon a few negative comments (although these were aimed at the instructor). The general positive attitude, participation, post wording, and final survey responses of the other students suggested that they were generally satisfied with their experience though. Students in the social section conversely could be seen as generally satisfied with the experience. Their positive natures were seen in their participation postings throughout course for all but one student overall and another student at times. However, students in the social section were difficult to determine satisfaction levels towards learning. There reflections were little more than key points and post wordings rarely coded to introspections about learning. However, their final survey responses clearly indicate a level of satisfaction with their learning. The final summary suggests that all students seem to have both satisfaction of experience and of learning; however,

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due to the nature of these courses, different methods are required in order to determine these types of satisfaction.

Like the observations, the student perceptions showed few differences in student satisfaction among the various sections of OLO. Most importantly, 100% of students in all sections and sessions of the course said that they would take another MVCR course and 100% also said that they would take the OLO course again. Questions related to technology comfort, instructor feedback, course materials, and course design resulted in no significant differences among sections or sessions using chi-squared analysis. These results suggest similar satisfaction among students independent of teaching method.

However, a couple of questions did result in statistically significant findings that may relate to student satisfaction, at least with the given course. For questions 1 and 13 of the final course evaluations, there was a significant difference between the independent and social sections when both course sessions were pooled or when only the second session was analyzed. When asked about the course as a whole, students preferred the social section ($t(27) = 2.413$, $p = 0.023$). When asked whether the instructor was a model teacher, the students preferred the social section again ($t(34) = 3.090$, $p = 0.004$), although in both cases the data may not be fully normalized. There was also a significant correlation between the two values ($r(38) = .498$, $p < .01$). These findings were caused primarily by several students in the second session independent section rating any value pertaining to the instructor as negative. Clearly, there were students in the second session independent section who were satisfied with most of the course, even stating that they would take it again; however, this particular course as correlated to the particular instructor was unsatisfying to these students. Here we find a clear indication of a potential benefit of the social section being additional interaction partners that may have offset

an unknown instructor variable. It could also be an indication of instructor bias to one mode of instruction. However, it is most likely that this finding coincides with the fact that at least two students in the independent section during the second session were possibly not happy with the independent nature of the course, perhaps due to misinterpretation of the meaning of independent but also possibly due to the instructor notes that two students thinking that it would be much easier than it was; however, there was no way to know that the final course evaluations that were negative were ones filled in by the students that in other areas made negative comments to this effect. Still, this finding coincides with best practice models that discuss the importance of social models of online instruction though in that the overall course rating are higher overall among students taking the socially-aligned course.

Instructional Time Commitment and Workload

One possible aspect of an instructor's satisfaction with a course or mode of instruction will be the time commitment that was required to adequately provide instruction and create an instructor presence. When considering these two course designs, the differences such as total posts, instructor involvement requirements, grading time, etc. could easily result in different time constraints.

In the instructor' perception, the instructor felt that he spent more time in the independent section during the first session. However, in the second session, most of the weeks, the instructor felt that the time commitment was the same or more in the social section of the course, except when it came time to grade the course evaluations (only 1 evaluation per group in the social section while 1 per student in the independent section). The initial term of the independent section had a few 'housekeeping' elements related to modifying the course that added some time. It was also somewhat unfamiliar to the instructor compared to the social

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section that he had taught for years.   Apparently, these elements (and perhaps others that the instructor did not comment on) added enough time to the course to shift the time requirement to the independent section in the first session.

The instructor saw many factors playing a role in determining his time commitments. One of the primary commitments involved the discussion question / question assignment. For example, in his mind, it took 120 minutes to setup the discussion question in the independent section while it took a total of 142 minutes to set them up over the course of the semester in the social section. The time commitment was front loaded for the independent section since all of the questions were assigned at the start of the course. This front loading led to an initial burden for the instructor to catch up in the independent learning section. The instructor took the time to look through student biography assignments in order to help determine which questions would go best with which students in both sections, but there was clearly some extra time commitment in the independent sections at the start because of placement of students to questions.

As I experienced the course, I wasn't sure where the 120 minutes went for the independent section. The questions seemed mostly randomly assigned except a few exceptions where the student's reason for taking the course was given in the biography assignment. Also, I was not sure if the 120 minutes setup time included the time to actually read and grade the biography assignments, which should be similar for both sections. Given that the instructor must coordinate discussion question assignments throughout the course in the social section versus a single up-front email to the independent section, it remained clear though that this aspect of the time commitment yielded more time for the social section overall.

Time commitments continued with the compiling and writing of consolidated responses to all of the questions assignments in the independent section. In the social section, each student

was assigned one discussion question to answer, and then two responses to other discussion questions. Despite only requiring participation in 3 question threads, the content of all threads were available to the student so that all of the information was available. The independent section students answered two questions directly, but did not have this access to the other responses seen in the social section discussion threads. So the instructor compiled students and his own responses to the questions and gave this compiled document to the students during the module wrap-ups. In that way, the total content delivery was somewhat equivalent between the two sections.

In the first session, the instructor had to construct these "best" responses for the first time, thus adding time commitment. The instructor quickly found himself falling behind in the first session of the independent section due in part to this requirement. However, the actual intent of the course as designed was for the instructor to construct this "best" response document for both courses. While the social section students had access to every thread, the requirements may have guided them away from even passive participation in threads in which they have not posted. As a caveat, in the second section, there were a lot of non-starters by week 2. This left many of the discussion questions unanswered. The instructor had to go in and post these responses so that every question was covered. However, the same could have been accomplished simply by passing out the same exemplary answer sheet that was given to the independent course. In any case, the instructor used the same "best" response document with only minor modifications for the second session independent section, thus resulting in a shift in perceived time differential from the independent section taking more time the first session to the social section taking more time in the second session.

Continuing the time commitments involved in the question activity, the instructor felt that more time was required in the independent sections because he had to respond to all of the questions rather than just the ones that were not answered well in the discussions among students in the social section. However, this example demonstrates a type of pedagogical cheating by the instructor. The instructor even discussed this instructional cheating potential in his interviews. Rather than carefully analyzing all of the discussions taking place in the social section and providing some feedback in every thread if only to validate the responses, the instructor opted to neglect some threads. In fact, out of 35 threads for the first two discussion question assignments in the first session social section, the instructor only made 27 posts in 26 of the threads, leaving 9 threads unattended. I anticipated that the instructor at least read all of the posts; otherwise, his final grading would be invalidated since the rubric contains elements regarding both initial posts and follow-up discussions. In contrast, the instructor responded to every question assignment directly in the independent section including the full answer document discussed above.

In general, one thread represents a student response to a single discussion question; however, sometimes students with the same question will post in the same thread and two threads were started that were not directly question responses in the social section. Table 5 provides an overview of instructor involvement in discussion threads in the session 1 social section course. Social section threads for modules 3 and 4 involve group and final projects creating a highly varied thread count that is less meaningful in comparison to the independent sections. For all threads in the independent section, the ratio of student to instructor posts was 1:1 or 50%.

Table 5

Discussion Threads (Fall 1 Session)

Activity / aspect	Threads	Total posts	Posts / thread	Instructor posts	% Instructor posts
Biography	20	131	6.55	21	16.0
Orientation	19	84	4.42	23	25.8
Discussion / Question 1	19	131	6.89	15	11.5
Reflection 1	19	40	2.11	19	47.5
Discussion / Question 2	16	109	6.81	12	11.0
Reflection 2	16	20	1.25	4	20.0
Total	109	515	4.72	94	18.3

During observations, it appeared that the instructor equally neglected and attended to both sections of the course in terms of the questions assignment. At times, the feedback was exceptional, provided support and additional information. At other times, there was no feedback, especially to a social section student who would receive a grade with no direct instructor post to his/her discussion question or reference to it in feedback to that student. The feedback also became later at the sessions progressed, especially in the independent sections. It appeared that the instructor was actually spending more time with the independent section during this activity. The primary reason I felt this way was the fact that the instructor eventually posted some sort of feedback to every student in the independent student directly relating to this activity. Furthermore, the independent section students were provided with an instructor compiled summary with answers to all of the questions easily referenced. However, while the instructor felt that more time was required for the question activities in the independent sections (especially in the first session), it would appear that a more accurate translation would be that more time was spent rather than required. If the instructor had provided the summary document to both courses and had provided a post of some kind to each discussion thread in the social course, then my perception would quickly shift to the other course visibly having shown a greater time commitment.

