8-9-2010

THE EVOLUTION OF SELF-DIRECTEDNESS IN AN UNDERGRADUATE ETHICS COURSE: A COMPARISON OF THREE COURSE DELIVERY METHODS

Shawna Leigh Strickland
University of Missouri-St. Louis, stricklandsl@missouri.edu

The Evolution of Self-Directedness in an Undergraduate Ethics Course: A Comparison of Three Course Delivery Methods

SHAWNA DEMARIE STRICKLAND
A.A.S., Southern Illinois University-Carbondale, 1994
B.S., Southern Illinois University-Carbondale, 2001
M.Ed., University of Missouri-St. Louis, 2005

A Dissertation Submitted to The Graduate School at the University of Missouri-St. Louis
in partial fulfillment of the requirements for the degree
Doctor of Philosophy in Education

July 2010

Advisory Committee

John A. Henschke, Ed. D.
Chairperson

E. Paulette Isaac-Savage, Ed. D.

Pi-Chi Han, Ed. D.

P. Kevin Rudeen, Ph. D.

Committee Approval Page

Abstract

Many studies have investigated relationships between self-directedness and various indicators of success in university coursework but few have explored the evolution of self-directedness that may or may not occur in these settings. This study sought to discover how self-direction in learning of participants in an undergraduate healthcare ethics course evolved. Emphasis of this evolution was placed on the learner's perspective. The study also examined the relationship between course delivery method and degree of evolution of self-directedness during the studied semester. A traditional section, a blended section, and an online section of the healthcare ethics course were studied.

Within three sections of the studied course, 68 undergraduate students participated in the mixed methods study. Data collection included pre-course and post-course completion of the Self-Directed Learning Readiness Scale (SDLRS), demographic information, a pre-course survey, a standardized course evaluation survey and interviews with selected participants.

While all three sections of the studied course demonstrated an increase in self-directedness as measured by the SDLRS, none of the changes were statistically significant or different when comparing results from all three sections of the studied course. The blended section of the course produced the highest mean change, followed by the traditional section and, lastly, the online section. In addition, all three sections produced comparable satisfaction scores based on the standardized course evaluation survey. The researcher's primary discovery is that course delivery method does not impact the learner's ability to be self-directed in learning. A secondary discovery is that

one experience may not be sufficient for the learner's self-directedness to significantly evolve.

The interviews provided an opportunity to explore the experiences from the learners' perspective. Four themes emerged from the interview sessions: internal and external motivation, outside influences and other academic experiences. Understanding these themes may assist the educator in tailoring learning experiences to guide the learner to various forms of self-directed learning.

Future research may enhance the literature base by performing longitudinal studies of groups of learners through varied programs. Data obtained through consecutive semesters of coursework may assist in the development and implementation of strategies to assist and guide learners toward learning self-direction.

I dedicate my doctoral dissertation to the memory of Dr. Mary K. Cooper.

She was an astounding professor, a trusted mentor and a valued friend.

Her love of learning inspired me to find my passion in education.

Acknowledgements

I wish to thank my husband, David, for without his support and guidance this dissertation would not have been possible. His belief in me throughout my graduate education has been the cornerstone of my success.

I wish also to thank my parents, Sam and Teresa DeMarie, for instilling in me a strong work ethic and value of education. I also thank my brother, Kyle, for inspiring me in every way. With this dissertation, I honor the memory of my grandparents, Gordon and Nina Robison and Merino and Ella DeMarie. Their sacrifices and hard work provided the opportunities I enjoy today.

My journey along the path of education at the University of Missouri-St. Louis has been enhanced by those I have come to know. I wish to extend a special thank-you to my advisor, Dr. John Henschke. His knowledge, guidance and endless patience mentored me through the process. To my committee members, Dr. Paulette Isaac-Savage, Dr. Pi-Chi Han, and Dr. Kevin Rudeen, thank you for your support and assistance during my journey. I thank also my fellow graduate students. You have inspired me to be a better educator.

Table of Contents

Committee Approval Page ii

Abstract iii

Dedication v

Acknowledgements vi

Table of Contents vii

List of Tables and Figures xi

Chapter 1: Introduction 1

- Background 1
  - Self-directed learning 2
  - Various course delivery methods 3
  - Self-directedness in various course delivery methods 8
- Theoretical Framework 8
- Statement of the Problem 9
- Purpose of the Study 9
- Foreshadowing Issues 10
- Delimitations of the Study 11
- Definition of Terms 11
- Significance of the Study 13
- Organization of the Study 14