Unlike the question activity, two other activities seemed to take the same amount of time instructionally between the two sections. Although using a different method to attain the goal, each section includes an annotated bibliography activity. For a student participating in the social section this activity meant placing a brief article annotation within the course wiki. To the independent section student this activity meant posting the same directly to the instructor who then compiled them all into a single word document. Each one required instructor time. The

wiki required instructor time because he had to "clean up" the wiki to remove poor formatting by the students and the occasional misstep in wiki use. The compiled document for the independent section required instructor editing and formatting.   In the instructor's measurements, these were both approximately the same. Likewise, although not mentioned by the instructor, it was evident from my own observations that the instructor spent about the same time for each section for the reflection activity, since the requirements and posting amounts were identical for all courses.

From my perspective observing the course progress, more instructor time was perceivable in the social section for the bibliography activity. In the independent section, a student would simply send the instructor the assignment document. A brief one to two sentence statement providing feedback would be returned by the instructor. At the end of the course the student would receive a compiled document from the instructor. To the contrary, the wiki was a living document in the social section that was constantly open to change by the students. Several times it was evident that the instructor had to go in and fix the document or reformat it. Feedback was also evident in comments made by the instructor. There was much involvement that resulted in a continual perception of time commitment.

The culminating activity for the course was the final project in which students in each course must individually construct a lesson for an online course. There were no differences in the design of the assignment between the courses other than how and where the assignment was posted. Therefore, not surprisingly, this activity did not come up in the instructor's journal or interview regarding time commitment shifts. Furthermore, I was unable to perceive any shift during my observations.

On the contrary, another activity that came up repeatedly was the exemplary course evaluation project. Students must individually (independent section) or in a group (social

section) apply a rubric to an exemplary course and explain what is good and bad about the course in the terminology of the course and the applied rubric. In all cases, the instructor felt that this activity required more time for the independent section. Two primary factors resulted in this activity requiring more time of the instructor in the independent section.

The first factor involved the actual number of courses under review. In the social section, this was a group exercise; therefore the maximum number of courses reviewed was equal to the number of groups. In the independent section, the maximum number of courses reviewed was equal to the actual number of students. In reality, the result was 2 to 3 times as many different courses reviewed in the independent section as opposed to the social section. For each course reviewed, the instructor must be well versed in the pros and cons of that particular course in order to provide adequate feedback and grading. Although there was some overlap among course choice between individual students in the independent section and between choices in the independent section compared to the social section overall, the end result was that the instructor had more courses to view because of the independent section.

Theoretically, this shift should be short term. In other words, the choice of courses were taken from the WebCT exemplary course list, and that list was fixed with only 5-6 additional courses per year total. At some point the instructor should have been aware of all of the courses, and in fact having his history instructing this course, one might assume that the instructor already was aware of all of these courses.

Also, this shift could have been managed. The instructor could have limited the number of choices that the students had. The reason for the course choice was to allow the student to learn about content in a context that was relevant to them; however, this choice could have been limited by removing choices from overlapping fields or that presented similar course designs.

The instructor even mentioned doing this reduction in the first interview, but then failed to implement the change in the second session. Thus, the same problem happened again.

As an observer, it would seem reasonable to assume that the instructor already possessed an understanding of the courses from which the students could choose a course to evaluate. Given the long history of this course, I expected a catalog of student submissions as well. Therefore, the time differential between the two sections did not occur to me in my observations.

A time commitment shift that did occur to me was the fact that the final products of this activity resulted in three times as many final evaluations for the independent section as opposed to the social section. Observing the rubric, the independent section evaluations had fewer expectations and should have resulted in approximately the same amount of work in terms of grading. However, in practice, for each session, the independent section students in general went well beyond the rubric and provided complete course evaluations on par with the requirements for the social section.

The other time commitment shift occurred in the opposite direction. For the social section, and only for the social section, the instructor must monitor group activity during the evaluation project. In numerical terms, this monitoring resulted in 33,569 words of additional reading, more than all the rest of the words posted during that activity for either section. Although the instructor did not post in the group forums, it was reasonable to assume that at least some of it was read in order to monitor the progress of the groups. Although the instructor did not directly comment on this in his interview, indirect comments suggested that he basically let the discussion go unless he saw a need to intervene, and the primary way to recognize such a need was to monitor these group posts. During my observations, I found this to be one of the most discussion intensive areas of the social course, requiring the most of my time to monitor.

However, the monitoring aspect of the social course did not equal the time commitment of the additional grading in the independent course.

Many of the aspects of time commitment discussed above were factors due to the total amount of reading required. The instructor believed that overall there were more words posted in total in the social section. In analysis, this was true even if you did not count the group projects forums mentioned above (See Table 6). If the instructor read everything, then this would result in a larger time commitment. Of course, as explained a few times above, it was not clear that the instructor read absolutely everything in the social course. However, as an observer, I too felt that there was much more reading overall in the social section, perhaps because there was a continuous flow of information in the social section as opposed to occasional gluts in the independent section.

Time commitment should also rest upon the actual amount of content contributed by the instructor. The instructor did not comment on this amount; however, as I observed the course, even accepting that the instructor was continually behind in postings for the independent section feedback, the total instructor content felt like more in the independent section. First of all, he was responding to every student where he was clearly not doing this in the social section. Also, the final question documents and emails that would go out for the independent section increased the instructor presence.

Analysis of course postings follows that both the total post amount and amount of instructor content perceptions above were correct. In both cases there was a clear difference. Breaking down by activity though, the independent learners posted more in their reflections than the social students. They also tended to answer the discussion questions more thoroughly or at least using more words. In the independent section, there were more total course evaluations

Table 6

Words Posted per Course Module by Instructor (Fall 1 Session)

Module(s) / Aspect	Course Design	Total Words Posted	Instructor Posts Words	% Instructor Posts to Total
Orient. & Module 1	Social	57,171	9,838	17.2
	Independent	59,106	10,954	18.5
Module 2	Social	22,536	2,168	14.4
	Independent	17,661	3,954	22.4
Module 3[b]	Social	54,690 (21,121) [65,061 (31,492)][a]	5,048	9.2 (23.9)[a]
	Independent	18,188 [49,433]	5,671	31.2
Module 4[c]	Social	30,522	2,168	7.1
	Independent	15,079	6,067	31.8
Total [b, c]	Social	164,919 (131,350) [175,290 (141,279)][a]	19,222	11.7 (14.6)[a]
	Independent	110,034 [141,279]	26,646	24.2

Note. [a]The number in parentheses represents the total where posts of drafts and non essential group discussions have been removed. [b]Brackets indicate the total words posted in the forums plus the total words from the evaluation projects themselves. [c]These values do not include the final project documents as this addition skews the % instructor posts calculations. For both courses these numbers were statistically equivalent when separately compared.

handed in and the final projects tended to be more thorough. In the end, it was the added social

discussion and probing questions that happened during the discussion questions and projects

group process in the social class that actually added more total postings. However, it becomes

unclear whether total post amount or amount of instructor content will hold more weight in terms

of time commitment since they shift in different directions. In the social section there was more

total post content while in the independent section there was more instructor post content.

Concluding the analysis of time commitment, the overall answer was that the two course

designs appeared to take approximately the same time overall for the instructor as performed.

There were aspects of each course that took more time in one section versus another, but these

evened out between the two designs. For example, the group project required monitoring in the

social section, but this monitoring time was cancelled out by the increased grading and reading

time in the independent section. Likewise, there were more total words posted in the social

section, but there were more instructor words posted in the independent section. The instructor

finally claimed that the social section took more time in the second session once some

'housekeeping' items were corrected from the first session; however, interestingly he commented

in his interviews and reflections how he kept falling behind in the independent sections for both

sessions but not in the social sections.

Observing the course, there were definitely times where the independent section had an

influx of activity requiring instructor attention, and he clearly fell behind a few times. However,

the social section had a constant flow of information and constant monitoring requirement that

also took time. Developing a synergistic community required instructor involvement to direct

student dialogue when necessary as shown by Rogers (1969) and the instructor also modeled

student behavior at first in order to help develop social interactions and learning (Bandura,

1986). Reflecting on the time being spent, it becomes apparent that there were several activities

taking place in the independent section, such as feedback to everyone instead of selected

discussion threads and question summary documents, which should have also been done in the

social section by pedagogical arguments, but were not. If both courses included these elements,

the social section would indeed take more time overall to instruct than the independent section,

despite initial inclinations to the contrary. In this way, we can begin to extract out the time

commitment based on social versus independent natures rather than by assignments. In other

words, there are many time commitments such as discussion monitoring, group processes and

continual information flow that increase the time commitment by the nature of a social course.

While the time commitment in the independent section is only increased in terms of direct

interaction with every student. It would then finally appear that the differences weigh in such a

way that the social design requires a slightly greater time commitment.