Chapter 2: Literature Review 15

- Adult Learning Theory 15
  - Andragogy 16
  - Self-directed learning 21

Readiness for Self-Direction in Learning 23

Self-directed learning readiness scale 24

Self-perception of readiness 27

Readiness in undergraduate students 30

Course Delivery Methods 33

Traditional learning environments 34

Internet learning environments 36

Blended learning environments 38

Quality of alternative course delivery methods 39

Learner satisfaction in alternative course delivery methods 41

Self-directedness in various course delivery methods 45

Summary 46

Chapter 3: Research Methodology 48

Rationale for Design 48

Research Questions 50

Study Setting 50

Study Participants 52

Instruments Employed 53

Study Procedures 55

Data Analysis 57

Ethical Issues 58

Chapter 4: Presentation of the Data 59

Traditional Course Delivery Section 62

Description of traditional course participants 62

Description of traditional course environment 64

Evolution of self-directedness in the traditional course environment 66

Evaluation of the traditional course delivery method 68

Blended Course Delivery Section 71

Description of blended course participants 71

Description of blended course environment 74

Evolution of self-directedness in the blended course environment 75

Evaluation of the blended course delivery method 78

Online Course Delivery Section 82

Description of online course participants 82

Description of online course environment 84

Evolution of self-directedness in the online course environment 86

Evaluation of the online course delivery method 88

Perception of Change 90

Themes 92

Emerging theme: external motivators 92

Emerging theme: internal motivators 93

Emerging theme: outside influences 94

Emerging theme: other academic experiences 95

Summary 97

Chapter 5: Discussion and Future Recommendations 98

Comparison of the Findings among Course Delivery Sections 101

Demographics of the three cohorts 101

Course environments 103

Evolution of self-directedness 106

Evaluation 112

Perception of change 115

Emerging theme: external motivators 117

Emerging theme: internal motivators 119

Emerging theme: outside influences 121

Emerging theme: other academic experiences 122

Conclusions and Discussions 124

Participation quality 125

Dual role of the researcher 130

Implications for practice 131

Limitations 134

Recommendations for Future Research 135

References 136

Appendices

A. Student Information Form 150

B. Self-Directed Learning Readiness Scale 151

C. Standardized University Course Evaluation Form 155

D. Semi-Structured Interview Questions 157

E. IRB Approve Pre-Course Cover Letter 158

List of Tables and Figures

Table 1: A comparison of Knowles' six assumptions of learners in the pedagogical and andragogical models 19

Table 2: A comparison of Knowles' eight process elements in the pedagogical and andragogical models 20

Table 3: Responses to the Self-Directed Learning Readiness Scale 25

Table 4: Levels of Readiness for Self-Directedness 25

Table 5: Descriptive statistics for the traditional section 63

Table 6: Individual SDLRS scores for the traditional section 67

Table 7: Summary statistics of the traditional section SDLRS 68

Table 8: Summary of the traditional section student evaluation of instruction and course 69

Table 9: Descriptive statistics for the blended section 72

Table 10: Individual SDLRS scores for the blended section 77

Table 11: Summary statistics of the blended section SDLRS 78

Table 12: Summary of the blended section student evaluation of instruction and course 79

Table 13: Descriptive statistics for the online section 83

Table 14: Individual SDLRS scores for the online section 87

Table 15: Summary statistics of the online section SDLRS 87

Table 16: Summary of the online section student evaluation of instruction and course 88

Table 17: Age and GPA statistics for all three sections of the studied course 102

Table 18: Descriptive statistics for all three sections of the studied course 103

Table 19: Summary SDLRS statistics for all three sections of the studied course 106

Table 20: Summary statistics for the three sections' student evaluation of instruction and course 114

Table 21: Frequency of negatively phrased items for the pre-course and post-course surveys for all sections of the studied course 127

Table 22: Frequency of positively phrased items for the pre-course and post-course surveys for all sections of the studied course 128

Table 23: Ratio of negatively phrased responses to positively phrased responses on the SDLRS 130

Chapter 1

Introduction

Adult learners bring to the classroom experiences, ideas and values. The exchange of ideas and experiences within the classroom setting enhances learning for all persons involved. The relationship between learners, their peers and their instructors is a vital component of both the learning process and the path to becoming a lifelong learner. That relationship augments written, verbal and non-verbal communication; indeed, interaction is the foundation upon which all true learning occurs.

The importance of relationships is more readily apparent in certain learning environments. This is the case with ethics classes. An undergraduate course in healthcare ethics is typically designed around several key components used to generate discussion (Brigley, n.d.; Tippins & Tobin, 1993). Included in these components is the interaction with peers and course instructors that occurs during in-class discussion. Learners are presented with information that guides them to identify their personal morality and the values that they have developed throughout their lives. An opportunity is created for the discussion of various ethical theories and approaches to making healthcare decisions in the modern era. The learners' discussion of controversial ethical dilemmas and problems encountered in healthcare in an environment is the clearest example of relationships fostering the lifelong learner.

Background

The purpose of the healthcare ethics course described in this study is to provide pre-professional and professional health care students with an opportunity to explore and analyze important ethical issues embedded in clinical practice. Drawing upon relevant

literature, the course allows the learner to discover the implications of ethical decisions in relation to their legal, economic and cultural dimensions. The course instructor chooses ethical cases and examples that are relevant to the health care field and are representative of the types of situations the learners may experience upon joining the workforce. The course follows a practical application format with many opportunities for the learner to personally explore a given situation from many viewpoints to consider all stakeholders involved in the situation.

Self-Directed Learning

Self-directed learning, as described by Knowles (1975), occurs when learners take control of their learning. The learner, with or without the help of others, takes responsibility for understanding his or her own learning needs, as well as determining goals for the learning experience, and identifying the proper resources necessary to accomplish these goals. Knowles (1975) notes that when learners are internally motivated and take charge of their learning experience, the learning is more effective and the retention of knowledge is improved. He also notes that this learning model assists in the natural progression of maturity as the person progresses from childhood to adulthood.

It must be understood that not all individuals are equally self-directed or are ready to become self-directed, regardless of acquisition of knowledge or age. In addition, a learner's ability to be self-directed in one situation or course may not translate to other situations or courses (Candy, 1991). Discovering the individual learner's readiness is an important aspect to encouraging the learner to become self-directed. This may be especially true at the beginning of their careers in healthcare.

One evaluation tool, the Self-Directed Learning Readiness Scale (SDLRS), asks the learner various questions regarding preference to learning methods and techniques. The final score places the respondent along a continuum of readiness levels. A higher score correlates with a preference for independent learning while a lower score corresponds with a preference for structured learning (Guglielmino, 1989).

A healthcare ethics course can cultivate a self-directed environment. The immediacy and practicality of application of the knowledge gained and the relevancy of the cases to the learner's future career can foster internal motivators so the learner will fully explore the phenomenon in question. The sharing of experiences within the course and the relationship built between the learner, his or her peers and the course instructor can be a powerful influence on the learning process. All of these factors, within an inclusive and respectful environment, may promote a more self-directed approach to learning.

Various Course Delivery Methods

The stereotypical vision of the college undergraduate academic experience is one of a large lecture hall with a professor delivering course content from a podium. While this type of course still exists in modern university settings, technology has allowed for alternative forms of course delivery methods to become common. Many institutions not only offer individual courses using these alternative methods but also entire programs of study. The options available for course delivery provide many learners with the opportunity to choose a course delivery method that suits their learning needs and styles.

Not all persons who desire a college education are able to access a traditional setting. Some of the barriers are as simple as extreme distances from the institution while

others face more complicated issues of familial obligations and time constraints (Strickland, 2007). One alternative method frequently used is online course delivery via the Internet. Many learners who have elected to complete courses online are pleased with the flexibility in time and location. This flexibility in location allows the learner to attend the institution of his or her choice, further enhancing the internal motivation toward self-direction (El Mansour & Mupinga, 2007; Rivera & Rice, 2002; Strickland, 2007; Tallman & Fitzgerald, 2005). Gagne and Shepherd (2001), though, reported that the major weakness of online learning environments is the lack of consistent, efficient communication with the course instructor. Other studies report that the lack of synchronous, face-to-face interaction with the course instructor and feelings of isolation are major drawbacks to this learning environment (Strickland, 2007; Wojciechowski, 2005).

In an attempt to provide the learner with the best of both worlds, some institutions and educators opt to enhance their course by adding Internet course materials while still maintaining the face-to-face interaction between instructor and learner. The term blended or hybrid refers to courses that meet in the traditional classroom but are also supplemented with electronic media (Welker & Berardino, 2005). While these courses still have traditional course meetings, the amount of time spent on campus may be less frequent than the traditional course. Some believe that this blended approach enhances learning in the course by providing the learner with independent activities to reinforce course concepts. Aspden and Helm (2004) remind the educator that the success of the blended environment is dependent upon active participation from both course instructor and learner.

While the online and blended environments offer solutions to those who encounter barriers in distance and time, not all educators are confident that learners benefit from these environments as much as the traditional classroom. In other words, is learning taking a back seat to convenience? In a report from the Chronicle of Higher Education, 70 percent of faculty members surveyed felt that learning outcomes in online courses were inferior to the traditional courses (Shieh, 2009). In a related finding, Adams (2008) noted that persons who are decision-makers for filling entry-level positions prefer graduates who have more traditional education experiences over those with online education experiences. Johnson, Aragon, Shaik and Palma-Rivas (2000) report that the convenience of online classes could lead to the commercialization of education and lowering of standards or the devaluing of university degrees.

Past research into the differences in learning outcomes among course delivery methods is plentiful and has been unable to produce measurable differences in educational outcomes. Blake, Wilson, Cetto and Pardo-Ballester (2008) studied oral proficiency in undergraduate students enrolled in a traditional Spanish language course versus those enrolled in online and blended sections of the same course. Rivera and Rice (2002) also studied student outcomes in undergraduate students enrolled in a traditional section of a management information systems course versus those enrolled in an online section of the course. Gagne and Shepherd (2001) studied student outcomes in graduate students enrolled in a traditional accounting course versus those enrolled in an online section of the same course. Strickland (2009) performed a retrospective analysis of undergraduate students in a senior-level respiratory therapy course. The first cohort completed the course in a traditional setting while the second cohort completed the

course in a blended environment. The results of all of these studies were the same: no significant statistical difference in student outcomes between the traditional, blended and online sections of each course could be determined. A common criticism of the student outcomes research is the lack of control over variables in the research design. Bernard et al. (2004) state that while these studies, and others, fail to show statistical difference in outcomes, the variability surrounding the mean is wide and "precludes any such simplistic conclusion" (p. 406).