Instructor Satisfaction

> *Day Forty: Although he often indicates otherwise, I get the feeling that [the
> instructor] has a slight preference for one of the sections. Partly, he seems to be
> relying on students to do some of the work and partly he appears to be falling back
> on what he is familiar with. I will have to take this potential bias into account,
> while making sure to preface that the instructor may not be recognizing this bias to
> the same extent that it appears to me.*

What can be said about instructor personal satisfaction herein is important on its impacts

throughout the rest of the analysis to this point. Basically, if the instructor was happy, then there

should have been more attention to the course and a resultant better experience to be had by the

students. Learning may also have been enhanced as well as student-instructor interaction and

perhaps even long-term instructor and student retention. If independent elearning occurred

within a guided didactic conversation (Peters, 1973), then instructor satisfaction could have influenced the quality of this interaction. Instructor satisfaction could also have influenced the quality of behavior modeling (Bandura, 1986) or knowledge sharing and building in social contexts (Rogers, 1969) within the social elearning section. It would be most valid to this study if the instructor was equally satisfied with both modes of instruction, so as to remove this variable from further discussion, but such an option may not be available.

According to the instructor, satisfaction as related to instructional modality was "a matter of personalities…of matching personality of the potential OL instructor to the appropriate OLO model/style." [This quote was taken as typed by the instructor where OL is intended to mean online and OLO is intended to mean Online Learning: An Overview.] Having experienced the course from both perspectives twice, he could see how the demands being placed upon the instructor and how those demands were manifested in activity differed. At points, there would be more time for a given activity that may or may not have been present in the other modality. For example, in the social section, the instructor could sometimes rely on the student-student discussion to "carry the load" while in the independent section the instructor required less monitoring time to keep track of the constant interaction. Each side had its benefits and drawbacks in the instructor's perception, although these were never clearly delineated by the instructor into a list that could be relayed here. Instead, there were nagging feelings that the instructor would relay.

These feelings did not manifest themselves in the instructor interviews or even in the instructor journal so much as in the dialogue that frequently occurred between this researcher and the instructor. The instructor at times would indicate that one section or the other was taking more time or draining him more, but these would be balanced toward the two modes of

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instruction over time. However, 'off-the-cuff' remarks such as how lack of familiarity with the

independent section model caused him to fall behind or feel uncomfortable at times led to the

impression that there was a slight instructional preference for the social model. At the same

time, when discussing his own learning styles, the instructor indicated how the independent

model had benefits that he could see the value in personally. In the end, a directed question

during a personal conversation seemed to hold the most weight. In summation, the instructor

indicated that he could see himself biased slightly towards the social section, but he was unsure

if this was simply a matter of familiarity or of a deeper rooted personality trait. His personal

satisfaction was slightly more in line with a socially designed course. But our combined

realization was that this was a personal feeling based on his own history that could not be

directly related to the history of another instructor. He did not feel that it was related to the

pedagogy or the time commitments studied in this research.

Chapter 6

Conclusions and Future Directions

This study obtained valuable insight into the practice of elearning in terms of the value and viability of both social and independent learning instructional models. An overlaying issue in elearning research is the lack of true comparative and controlled studies that clearly delineate rather than propose a 'best practice' in elearning. Such a study is difficult to design and even more difficult to implement since creating the context for such an experiment requires going against the grain of American elearning paradigms by setting a perceived best practice social model against a perceived inferior independent learning model in a situation where both can be controlled and simultaneously delivered.

In practice, the theoretical frameworks of social learning theory (Bandura, 1986; Rogers, 1969) were juxtaposed against the theory of andragogy (Knowles, 1984) by this study. Within social learning theory, a community was sought in which learning occurred by sharing and building knowledge together. Engaging social interactions within the community were modeled by a facilitating instructor to elicit outcomes that the students would value. Within andragogy, applied independent learning principles included self-directed study providing student self-control of the learning process and increased self-discovery with a potential increase in self-motivation. Learning activities were keyed to activities relevant to the learners.

A unique aspect of this study was the ability to control many instructional design variables. In this study, the same course content was taught at the same time by the same instructor to similar students using the same online course management system; a setting that may not be easily duplicated in the foreseeable future. The only predetermined and controlled differences between the two study groups were the designs under which the course content was

presented and the interactions within the course assessments. However, one can never control for unforeseen variables, nor can one receive a final definitive answer in even the best of scenarios in most cases involving human variables. Yet, this study does leave us with several compelling findings as well as numerous questions on which to aim future understanding.

Although this study was guided by four primary issues, a few items needed validation and discussion first. The first was the desire for difference. Clearly there was no apparent need to implement an independent study model in a course for which a socially-designed modality had already been proven effective. Yet, effectiveness should not presuppose that something else cannot be still more effective or be as effective to a different population. In the context presented here, a clear student population was seen for which an independent model was desired (Varvel & Tettegah, 2010). Furthermore, when such a model was presented, a significantly larger pool of students requested the independent model over the predominant social learning model. Following this study, many potential students admitted disappointment that the independent sections were no longer available as well. Therefore, a clear desire for choice was seen within the population of potential students for the MVCR program desiring instruction in the art of online education.

It is also important that some argument be made that although the social nature of these courses were modified for this study resulting in widely varied instructional approaches, the primary teaching potentials were maintained as equivalent as possible. For this study, the content in terms of student readings and delivery mediums were identical. The core aspects of all assignments with regards to what was being asked remained essentially the same as well. However, the method of completion of assignments varied greatly as did the interactions between student and instructor as well as the potential for student-student interaction. A good

portion of the discussion above was devoted to outlining the rationale for all shifts in pedagogy and the attempts to retain the courses as similar as possible educationally while being opposed in interaction and social aspects.

One must also accept that this study, while attempting to provide a needed control group that was lacking in many other studies on the pedagogical nature of elearning, may also be limited in its generalizability to other systems and environments. The dominant student group studied was adult learners who were interested in learning more about elearning. All participants for whom information was available had higher education degrees as well. Thus, individuals in both study groups possessed an intrinsic educational motivation that would potentially aid their learning (Ausubel, Novak, & Hanesian, 1978).

Accepting that the courses by differing designs could have the potential to result in similar student outcomes, one can begin to address the various issues presented by this study and question when the potential was realized. First, was student learning equivalent between the social and independent modes of instruction employed? More appropriately, this study measured demonstration of student knowledge and self-perceived learning. Survey data showed that students in both modes of instruction felt that they were equally well attaining the learning objectives of the course, that they were equally engaged with the course material, and that they had equally learned more through the course activities than they would have by themselves. The only differences concerning student perceptions of learning were found in their comments to open ended questions. Interestingly, while 6 students in the social section cited the group project evaluation activity, 8 students in the independent section cited the same activity but as an independent project as the most educational aspect, showing that the activity itself holds value independent of modality of delivery. Still seven additional social comments remained in

the social section comment fields that did not coincide with activities in the independent section showing that these social activities held value. At the same time, the independent section students cited instructor feedback in their comments, while the same were lacking in the social section, showing the added weight of instructor presence when the student-student interaction was not present.

Continuing to look at student demonstration of knowledge, a few additional differences and similarities manifested. When looking at specific activities, the discussion question / direct question activity was first analyzed. Students in social and independent settings were equally likely to relate answers to personal experiences or content. They were also equally likely to relate answers to research versus theory. Independent section students were more likely to provide hypothetical responses in addition to concrete responses though, perhaps showing an increased willingness to express ideas lacking cited support when other students could directly see it and comment in a social context and showing that the instructor had presented an atmosphere in which they were willing to present their ideas.

In terms of demonstration of knowledge, although students initially had more thorough or substantive answers to the questions activity in the independent learning section, after discussion was factored in, the overall work quality approached equivalence in the discussion question assignment of the social sections. However, looking at the discussion posts showed that the social section activity was not really a discussion but more of an initial post followed by a response when a given student was interested with rare follow-up by the same individuals and rare follow-ups to a reply post. Rochelle's theory of convergence (1992) whereby various knowledge expressions could lead to higher levels of cognition did not apply since minimal expressions were utilized.

A key difference in the questions activity during observations appeared to be the intended audience of the responses. The independent section students keyed the tone of their responses to the instructor and aimed for a certain level of quality that was reinforced by the initial feedback. The social section students keyed their responses to a public audience and maintained the same quality level based upon initial feedback or lack thereof. The initial posts of the social section often lacked high quality, and a threaded discussion was often required to bring out all aspects required by the grading rubric for a given question. This threaded response contained social aspects missing in the independent section activity that could have contributed to other course aspects such as satisfaction though.

In the course evaluation assignment, the submissions in the independent sections were on average more complete and of higher quality than the social section. The independent sections students generated three times more content per student despite lowered expectations per the supplied grading rubric. Similarly, the independent section students demonstrated higher levels or at least more instances of critical thinking than the social section students despite working alone rather than in groups. The disadvantage was that the independent section students did not get to experience group learning first hand in an elearning environment. Of course, the observable aspects of group learning being conducted in the social sections did not appear to be best applied in this study. Of the dimensions that Spada, Meier, Rummel, and Hauser (2005) lay out for assessing the quality of the collaborative process in computer supported collaborative learning, very few were present in the social section excepting task division.