Another common area of research involves the differences in learner satisfaction among the course delivery methods. Johnson, Aragon, Shaik and Palma-Rivas (2000) studied student satisfaction between graduate students enrolled in a human resource development course. Half of the learners were enrolled in a traditional course while the other half enrolled in an online section. These researchers noted that the traditional course learners rated satisfaction higher than the online learners but allowed for the personal connection between learner and instructor as a possible explanation. In direct contrast, Skylar et al. (2005) noted no difference in satisfaction between learners in online sections versus traditional sections. Rivera and Rice (2002) noted that learners in a blended section of the studied course rated satisfaction higher than their traditional section counterparts while Strickland (2009) found no difference in the satisfaction between two such groups in a different study. While all of these studies focused on a different set of circumstances, the inconsistency among results can lead to confusion when attempts are made to generalize the findings.

Few researchers have explored the experiences of interactions in various course delivery methods. Burnett, Bonnici, Miksa and Kim (2007) studied the frequency,

intensity and topicality in online learning. This study focused on learner-instructor and learner-learner interaction. They found that learners valued the interaction with peers and most responses were “positive” regarding their satisfaction with interaction overall. They also found that “most students reported preferring synchronous (interactive chat) to asynchronous (discussion boards) communication” (p. 31).

Other studies, such as those conducted by O’Leary and Quinlan (2007) and Woods (2002), focused on the type of interaction between learner and instructor. O’Leary and Quinlan (2007) studied the effect of personal telephone communication from the instructor on learner satisfaction and course outcomes in an online course. Interestingly, the personalized communication did not affect satisfaction and the group who received the personal communication earned lower grades than those of the control group. In a similar study, Woods (2007) studied the effects of personalized emails to online students. This study found no difference in the amount of participation from students who received frequent emails and those who received infrequent emails.

Ellis and Calvo (2004) attempted to describe the learners’ experiences, through a quantitative exploration of closed-ended Likert-scale questionnaires provided to online learners. While inferences about participation and learning were drawn from this work, true descriptions of the learners’ experiences were not conveyed. Ellis, Calvo, Levy and Tan (2004) did study the difference in learners’ perceptions between online and face-to-face courses, but the focus of their research was how and why students engaged in discussions and not the satisfaction of their learning experiences.

Self-Directedness in Various Course Delivery Methods

It is widely accepted that learners who choose to complete a course through alternative methods (i.e. online and blended courses) should possess a higher level of motivation and readiness to be self-directed (Chou & Chen, 2008; Hsu & Shiue, 2005; Song, 2007). Many studies have examined the potential relationship of SDLRS scores with various markers of success in online and blended environments: grade point averages (GPA), course grades, and course completion (Chou & Chen, 2008). Anderson (1993) compared SDLRS scores between online courses and traditional courses but did not find that one cohort fared better academically as a group; rather, the individuals with higher SDLRS scores successfully completed the course regardless of course delivery method. While these studies have expanded the literature base concerned with prediction of academic success, none of the studies have focused on the learners' journey toward self-directedness. Indeed, lacking in this reviewed research is any study of the evolution of self-directedness during the various course delivery methods.

Theoretical Framework

Encouraging the learner's readiness to accept responsibility for his/her learning is a vital part of the teaching process. As course delivery adapts to various technological formats, the maturity and evolution of the learner stays the same. The learner-centered concept of andragogy encourages the learner to gradually accept responsibility for learning. The ability to understand the learner's experience and how the learning environment affected his/her ability to be more self-directed is imperative to understanding how the course instructor can best facilitate such growth. The research question and literature review emerged from this theoretical framework.

Statement of the Problem

Past research into the efficacy of various course delivery methods and self-directedness in undergraduate learners is abundant (Chou & Chen, 2008; Rivera & Rice, 2002; Skylar et al., 2005; Strickland, 2009). While many studies have investigated satisfaction and learning outcomes differences among the various course delivery methods as well as relationships between self-directedness and various indicators of success, none have explored the evolution of self-directedness that may or may not occur in these settings. As the participants in this study are beginning their journey into the healthcare arena, self-directedness in learning about ethical issues in healthcare can have a major impact on their future career.

Purpose of the Study

The purpose of this study was to determine how the learners' perception of self-directedness evolved during a healthcare ethics course. In addition to identifying the evolution of self-directedness for an individual, the study compared the three different sections to discover what differences existed among the variable course delivery methods with regard to the evolution of the participants' perceptions of self-directedness. This study probed beyond the measurement of global satisfaction and learning outcomes into the experience of the learning from the perspective of the learner.

This study sought to answer the question, to what extent does the undergraduate learner's readiness to be self-directed evolve during a health care ethics course? Subquestions were:

1. How does the evolution of readiness to be self-directed differ among course delivery methods?

2. What is the undergraduate learner's perception of his/her change in self-directedness during the health care ethics course?

With respect to the main research question above, the null hypothesis was that the post-course assessment would show that all sections of the course have not increased their readiness to be self-directed. With regards to the first subquestion, an alternative hypothesis was that the online section would demonstrate a more dramatic increase in self-directedness as compared to the blended and traditional sections. Another alternative hypothesis is that the traditional section would have the least dramatic increase in self-directedness as compared to those in the online and blended sections. Through qualitative analysis, the undergraduate learner's perception of change was determined to address the second subquestion.

Foreshadowing Issues

The research questions focus upon the experiences of the learners in a certain environment. It was assumed that the learners in question will perceive differences in their readiness to be self-directed prior to the course and at its completion. The meaning to be created came directly from the experiences of the learners in their different course environments. Chapter two provides groundwork for understanding the differences between these environments with relation to outcomes, satisfaction and interactions, as well as an understanding of self-directedness. Emerging themes from the analysis of the interviews will reveal information from the view of the participants as well as a story from the point of view of the researcher (Creswell, 2007).

Delimitations of the Study

The study took place during a standard 16-week semester at a large, Midwestern university. The research focused on undergraduate students enrolled in an undergraduate course offered in three different delivery methods: traditional, blended and online. The convenience sample was composed of 68 students distributed among the three sections of the course. The healthcare ethics course was offered in a format that satisfies a portion of the writing intensive requirement of the university. Undergraduate students who have completed the pre-requisite courses were eligible for enrollment.

This course was designed for pre-health professions students preparing to enter into professional academic programs such as physical therapy, respiratory therapy, diagnostic medical ultrasound, nursing, occupational therapy, speech therapy and medicine. Topics discussed in this course included a review of ethical principles, application of ethical principles to medical scenarios and various ethical dilemmas in medicine. Some examples of course topics include abortion, clinician-assisted suicide, organ transplantation and medical research. All three sections of the course were taught by the same professor and held constant the assignments, examinations and projects for all three sections.

Definition of Terms

Many terms and phrases can elicit multiple meanings. It is important for these terms and phrases to be defined in context to allow for complete understanding. Commonly used terms and phrases are defined below.

Andragogy: “the art and science of helping adults learn” (Knowles, 1970, p. 38). Based upon six characteristics of adults and eight learning processes, this theory outlines the differences between adult learners and childhood learners.

Asynchronous learning: learning that takes place as participation occurs at differing times for course participants (Bates, 1997).

Blackboard®: electronic program subscribed by many universities and colleges to deliver online course content (Simmons, Jones & Silver, 2004).

Blended learning environment: classroom-based course with supplemental materials provided in electronic format; face-to-face interaction with the course instructor and course participants occurs in a scheduled time frame as well as interaction with the course instructor and course participants in an asynchronous electronic format. This study will use the term “blended” for consistency (Jackson & Helms, 2008).

Discussion board: an electronic messaging board in an online course that allows course participants in various locations to discuss course materials in an asynchronous forum with or without the guidance of the course instructor (Krentler & Willis-Flurry, 2005).

Online learning environment: “a form of distance education delivered over the internet” (Johnson, Aragon, Shaik, & Palma-Rivas, 2000, p. 29)

Satisfaction: “perceptions of being able to achieve success and feelings about the achieved outcomes” (Johnson, Aragon, Shaik, & Palma-Rivas, 2000, p. 32).

Self-directed learning: “a process in which individuals take the initiative with or without the help of others, in diagnosing their learning needs, formulating goals, identifying human and material resources, and evaluating learning outcomes” (Knowles, 1975, p. 18).

Student outcome: academic outcomes such as scores on final examinations, final course grades or scores earned on papers or projects.

Synchronous learning: learning that takes place as participation occurs in precisely the same time for all participants (Bates, 1997).

Tegrity®: software available through the Blackboard® system to record an audio and/or visual presentation

Traditional learning environment: classroom-based course; face-to-face interaction between course instructor and course participants. The course is held at a preset time and place set by the course instructor or institution (Simmons, Jones & Silver, 2004).

Significance of the Study

The themes that emerge from this study may assist educators as they provide educational opportunities to learners via online, blended or traditional classroom methods. Understanding the experiences of the learners can allow educators to manipulate the classroom environment, whether it is virtual or physical, to enhance the learning of those in the course. Additionally, this insight into the learners' experiences can assist future learners - as well as educators and student advisors who provide guidance to learners - who are unsure of how they will adapt to a certain learning environment to choose their learning environment carefully.

The exploration of the evolution of self-directedness has many implications for the delivery of undergraduate education. As learners experience new environments and reflect upon their values and beliefs, their ability to be self-directed may be influenced. The information from this study can be useful to educators in their quest to provide better

adult learning environments and who are unsure of the level of the undergraduate learners' abilities to be self-directed.

Organization of the Study

This study is organized into five chapters. The first chapter discusses the context of self-direction and various course delivery methods. This chapter also states the research problem, purpose of the study, delimitations of the study, definition of terms and significance of the study.

Chapter two covers the literature review and is divided into three sections. The first section discusses self-directed learning as an adult learning theory. The second section discusses determination of readiness for self-direction in learning. The third section compares and contrasts the three course delivery methods.