The reflection exercise was equivalent in terms of the scoring rubric used for grades in the course. The difference appeared in how the assignment was utilized by the students in the two designed. The independent section students tended to present a more evolutionary tale of

student learning, perhaps because they saw it more as a private journal that only the instructor would see. The social section students tended to be brief and to the point, perhaps due to its public nature, not wanting to reveal personal aspects of their learning.

The instructor's perception of student learning showed both differences and similarities as well between the two designs. While the instructor felt in the end that all sections of the course resulted in students attaining an equivalent level of understanding, he felt that there was potential disadvantage to independent section students losing an experiential aspect of learning within a socially aligned elearning course. On the other hand, the same could be said in reverse in that the socially instructed students did not gain experiential knowledge of an independent learning aligned elearning course. The instructor also noted the advantage of multiple voices in the socially designed course. However, he did not recognize the voice of the text or the potential realized in one section of the social course when the student voice was misguided and not realigned by instructor input. Many voices are involved in the learning process, especially in an elearning environment (Garrison & Anderson, 2003). Finally, the group project was seen as both a blessing and nuisance by the instructor. When there were high levels of group cohesion, they seemed to be effective, yet at the same time the end result of the exercise seemed more of a divide and conquer strategy as opposed to collaborative learning. Students in the social section appeared to only be attending to a single aspect of a multi-aspect rubric resulting in limited full exposure to course concepts.

Overall, taking all of the data into account including participant observational perspectives, the levels of student demonstration of understanding in all sections of the course were equivalent in terms of meeting a minimum requirement. However, there were instances in which students in the independent section demonstrated deeper understanding such as attending

to more aspects of the course evaluation exercise or being more developed in their thoughts during the reflection exercise. The social section students may have participated in more discussion questions, but the independent section students were participating at a higher quality in the questions in which they participated. At the same time, the instructor's largest worry seemed to be the loss of experiencing the social aspects of elearning by the independent learning sections, perhaps demonstrating his own bias.

The students did not seem to notice any difference in terms of learning overall; however, they noted the educational value of social aspects when they were present and in their absence cited the value of the instructor's input, which was not seen in the social section. In terms of perceived learning and demonstration of content knowledge, both models of instruction proved effective at a level that in the absence or even presence of a control could be seen as high in this context. Although the independent students tended to provide higher quality work than the social section students on some assignments and the type of intended audience varied for some assignments, neither the students nor the instructor perceived them as learning more.

While student learning seemed to weigh in favor of the independent section in terms of demonstration of knowledge acquisition, student satisfaction weighed slightly in favor of the social course design; in line with best practice models largely supported in the United States (Elbaum, 2002; Ko, 2001; Palloff & Pratt, 2004; White & Weight, 2000). In all cases, the average for any given Likert-scaled end-of-course evaluation question keyed to student satisfaction was positive for any section or session taken on its own without comparison. Thus, in the absence of this comparative study, one could conclude that either design was effective at a high level. However, the design of this study afforded a comparison. Although most variables were statistically equivalent in end-of-course surveys by students, the overall course

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quality and the quality of the instructor were rated statistically lower in the second session independent learning section and these two values were significantly correlated. True, in such a small student population, when even two students find the instructor of low quality, a significant result can be seen in course evaluations when overall averages tend to be highly positive. Experiential observations suggested that the students were overall equally satisfied; however, there were a few instances (and only a few) of discontent that occurred in the independent learning sections, particularly during the second session. No rationale was perceived other than student factors since the overall quality of the instructor seemed relatively identical between sessions. Therefore, a breakdown in self-selection was one attribution for this effect, while the potential positives of social interaction replacing or enhancing instructor-student interaction being in favor of the social section in terms of student satisfaction was another. An important final fact to point out is that in the final evaluation surveys 100% of students cited that they would take the same course again showing that overall satisfaction was high for both courses.

Regardless of this above difference, another difference presented itself upon further exploration into the course dialogue. Although not distinguished by any instrument, two types of satisfaction presented themselves, satisfaction of experience and satisfaction of learning. The social aspects found within the social section or some other aspect within the course as it presented itself created a higher sense of satisfaction of experience within the students. Comments related to satisfaction from the social section students had a higher proportion of instances related to feelings concerning the overall experience, other people and interactions, or the learning process. At the same time, when making comments related to satisfaction, students in the independent section were more likely to make comments related specifically to

the content, its presentation, learning, or the course as a whole. Therefore, satisfaction could be divided into satisfaction of experience and satisfaction of learning.

These two types of satisfaction should be taken into account when designing future studies. They may be linked to different learning or instructional modalities. Within instruction tied to andragogy where learning is centered on the problem, learner satisfaction may be more centered on the content and learning activities. Within instruction tied to social learning theory where learning is engaged within social interaction, learner satisfaction may be more centered on the experiences that take place during the learning process.

When shifting to the instructor and the third issue of this thesis, a potential shift when changing instructional strategy was the workload requirements of the instructor. During discussions among instructors of the MVCR program, workload was a common topic. Most believed that elearning had a higher workload than traditional face-to-face education, at least initially. Some have cited this as a potential drawback to initial instructor ventures into elearning (personal communications). In this study, both instructor perceptions and time usage logs kept by the instructor showed that the demands on instructor time varied greatly between social and independent instructional methods. For the social sections, monitoring the group interactions and the increased volume of postings were perceived to be the greatest time commitment.   For the independent learning sections, increased grading and feedback commitments seemed to dominate the instructor's time. During interviews with the instructor, it became clear that although an initial time commitment manifested due to the new nature of the independent study course and methodology, by the second session, there was a higher time commitment to the socially aligned model than the independent learning model due to monitoring. At the same time, word counts showed that the instructor posted more words

overall in the independent section. The instructor also discussed his low instructor presence in

the social section while maintaining high instructor presence in the independent section. His

choice of approach leads to a higher overall time commitment measure for the independent

model; however, this measure could be subject to change with continued instruction and with a

different instructor approach.

The last question of this study dealt with instructor satisfaction. Such satisfaction could

influence all of the questions already discussed. For this study, the instructor perceived as much

and admitted finally to a slight bias towards the social model in part due to comfort level and in

part due to a feeling of less pressure among other potentially unknown factors. As I observed

the instructor and interviewed him, I felt this to be true. We both agreed that an instructor could

be biased either way, and that this bias may impact the success of any given model. It appeared

to have possibly affected the second session independent learning section resulting in a few

statistically significant differences in end-of-course evaluations.

Figure 1 serves to graphically summarize these findings. In the figure, the farther out a

point is, the more positive it is. The solid line represents the social learning section while the

dotted line represents the independent learning section. Overall, although all factors were

positive, student demonstration of knowledge (which does not presuppose actual learning) was

higher and instructor workload was lower and thus favored in the independent learning model

while student and instructor satisfaction were higher and thus favored in the social learning

model.

One eventually comes to the question of whether a social interaction model or an

independent study model results in a better outcome *overall* for students. In this study, student

learning and instructor workload seemed to somewhat favor an independent learning model
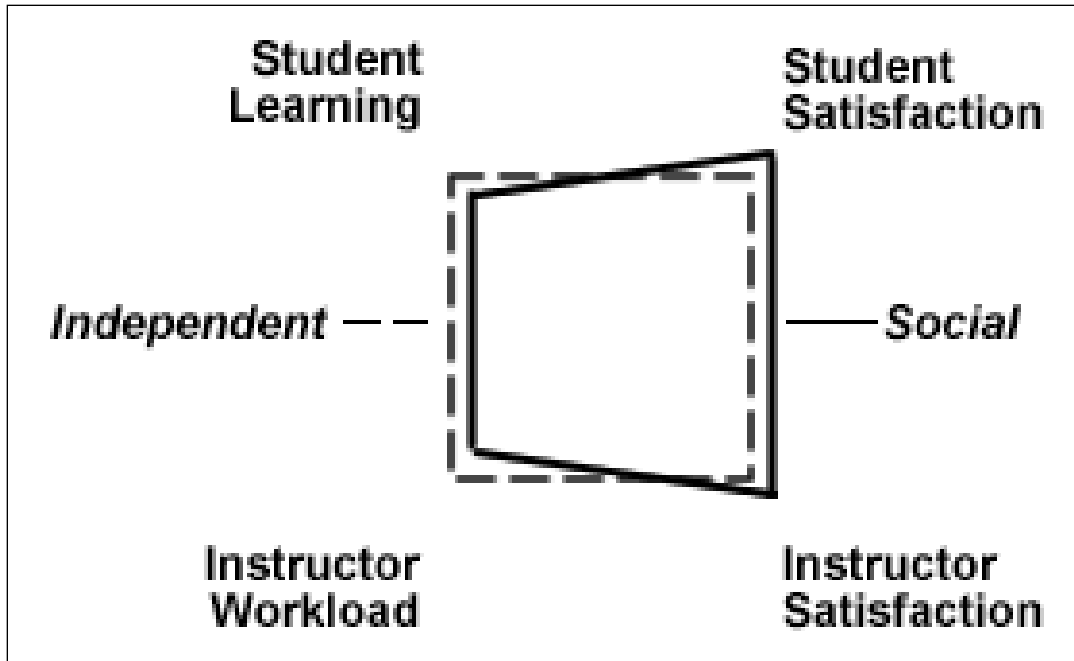
Figure 1. Overview of Findings. The dotted line represents the independent learning section and the solid line represents the social learning section. The greater the area encompassed by the area of the rhombus, the higher that particular learning style scored overall within this research study towards the four areas shown at the four corners.

while student satisfaction and the given instructors satisfaction favored a social learning model. However, holistically, especially if taken on its own without direct comparison to the other, either of these models could have been interpreted as a successful educational model.

Herein lays the most important point to this study. If, in fact, either model can and should be successful when properly implemented, then when resources permit, students should be given the choice (or a valid pre-assessment as yet undeveloped) so that they can align their learning modality with their learning style thus resulting in the greatest educational benefit. Gardner (2006) shows us that both the interpersonal and the intrapersonal aspects of learning should be taken into account to effectively reach all students. Jenkins' (1979) tetrahedral model also takes into account the characteristics of the learner as do all instructional design audience analysis schemes. Providing the option for learning in multiple modalities is a key to empowering the students that is especially key when dealing with adult students as well (Knowles, 1984). Developing student autonomy is a key aspect of learning as well (Boud, 1988). But we mustn't forget the social foundations of learning. Vygotsky (1978) argues that full cognitive development requires social interaction. In an independent setting, this interaction must occur through a guided didactic conversation with the instructor (Holmberg, 1983). Modeling of behavior (Bandura, 1986) and the formation of communities of practice (Palloff & Pratt, 2004) are valuable aspects within the socially aligned learning situation that may not be reproduced within an independent learning setting however. A form of experiential learning may be lost in their absence. However, over reliance on the community can result in under utilization of one's own capacity to construct knowledge representations. The key is to find the situational reference within which the individual functions best.

Of course, before this reference can be identified, the study presented herein should be expanded. Future research could take into account multiple instructors and other curricular areas. Even this course could be expanded so that the course materials discussed additional educational theories that do not potentially bias the students towards a social instructional model. Of potential usefulness would also be an evaluative tool or aspect of an already utilized tool that could be implemented on a given campus so that all courses could be cross compared on questions regarding course social design. The key is to attempt to maintain a comparative study that provides some basis of controls as opposed to studying a single implementation and comparing it to a hypothetical entity. The goal would then be to provide educational options that can provide the largest audience with a propensity for the greatest potential educational effect.

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Appendix A

Course Outlines

The complete contents of each course as presented to students were contained in this appendix. The pages are copyrighted by the University of Illinois and were reproduced with permission for the committee, but are not available to be printed in the bound volume or electronic version of this thesis. They were only available to the committee.

MVCR Registration Email

Dear [participant's name],

Your registration in the course below has been approved.

Title of Course: Online Learning: An Overview
Section: OOTest
Start Date: MM/DD/YYYY
End Date: MM/DD/YYYY
Instructor: _Staff

Your bill for this course is currently $0.

Thank you for your registration in Online Learning: An Overview. As a participant in this course, you have the option of taking it using either an independent study approach or a social learning approach. Both courses are taught by the same instructor at the same time and require equivalent assignments with the same amount of work. You now have the option to choose which approach to study you would prefer**. Please reply to this message with your choice of approach.** If you have further questions regarding the course format, please contact us as well. If you have no choice, you will be randomly assigned. The first 23 students requesting a given format receive priority for that format.

If this is your first MVCR course, you must complete the orientation as outlined below:

1) All MVCR courses are currently taught using the Moodle [Modular Object-Oriented Distance Learning Environment] Course Management System. For information on using the Moodle Course Management System where your course will occur, go to http://www.ion.uillinois.edu/resources/tutorials/software/MoodleWalkthrough/index.asp. This walkthrough includes information such as the layout of MVCR courses. Please note that the URL for the Moodle server is now http://www.mvcr.org, and your default login information is below.

2) Once familiar with Moodle, login to the MVCR Moodle server at http://www.mvcr.org/. Your default username is the first part of your email before the @ sign: participant@yahoo.com and your default password is the same. If you have logged into this Moodle server before, you may have changed your password. There are instructions on the Moodle site for how to recover a lost password. If you have not used this Moodle server before, you will be receiving another email with your specific login information if it is different than the default above. It may also take 24 hours from the time that this email is sent to the time that your Moodle account is actually created. In any case, you will want to change your password once you have logged in.

3) Once on the course listing page, select the resource titled MVCR Orientation. Please note that this is not a course, but rather a resource that you will be able to use throughout your MVCR experience. It will appear in your course record, but will not be assigned a grade.

4) Read all of the orientation materials. These materials include information on MVCR policies, course structure, using Moodle, and using other tools such as Elluminate, a synchronous discussion program used in most MVCR courses.

5) On the start date of your course, you will be able to access your registered courses from your Moodle Home Page after you have logged in. You will **not** be able to access the course before this date. If you try to enter the course before the start date, you will be asked for a registration key. There is no registration key that you will need. Once the course officially starts, the key is automatically removed, and you may enter and begin your course.

If you have any questions, please send a note to xxx@uillinois.edu.

Sincerely,

The MVCR Team
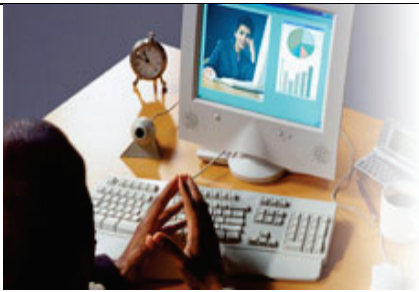xxx@uillinois.edu
(217) xxx-xxxx

Appendix C

Post-Course Evaluation Survey

After logging into the MVCR Website, participants who completed the course have the

opportunity to complete this course evaluation by following a link on their portal page. It is

presented as shown in this Appendix, in the aspect that it would be seen on the Web.

The Course Evaluations help us to improve our courses and best meet the needs of you, the participant. Thank you for taking the time to complete this form.

MAKING THE VIRTUAL CLASSROOM A REALITY
COURSE EVALUATION FORM

There are 31 questions divided into 6 categories. For most questions, you can respond by indicating how much you agree with the statement (e.g. Strongly Agree to Strongly Disagree) AND/OR typing additional comments about the statement.

We would appreciate it if you would answer every question. However, if you want to leave a question blank, you are free to do so.

Thank you for your time.

Security Notice: Several features of the MyION account, such as completion of our course evaluations, currently require that the security settings of your computer allow for session variables. In Internet Explorer, this translated to having your privacy settings under Tools...Internet Options...Privacy to Medium. If you are unable to make these settings, you may not be able to complete some functions on the ION site. Alternative

methods such as mailing in your evaluations will need to be utilized.

You are about to evaluate Online Learning: An Overview
Category 1: Course Management and Design

ALI	6

1. The course as a whole was:

EXTREMELY SATISFYING   ☐   ☐   ☐   ☐   VERY UNSATISFYING

☐

Please type comments here:

2. The topics in this course were:

WELL CHOSEN   ☐   ☐   ☐   ☐   POORLY CHOSEN

☐

Please type comments here:

3. Adequate time was provided for completing assignments.

ALWAYS   ☐   ☐   ☐   ☐   SELDOM

☐

Please type comments here:

4. The assignments were a good use of my time and effort.

145

STRONGLY AGREE ☐ ☐ ☐ ☐   STRONGLY DISAGREE
☐

Please type comments here:

5. An appropriate amount of work was required for this course.

VERY APPROPRIATE ☐ ☐ ☐ ☐   VERY INAPPROPRIATE
☐

Please type comments here:

6. This course required me to engage in analysis, synthesis, and evaluation.

STRONGLY AGREE ☐ ☐ ☐ ☐   STRONGLY DISAGREE
☐

Please type comments here:

Category 2: Student Outcomes of Instruction

7. The course gave me skills and techniques directly applicable to my career.

STRONGLY AGREE ☐ ☐ ☐ ☐   STRONGLY DISAGREE
☐

Please type comments here:

[ ]

8. I have successfully accomplished the learning objectives of this course.

STRONGLY AGREE   [ ]   [ ]   [ ]   [ ]   STRONGLY DISAGREE
[ ]

Please type comments here:

[ ]

9. The course activities helped me learn more than I would have by myself.

STRONGLY AGREE   [ ]   [ ]   [ ]   [ ]   STRONGLY DISAGREE
[ ]

Please type comments here:

[ ]

10. On what criteria do you base your rating of your learning in this course?

Please type comments here:

[ ]

11. What was the most educational aspect of this course?

Please type comments here:

[text area]

---

12. What was the least educational aspect of this course?

Please type comments here:

[text area]

Category 3: Instructor Characteristics and Style

13. The instructor was a model teacher.

STRONGLY AGREE   ☐ ☐ ☐ ☐   STRONGLY DISAGREE
☐

Please type comments here:

[text area]

---

14. The instructor evaluated my work in a meaningful and conscientious manner.

STRONGLY AGREE   ☐ ☐ ☐ ☐   STRONGLY DISAGREE
☐

Please type comments here:

[text area]

---

15. The instructor seemed to sense when I (or other students)

did not understand.