Chapter three focuses on research methods. It includes methodology, design rationale, research questions, study setting, study participants, instruments, procedures, data analysis and ethical issues. Chapter four reports the results of the data analysis and chapter five discusses the findings and recommendations for future research.

Chapter 2

Literature Review

To provide a foundation for understanding, the adult learning theories of andragogy and self-directed learning will be defined and discussed first. After this basis has been established a thorough examination of issues in the readiness of individuals to be self-directed will be presented. The review will then progress to provide a discussion of the various course delivery methods associated with this study; this discussion includes a review of past research into the quality of education and student satisfaction with the learning environments. These topics allow for the analysis of self-direction in the context of various course delivery methods.

Adult Learning Theory

There is no one theoretical explanation for how adults learn. Scholars have explored the phenomenon over the years and many theories have emerged. Even collectively, none can provide a definitive answer to the question. What is known is that there are differences in how adults learn. Understanding these differences and how they affect the learning process is essential for educators of adults. According to Merriam (2001), “the more we know about adult learning, the more effective our practice in the classroom, in the workplace, or in our communities” (p. 1). As people mature and become more self-directed, the adult educator needs to be prepared to nurture and assist this process. The movement toward autonomy is essential for becoming a lifelong learner and the theories of andragogy and self-directed learning support and encourage this evolution.

Andragogy

The most accepted definition of andragogy is “the art and science of helping adults learn” (Knowles, 1970, p. 38), though this is not the only definition. Houle (1992) defines andragogy as “the study of the education of adults” (p. 268) while Savicevic (1991) views andragogy as a “scientific discipline examining problems of adult education and learning in all of its manifestations and expressions” (p. 179). The evolution of andragogy as an educational theory is diverse and widely debated.

Savicevic (1991) asserts that the roots of andragogy can be witnessed in the works of Socrates, Plato, Aristotle and Ancient Rome. The ancient teachers in Rome, Greece, and China were teachers of adults, not of children. These teachers and scholars used active forms of education, not a passive transfer of knowledge from one person to another. The case method of the ancient Chinese and Hebrew teachers and the Socratic Method of dialogue are but two examples of the way these adult educators met the needs of adult learners (Knowles, Holton, & Swanson, 2005).

The modern concept of andragogy is attributed to the 17th century scholar J.A. Comenius (Savicevic, 1991). Comenius, a Moravian bishop, lobbied for equality in education. His primary wish was to provide comprehensive education and learning for all. He “urged the establishment of special institutions, forms, means, methods and teachers for work with adults” (Savicevic, 1991, p. 180) in an effort to promote the principles of lifelong learning for the purpose of strengthening the culture of humanity.

Alexander Kapp is credited with first using the term andragogy, which is derived from the Greek words *anēr* (meaning “man”) and *agogos* (meaning “leading”) and has since become known as the art and science of teaching adults (Knowles, 1970). This term

is in contrast to the pre-existing term, pedagogy, meaning the art and science of teaching children. Other European scholars, such as Poggeler, Fischer, Picht and Rosenstock, also studied and researched the concept of andragogy in the 18th and 19th century (Knowles, Holton & Swanson, 2005; Savicevic, 1991).

The interest in andragogy in the 19th and 20th centuries is attributed by many authors (Savicevic, 1991) to the mechanics institutes in Britain, which were dedicated to training the working class, as well as workers' colleges and university extensions. The early 20th century labor movement in both the United States and Germany further influenced the development of this theory as many adults were seeking training for new industrial employment positions. Yet another influence was the international expansion of adult education that occurred after World War II. In both Europe and the United States, adult education became a prominent piece in the educational system.

The European concept of andragogy, hailed as more comprehensive by some, has been broken down into five distinguished schools of thought: andragogy as a discipline of pedagogy; agology as an integrative science; a prescriptive theory of student and teacher behavior; andragogy as part of other sciences such as sociology and anthropology; and andragogy as an independent scientific discipline (Henschke & Cooper, 2007; Savicevic, 1991). Scholars aligned with their respective school of thought still debate the nature of andragogy.

Andragogy was introduced to the United States by Anderson and Lindeman in the late 1920s but some authors posit that the American concept of andragogy was "nothing new, nothing original, but simply transferred the German experience" (Savicevic, 1999). However, it began to grow roots in the 1970's when Knowles

integrated the term into his own experiences. Knowles was inspired by Lindeman's work and further defined the differences between andragogy and pedagogy. He explains that while pedagogy is a teacher-centered concept where all responsibility for the learner is placed solely upon the teacher, andragogy is a learner-centered concept that encourages the learner to accept increasing amounts of responsibility for his or her learning. In an andragogical model, the educator's role is altered to that of facilitator, or guide in the learning process (Knowles, Holton & Swanson, 2005).