STRONGLY AGREE ☐ ☐ ☐ ☐ STRONGLY DISAGREE
☐

Please type comments here:

---

16. There was an appropriate amount of participation between me and my instructor in this course.

STRONGLY AGREE ☐ ☐ ☐ ☐ STRONGLY DISAGREE
☐

Please type comments here:

Category 4: Instructional Environment

17. There was positive interaction between me and the instructor.

ALMOST ALWAYS ☐ ☐ ☐ ☐ ALMOST NEVER
☐

Please type comments here:

---

18. There was an appropriate amount of participation between me and my classmates in this course.

STRONGLY AGREE ☐ ☐ ☐ ☐ STRONGLY DISAGREE

○

Please type comments here:

[text box]

---

19. The type of interaction among my classmates was one of:

○ ○ ○ ○

COMMUNITY SPIRIT   ISOLATION

○

Please type comments here:

[text box]

---

20. The number of students in class was:

○ ○ ○ ○

TOO LARGE   TOO SMALL

○

Please type comments here:

[text box]

---

21. I felt very comfortable using the technologies in this course.

○ ○ ○ ○

STRONGLY AGREE   STRONGLY DISAGREE

○

Please type comments here:

[text box]

---

22. I sought help when I experienced technical difficulties.

ALWAYS   ☐   ☐   ☐   ☐   NEVER
☐

Please type comments here:

Category 5: Student Preferences for Instruction/Learning Style

23. Rate the importance of instructor feedback and interaction on your assignments and postings.

VERY IMPORTANT   ☐   ☐   ☐   ☐   NOT IMPORTANT
☐

Please type comments here:

---

24. Rate the importance of student feedback and interaction on your assignments and postings.

VERY IMPORTANT   ☐   ☐   ☐   ☐   NOT IMPORTANT
☐

Please type comments here:

---

25. My learning style is appropriate for an online course.

STRONGLY AGREE ☐ ☐ ☐ ☐   STRONGLY DISAGREE
☐

Please type comments here:

```
┌─────────────────────────────────────┐
│                                    ▲ │
│                                    ▒ │
│                                      │
│                                      │
│                                    ▼ │
└─────────────────────────────────────┘
```

Category 6: General Comments

26. I would take an MVCR online course again.

YES ☐ NO ☐

---

27. I would recommend this MVCR online course to a colleague.

YES ☐ NO ☐

---

28. What was the most enjoyable aspect of this course?

Please type comments here:

```
┌─────────────────────────────────────┐
│                                    ▲ │
│                                    ▒ │
│                                      │
│                                      │
│                                    ▼ │
└─────────────────────────────────────┘
```

---

29. What was the least enjoyable aspect of this course?

Please type comments here:

```
┌─────────────────────────────────────┐
│                                    ▲ │
│                                    ▒ │
│                                      │
│                                      │
│                                    ▼ │
└─────────────────────────────────────┘
```

---

30. How can this course be improved?

Please type comments here:

[ ]

---

31. Do you have any additional comments?

Please type comments here:

[ ]

Submit

Appendix D

MVCR Orientation Survey

After logging into the MVCR Website, participants have the opportunity to complete this orientation to online learning survey by following a link on their portal page. Participants are first shown the consent information. Selecting "Go to Survey" sends them to the survey form. These surveys have not been altered for this research and are presented as they would be seen on the Web. They are part of ongoing program improvement, and authority was not given to change this survey as it would affect comparisons with past years of data.

Survey Information and Consent

ORIENTATION TO ONLINE LEARNING STUDENT SURVEY

Hello,

In addition to preparing you for your online experience, Virgil Varvel, CAI Specialist for University Outreach and Public Service, and the ION staff are researching online education in general. Because you have chosen to start the MVCR program, we welcome you to complete the following information for our online student survey. This survey, in conjunction with a post survey for those completing the Practicum course, will be used to research the influence that this program is having on its participants and to improve the program's effectiveness. Data will also be used to study online distance education and its impact on learners. This study and any data obtained may be reported as part of administrative reports within this University as well as research reports and conference presentations within the education community at large.

This survey is entirely voluntary. Your decision to participate, decline, or withdraw from participation will have no effect on your grades at, status at, or future relations with either the University of Illinois or your affiliated

educational institution. All information obtained through this survey is private and confidential and used for research purposes and the improvement of our program only. **No** personal information will be reported as part of this survey. Course instructors do **not** have access to this data unless it is reported as part of a paper, and they do **not** have knowledge of who has completed this survey. Furthermore, answers to **all** questions are **optional**.

This survey should take approximately 15-20 minutes to complete if you answer every question. If you wish to participate in this survey, please select the Go to Survey button below. You may still choose not to complete the survey after moving on to the next page by not selecting Submit. Since your survey responses will be completely confidential, your participation in this research entails no risks to you beyond those that exist in normal daily life. Although you may not benefit personally from participation, you will be contributing to MVCR program improvement and overall knowledge in the field of online education.

If you have any questions, please contact Virgil at Vvarvel@uillinois.edu (217-244-7980). If you have general questions about your rights as a participant in this research, please contact the Institutional Review Board at the University of Illinois at 217-222-2670 or via email at irb@uiuc.edu. Participants may call collect if they identify themselves as research participants. We greatly appreciate your taking the time to complete this survey.

Note: You must be 18 years of age or older to participate in this research.

Please print out this consent form prior to consenting if you would like a copy for your records.

*** I have read and understand the above consent form and agree to participate in this study (click on "Go to Survey" to provide consent and begin the survey). ***

Go to Survey

Orientation Survey Form

ORIENTATION TO ONLINE LEARNING STUDENT SURVEY

Part I: Demographic Information

Gender (Select One):

☐ Male

☐ Female

Age Range: (Select One)

☐ Less than 21 years old

☐ 21-30 years old

☐ 31-40 years old

☐ 41-50 years old

☐ 51-60 years old

☐ More than 60 years old

Education Level: (Select One)

☐ Less Than High School

☐ High School

☐ Associate Degree

☐ Bachelor's or 4-year University Degree

☐ Master's Degree

☐ Doctoral, M.D., PhD., Ed.D. , J.D., or Equivalent Degree

☐ More Than One Higher Education Degree

What is your field of specialization? (Maximum of 80 characters)

[   ]

In 3 or fewer words, what is your ethno-cultural background?

[   ]

Does your lifestyle (children, work, travel, etc.) make it difficult for you to participate in traditional face-to-face educational programs?

☐ Yes

☐ Yes, Somewhat

☐ No

Part II: Technology Availability and Skills

Which of the following technology factors and skills do you feel might facilitate or hinder *your* ability to successfully attend an online course?

	Greatly Facilitates	Somewhat Facilitates	Makes No Difference	Somewhat Hinders	Greatly Hinders
a. My ability to compose documents using a Word Processor.	☐	☐	☐	☐	☐
b. My knowledge of using eMail.	☐	☐	☐	☐	☐
c. My knowledge of the World Wide Web.	☐	☐	☐	☐	☐
d. My familiarity with computers and related technology equipment.	☐	☐	☐	☐	☐
e. The availability of student support for me.	☐	☐	☐	☐	☐
f. The availability of the needed computer technology to me.	☐	☐	☐	☐	☐
g. The availability of a reliable high speed Internet connection to me.	☐	☐	☐	☐	☐
h. The availabity of technical and computer support for me.	☐	☐	☐	☐	☐
i. My level of typing skill.	☐	☐	☐	☐	☐
j. My level of composition, grammar, and writing skills.	☐	☐	☐	☐	☐
k. My level of reading skill.	☐	☐	☐	☐	☐

Part III: Online Teaching and Learning Questions

How would you define online teaching and learning?

[text box]

Do you feel that high quality teaching and learning can occur without face-to-face interaction?
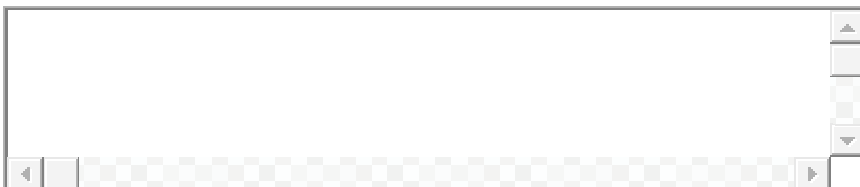
☐ Yes

☐ No

Why? (Maximum 500 characters)

[text box]

What one trait do you feel is most important for successful completion of an online course? (Maximum of 80 characters)

[text box]

Why? (Maximum 500 characters)

[text box]

How would you describe the differences/similarities between online and face-to-face learning? (Maximum 5000 characters)

[text box]

Do you feel that online instruction requires intrinsic motivation whereby the students keep themselves motivated to complete assignments?

- ☐ Greatly Agree
- ☐ Somewhat Agree
- ☐ Partially Agree
- ☐ Partially Disagree
- ☐ Somewhat Disagree
- ☐ Greatly Disagree

Why did you enter the above answer? (Maximum 500 characters)

```
```

How many online courses have you taken or participated in?

- ☐ Zero
- ☐ 1
- ☐ 2
- ☐ 3 - 4
- ☐ 5 - 7
- ☐ More than 7

How many online courses have you developed or revised?

- ☐ Zero
- ☐ One
- ☐ Two
- ☐ Three
- ☐ Four
- ☐ More than four

If you have developed or revised an online course, what one aspect of the course was the most difficult to develop or deal with? (maximum of 800 characters)

[   ]

How many online courses have you taught, if any?

☐ Zero

☐ One

☐ Two

☐ Three

☐ Four

☐ More than four

What one trait or skill do you think is most important for an online instructor to possess? (maxiumum of 80 characters)

[   ]

Why? (maximum of 5000 characters)

[   ]

Which of the following instructor factors do you feel may facilitate or hinder *your* ability to successfully attend and complete an online course as compared to a traditional face-to-face course?

Greatly Facilitates	Somewhat Facilitates	Makes No Difference	Somewhat Hinders	Greatly Hinders
a. The availability or level of access to the instructor.				
☐	☐	☐	☐	☐
b. The quality of feedback provided by the instructor.				
☐	☐	☐	☐	☐
c. The quality of the instructor's online pedagogy.				

☐   ☐   ☐   ☐   ☐

d. The timeliness of feedback provided by the instructor.

☐   ☐   ☐   ☐   ☐

e. The quality of the chosen learning materials.

☐   ☐   ☐   ☐   ☐

f. The availability of support services such as tutors.

☐   ☐   ☐   ☐   ☐

Part IV: Social Factors

Which of the following social factors do you feel might facilitate or hinder *your* ability to successfully attend an online course?

Greatly Facilitates	Somewhat Facilitates	Makes No Difference	Somewhat Hinders	Greatly Hinders

a. The availability or level of access to the other students in the course.

☐   ☐   ☐   ☐   ☐

b. The quality of online group work and level of collaboration among online students.

☐   ☐   ☐   ☐   ☐

c. The lack of social context cues such as body language and inflection in text-based communications.

☐   ☐   ☐   ☐   ☐

d. Your own personal time commitments such as family and work.

☐   ☐   ☐   ☐   ☐

e. Your level of procrastination.

☐   ☐   ☐   ☐   ☐

f. Loss of a "campus" atmosphere.

☐   ☐   ☐   ☐   ☐

I prefer to learn through face-to-face interaction where I can see and hear the other students and the instructor.

☐ True

☐ False

☐ No Preference

I fear the possibility of isolation in an online course.

☐ True

☐ False

☐ No Opinion

Part V: MVCR Program Questions

How did you learn about the MVCR program?

```
[                                    ]
```

Why are you taking courses in this program? (Select all that apply)

☐ To maintain current skills

☐ To learn new skills

☐ Because it is a requirements at my institution to teach online

☐ Because it is required for the Master Online Teacher certificate

☐ Because it is an elective in my current degree program

☐ Because it is required in my current degree program

☐ To qualify for promotion or a new job

☐ To make more money

☐ Curiosity

☐ General self improvement

☐ Other

Which MVCR courses do you plan to take? (check all that apply)

☐ Copyright and Intellectual Property Issues

☐ Encouraging Communication in Online Courses

☐ Instructional Design for Online Course Development

☐ Issues and Strategies for Faculty Training

☐ Online Learning: An Overview

☐ Practicum

☐ Student Assessment

☐ Technology Tools for Online Teaching and Learning

☐ Web Design Principles for Online Educators

☐ Multimedia Principles for Online Educators

☐ An Advanced Online Seminar

Additional Comments. Please use the space below to enter any additional comments that you would like to add to your survey.

We greatly appreciate you taking the time to complete this survey.

Submit

Scoring Rubrics

Each rubric is presented below as it was provided in the course to students and as it was used when scoring the assignments. Examples are given in the discussion for answers that constituted a given score. For each pair of rubrics, the first one was used in the independent sections and the second one was used in the social sections.

Course Evaluation Rubric

Evaluation Criteria	Advanced	Proficient	Adequate	Poor	Not There
Critical Thinking: Depth and Quality of Evaluation	Reviewed the course in depth and applied criteria in the selected rubric. Demonstrated a high degree of critical thinking and the ability to apply concepts in a practical manner (20 pts)	Reviewed the course, applying criteria in the selected rubric. Demonstrated some critical thinking and application of concepts, but missed one or more outstanding and obvious points. (16 pts)	Reviewed the course but did not apply criteria. Demonstrated some critical thinking and application of concepts. Not always very practical. (12 pts)	Reviewed the site, but little evaluation. Little demonstration of critical thinking but shows some application of concepts. (8 pts)	Reviewed the site but did not directly apply criteria. Shows minor or incorrect application of concepts. (0-1 pt)
Application: Suggestions for Improvement	Suggestions for improvement include a high degree of both pedagogical and technical issues identified in support of instructional theories and strategies discussed in class. Rationale	Suggestions for improvement include both pedagogical and technical issues identified in support of instructional theories and strategies discussed in class. Rationale for	Suggestions for improvement include both pedagogical and technical issues, but aren't always identified in support of instructional theories and strategies discussed in class. Rationale	Suggestions for improvement include both pedagogical and technical issues, but aren't identified in support of instructional theories and strategies discussed in class. Rationale for suggestions	Suggestions for improvement do not include both pedagogical and technical issues. They aren't identified in support of instructional theories and strategies discussed in class. There is

	for suggestions are stated and supported with specific suggestions made. (5 pts)	suggestions are stated and supported with suggestions made. (4 pts)	for suggestions are usually stated but suggestions aren't complete. (3 pts)	is non apparent and suggestions are vague. (2 pts)	no rationale for suggestions. Suggestions are vague or not feasible. (0 pts)
Mechanics and Details	Few if any errors in spelling and/or grammar (indicating proofreading). Posted by due date.(10 pts)	Few if any errors in spelling and/or grammar (indicating proofreading). Posted by due date. (8 pts)	Few if any errors in spelling and/or grammar (indicating proofreading). Posted by due date. (6 pts)	Some errors in spelling and/or grammar (still indicating proofreading). Posted late. (3 pts)	Numerous errors in spelling and grammar (indicating lack of proofreading). Posted late. (0 pts)