Knowles, who stated that he acquired the term "andragogy" from Savicevic in the late 1960s, constructed a theory based on two concepts: learning theory and design theory (Henschke & Cooper, 2007). The learning theory, which is based on the adult learner and his or her desire for expression, includes six assumptions on how adult learners are different from child learners. These assumptions include the need to know, the learner's self-concept, the role of the learner's experiences, readiness to learn, orientation to learning and motivation. Table 1 compares Knowles' assumptions in the pedagogical model and the andragogical model (Knowles, Holton, & Swanson, 2005; Knowles, 1975; Knowles, 1970).

Table 1:

A Comparison of Knowles' Six Assumptions of Learners in the Pedagogical and Andragogical Models

Knowles' Assumptions		
Aspect	Pedagogical Model (Teacher-Centered)	Andragogical Model (Learner-Centered)
The need to know	Teacher-dictated content knowledge	Learner understanding of the relevancy, value and application of the knowledge
The learners' self-concept	Dependent personality (upon the teacher)	Increasingly capable of self-direction
The role of the learners' experiences	Of little use or worth as a resource for learning	Rich resource and foundation for learning
Readiness to learn	Varies with maturation level and the need to pass or get promoted	Develops from life tasks and problems
Orientation to learning	Subject-centered	Task-centered, problem-centered, and/or life-centered
Motivation	External rewards and punishments	Internal pressures and incentives; curiosity

The second aspect of Knowles' theory is the design theory. This aspect is based on processes of learning, not content. The design theory allows the educator to become a facilitator and assist the learner in acquiring the content knowledge he or she seeks. Knowles' design theory is composed of eight process elements. These elements include preparing the learner, preparing the educational climate, planning for the learning activity, diagnosing the learner's needs, setting learning objectives, designing learning plans, implementing the learning activities and evaluating the learning process. As opposed to the pedagogical model, the process elements within the andragogical model encourage the learner to take more responsibility for the learning process and control the

acquisition of new knowledge. Table 2 compares these eight processes in the pedagogical and andragogical models (Knowles, 1975; Knowles, Holton, & Swanson, 2005).

Table 2:

A Comparison of Knowles' Eight Process Elements in the Pedagogical and Andragogical Models

Element	Pedagogical Model (Teacher-Centered)	Andragogical Model (Learner-Centered)
Preparing learners	Minimal	Provide information and prepare for the content and activities; help set realistic goals
Climate	Formal; authority-oriented; competitive	Informal; collaborative and supportive environment; mutually respectful; trusting
Planning	By teacher	Mutual planning by learner and facilitator
Diagnosis of needs	By teacher	By mutual assessment
Setting of objectives	By teacher	By mutual negotiation
Designing learning plans	Logical sequence; content units	Sequenced by readiness; problem units
Learning activities	Transmittal techniques	Experiential techniques; inquiry projects
Evaluation	By teacher	Mutual assessment of needs and measurement of program

Over the years, Knowles' theory of andragogy has garnered large amounts of criticism (Jarvis, 1995; Merriam, 2001; Savicevic, 1999). One of the major criticisms is that, developmentally, not all adults are able to learn from an andragogical approach. Due to their level of self-direction-regardless of age-these adults may benefit from a more structured, pedagogical learning format with extrinsic rewards. On the other hand, some children may be more self-directed in their development of learning techniques and therefore ready for learning from a problem-centered viewpoint or are now more

intrinsically motivated (Merriam, 2001). This critique led to Knowles' assertion that andragogy is the "art and science of helping human beings learn" (Knowles, 1970, p. 38).

Savicevic (1999) asserts that a sense of confusion surrounds Knowles' theory due to the inconsistent determinants of the theory. He outlined several mistakes of Knowles with regards to the theory, including reducing andragogy to a recipe for how an educator behaves with students; allowing the model to be used for all learners, not just adults; emphasizing an individualistic approach without linking the learning and education to other factors relating to learning (e. g. existing circumstances and education level) (Savicevic, 1999).

Despite the criticisms and the debates, andragogy as set forth by Knowles is still an accepted practice in the field of adult education. His re-evaluation of the theory over the years led to development of the theory now utilized more in learning situations rather than for the individual (Merriam, 2001). At the heart of the theory is the encouragement of the learner to become responsible for his or her education and to foster lifelong learning. While self-direction has been a part of Knowles' theory, this concept has come to be accepted as a learning theory of its own.

Self-Directed Learning

Self-direction in learning has two distinct aspects: self-direction as a method of learning and self-direction as a goal of learning. Candy (1991) explains that the self-direction method of learning is a method by which the learner accepts increasingly higher levels of responsibility and control over the learning that occurs. During the self-directed learning process, the learner progresses along a continuum that exists between teacher-controlled learning and learner-controlled learning; the learner eventually arrives at a

point where learning is completely independent. The major difference between the self-directed learning scenario from a traditional scenario is that the learner "chooses to assume the primary responsibility for…those learning experiences" (Caffarella, 1993, p. 28).