Evaluation Criteria	Advanced	Proficient	Adequate	Poor	Not There
Critical Thinking: Depth and Quality of Evaluation	Group members reviewed the course in depth and applied criteria in the selected rubric. Demonstrated a high degree of critical thinking and the ability to apply concepts in a practical manner (10 pts)	Group members reviewed the course, applying criteria in the selected rubric. Demonstrated some critical thinking and application of concepts, but missed one or more outstanding and obvious points. (8 pts)	Members reviewed the course but did not apply criteria. Demonstrated some critical thinking and application of concepts. Not always very practical. (6 pts)	Some members reviewed the sight, but others provided little evaluation. Little demonstration of critical thinking but shows some application of concepts. (4 pts)	Some members reviewed the site but did not directly apply criteria. Shows minor or incorrect application of concepts. (0 pts)
Application: Suggestions for Improvement	Suggestions for improvement include a high degree of both pedagogical and technical issues identified in support of instructional theories and strategies	Suggestions for improvement include both pedagogical and technical issues identified in support of instructional theories and strategies discussed in	Suggestions for improvement include both pedagogical and technical issues, but aren't always identified in support of instructional theories and strategies	Suggestions for improvement include both pedagogical and technical issues, but aren't identified in support of instructional theories and strategies discussed in	Suggestions for improvement do not include both pedagogical and technical issues. They aren't identified in support of instructional theories and strategies

	discussed in class. Rationale for suggestions are stated and supported with specific suggestions made. (5 pts)	class. Rationale for suggestions are stated and supported with suggestions made. (4 pts)	discussed in class. Rationale for suggestions are usually stated but suggestions aren't complete. (3 pts)	class. Rationale for suggestions is non apparent and suggestions are vague. (2 pts)	discussed in class. There is no rationale for suggestions. Suggestions are vague or not feasible. (0 pts)
Group Cohesion: Collaboration with Group	Members of the group initiated and maintained exceptional constructive communication in order to complete the assignment. Group members worked as a group (not individuals "splitting up" the assignment), practiced consensus building, all members actively participated in group discussion and product creation. The product created was creative and exceptional. Final evaluation report represented a cohesive review of the course so that the group "speaks" as one. (5 pts)	Members of the group initiated and maintained reasonable and constructive communication in order to complete the assignment. Group members worked as a group (not individuals "splitting up" the assignment), practiced consensus building, most members actively participated in group discussion and product creation. The product created was creative and well done. Final evaluation report represented a cohesive review of the course so that the group "speaks as one. (4 pts)	Some members attempted communication but others did not. Group members worked as a group by "splitting up" the assignment, making decisions in regards to achieving the goals as a group, most members participated in the group discussion and product creation. The product created was adequate. Final evaluation report represented several differing opinions in respect to the course. (3 pts)	While some members attempted a minimal amount of communication, others did not. Members worked primarily as individuals by "splitting up" the assignment, making individual decisions in regards to achieving the goals, showed little cohesiveness to the group in any way other than task completion. Only a few members actually provided work for the completed project. The product created was adequate. Final evaluation represented primarily one or two people's evaluation rather than the total group's opinion. (2 pts)	Very little to no communication among group members. Essentially this was not a collaborative group effort. Little to no demonstration of group identity or cooperation. One person primarily responsible for creation of entire project. The product created was less than adequate. Final evaluation report represented essentially one person's work. (0 pts)

Individual Participation and Contribution	Actively participated in group process, assumed roles that benefit the group, strived for consensus, logged in and posted at least every 24 hours. Peer comments and self evaluation were extremely favorable. (10 pts)	Actively participated in group process, assumed roles that benefitted the group, strived for consensus, logged in and posted at least every 48 hours. Peer comments and self evaluation were generally favorable. (8 pts)	Participated in group process, rarely assumed useful roles, logged in and posted within 48 hours. Peer comments and self evaluation were generally favorable, with exception to a few valid criticisms. (6 pts)	Occasionally participated in group process, did not actively support group or completion of task through collaboration but completed "assigned task", logged in and posted within 72 hours. Peer comments and self evaluation were somewhat unfavorable, with several valid criticisms. (4 pts)	Rarely participated in group process, did not support group and collaboration, contributed little to task, logged in sporadically and rarely posted. Peer comments and self evaluation were generally unfavorable, with several valid criticisms. (0 pts)
Mechanics and Details	Few if any errors in spelling and/or grammar (indicating proofreading). Posted by due date.(5 pts)	Few if any errors in spelling and/or grammar (indicating proofreading). Posted by due date. (4 pts)	Few if any errors in spelling and/or grammar (indicating proofreading). Posted by due date. (3 pts)	Some errors in spelling and/or grammar (still indicating proofreading). Posted late. (2 pts)	Numerous errors in spelling and grammar (indicating lack of proofreading). Posted late. (0 pts)

Question Rubric

Evaluation Criteria	Advanced	Proficient	Not Yet There	Not There At All
Development of Ideas	Well-developed ideas; introduces new ideas; (5-6 pts)	Developing ideas; (3-4 pts)	Poorly developed ideas (1 pt)	Does not complete (0 pts)
Evidence of Critical Thinking	Clear evidence of critical thinking--application, analysis, synthesis and evaluation. Postings are characterized by clarity of argument, depth of insight into theoretical issues, originality of treatment, and relevance. Sometimes include unusual insights. Arguments are well supported. (5-6 pts)	Beginnings of critical thinking; postings tend to address peripheral issues. Generally accurate, but could be improved with more analysis and creative thought. Tendency to recite facts rather than address issues. (3-4 pts)	Poorly developed critical thinking (1 pt)	Does not complete(0 pts)

Timeliness and Mechanics	posted before deadline Standard English mechanics and grammar were used (4 pts)	Noticeable problems with mechanics or late postings. (2 pts)		No messages posted (0 pts)

Evaluation Criteria	Advanced	Proficient	Not Yet There	Not There At All
Development of Ideas	Well-developed ideas; introduces new ideas; stimulates discussion (5-6 pts)	Developing ideas; sometimes stimulates discussion (3-4 pts)	Poorly developed ideas which do not add to discussion (1 pt)	Does not enter the discussion (0 pts)
Evidence of Critical Thinking	Clear evidence of critical thinking--application, analysis, synthesis and evaluation. Postings are characterized by clarity of argument, depth of insight into theoretical issues, originality of treatment, and relevance. Sometimes include unusual insights. Arguments are well supported. (5-6 pts)	Beginnings of critical thinking; postings tend to address peripheral issues. Generally accurate, but could be improved with more analysis and creative thought. Tendency to recite facts rather than address issues. (3-4 pts)	Poorly developed critical thinking (1 pt)	Does not enter the discussion (0 pts)
Response to Other Students and Instructor	Interacts at least twice with other students and/or instructor (4 pts)	Interacts at least once with other students and/or instructor (2 pts)		Does not enter discussion (0 pts)
Timeliness and Mechanics	Individual message and at least two responses posted before deadline Standard English mechanics and grammar were used in the initial post. (4 pts)	Noticeable problems with mechanics or late postings. (2 pts)		No messages posted (0 pts)

Reflection Rubric

Evaluation Criteria	Proficient	Adequate	Not There at All

Evidence of Critical Thinking	Clear evidence of critical thinking-- application, analysis, synthesis, and evaluation. Postings characterized by clarity of argument, depth of insight into theoretical issues, originality of treatment, relevance, and sometimes includes unusual insights. Points are well supported. (2 pts)	Some critical thinking is evident. Postings tend to provide good general answers but may not always apply directly to the content of the module. Assertions not supported by evidence. (1 pt)	Poorly developed critical thinking (0 pts)
Ideas	Well-developed; shows evidence of reflection and/or metacognition new ideas introduced (2 pts)	Poorly developed; shows little reflection or metacognition. (1 pt)	Did not complete the assignment. (0 pts)
Timeliness	Posted before deadline (1 pt)		Posted late or not at all (0 pts)

Evaluation Criteria	Proficient	Adequate	Not There at All
Evidence of Critical Thinking	Clear evidence of critical thinking-- application, analysis, synthesis, and evaluation. Postings characterized by clarity of argument, depth of insight into theoretical issues, originality of treatment, relevance, and sometimes includes unusual insights. Points are well supported. (2 pts)	Some critical thinking is evident. Postings tend to provide good general answers but may not always apply directly to the content of the module. Assertions not supported by evidence. (1 pt)	Poorly developed critical thinking (0 pts)
Ideas	Well-developed; shows evidence of reflection and/or metacognition new ideas introduced (2 pts)	Poorly developed; shows little reflection or metacognition. (1 pt)	Did not complete the assignment. (0 pts)
Timeliness	Posted before deadline (1 pt)		Posted late or not at all (0 pts)

Bibliography Assignment

Evaluation Criteria	Proficient	Adequate	Not There at All
Ideas	Found items related to the module's content area and introduced new ideas. (2 pts)	Found items marginally related to the module's content area. Quality does not add to the collective knowledge. (1 pt)	Did not complete the assignment (0 pts)
	Sufficient annotation and brief summary	Insufficient information to determine topic/scope of resource and/or URL	Did not complete the

Annotation	(2 pts)	(1 pt)	assignment (0 pts)
Timeliness	Posted on or before deadline (1 pt)		Posted late or not at all (0 pts)

Evaluation Criteria	Proficient	Adequate	Not There at All
Ideas	Found an item related to the module's content area and introduced new ideas. (2 pts)	Found an item marginally related to the module's content area. Quality does not add to the discussion or collective knowledge of the group. (1 pt)	Did not complete the assignment (0 pts)
Annotation	Sufficient annotation and brief summary (2 pts)	Insufficient information to determine topic/scope of resource and/or URL (1 pt)	Did not complete the assignment (0 pts)
Timeliness	Posted on or before deadline (1 pt)		Posted late or not at all (0 pts)