Self-direction as a goal of education, the second of the two aspects, has become a major goal in education (Caffarella, 1993; Candy, 1991; Juisto & DiBiasio, 2006; Knowles, 1975; Raidal & Volet, 2009). Raidal and Volet (2009) note that the ability of students "to engage in self-directed learning is viewed as a highly desirable goal of professional education because it is a requisite for continuous learning after graduation" (p. 578). It is important to remember that a person who is autonomous (possessing qualities of personal values and beliefs as well as having the will-power to follow through with tasks) does not mean that the person will be able to manage his or her own learning situation. Likewise, a person may be able to self-manage the learning process without possessing the characteristics of personal autonomy (Caffarella, 1993; Candy, 1991).

According to Houle, Tough and Knowles, self directed learning posits that learners can plan their own learning experience, including content, process and outcomes (Amstutz, 1999). It begins with the learner's need to know; this desire or curiosity drives the learner to choose an activity that satisfies this need. The learner's readiness to be self-directed manifests in an "ability to respond to experiences by solving problems and applying knowledge" (Hsu & Shiue, 2005, p. 145). As described by Knowles, this occurs when the learner takes control of his or her own learning. The learner, with or without the help of others, takes responsibility for understanding his or her own learning needs,

determining goals for the learning experience, and identifying the proper resources necessary to accomplish these goals.

The learner also determines the methodology and the criteria used for evaluation (Elias & Merriam, 1995). Knowles notes that when learners take charge of his or her learning experience they are exercising internal motivation and subsequently the learning is more effective and retention is increased. He also notes that this learning model assists in the cognitive maturation of the individual as he or she physically ages from childhood to adulthood (Knowles, 1970).

The learner's role in self-directed learning begins with a self-assessment. It is imperative that the learner can self-assess his or her current level of understanding and/or performance within the set educational goals. The relationship between the learner and his or her peers and educators is one of collaboration and camaraderie to meet the educational goals. While self-directed learning places a large emphasis on the initiative and individual responsibility of the learner, it should be noted that the learner is not isolated. In fact, the educator acquires a new role with self-directed learning: that of facilitator. Two-way communication is necessary for the new relationship between learner and educator to be successful (Brookfield, 1995; Caffarella, 1993; Langenbach, 1988; Song & Hill, 2007).

Readiness for Self-Direction in Learning

The ability to be self-directed varies from learner to learner. Past experiences in life and education can affect the learner's willingness and ability to accept responsibility for his or her learning and to direct the path of learning. Grow (1991) proposed that people mature through stages in their quest to become more autonomous in their learning

endeavors. Progressing through these stages from a point of dependency upon the educator (stage 1) to a point where the learner is self-directed and views the educator as a mentor or consultant (stage 4) could take years and is very dependent upon the situation (Grow, 1991). The ability to measure an individual's level of self-directedness is essential to understanding the individual's learning environment needs.

Self-Directed Learning Readiness Scale

Very few tools exist for the measurement of an individual's perception of his or her self-directedness. The most common tool, the Self-Directed Learning Readiness Scale (SDLRS), was developed by Lucy Guglielmino during her dissertation research in 1977 (Guglielmino, 1989). Despite its age, the SDLRS remains one of the most commonly used tools in social science research around the world (Guglielmino & Associates, n.d.; Guglielmino & Klatt, 1993).

The SDLRS is a 58-Likert-type question survey that provides an opportunity for the learner to self-evaluate his or her attitudes toward learning. The questions are both positively and negatively phrased and the learner responds to each question with regard to his or her level of agreement with the particular statement. According to Guglielmino & Associates (n.d.), the instrument is used to "measure the complex of attitudes, skills, and characteristics that comprise and individual's current level of readiness to manage his or her own learning" (¶1). It is important to note that this questionnaire is a one-point in time survey; as the participant experiences new learning environments and new life challenges his or her ability to be self-directed can change. It is also important to recall Candy's (1991) assertion that self-directedness is context-based and that a learner may be

highly self-directed in one content area while possessing little self-direction qualities in another.

The survey tool asks the participant to respond to each of the 58 questions with a statement that best describes his/her attitude toward that statement (see table 3). Of the statements presented, 17 statements are negatively phrased and the scoring system is reversed (i.e. a response of "almost never" would generate a score of five on a negatively phrased item). Once complete, the sum of the participant's responses provides the researcher with a score that can be translated to a description of the participant's readiness for self-directed learning (see table 4). According to Guglielmino & Associates (n.d.), the average score for this instrument is 214 with a range of scores between 58 and 290 and a standard deviation of 25.59.

Table 3:

Responses to the Self-Directed Learning Readiness Scale

Score	Statement Response
1	Almost never true of me; I hardly ever feel this way
2	Not often true of me; I feel this way less than half of the time
3	Sometimes true of me; I feel this way about half of the time
4	Usually true of me; I feel this way more than half of the time
5	Almost always true of me; there are very few times when I don't feel this way

Table 4:

Levels of Readiness for Self-Directedness

Score Range	Level of Readiness for Self-Directed Learning
58-201	Below average (learners prefer more structure)
202-226	Average (learners are capable but not fully comfortable with self-direction in learning)
227-290	Above average (learners prefer self-direction in learning)

The SDLRS has been noted to be both valid and reliable by many studies (Guglielmino, 1989; Guglielmino & Klatt, 1993; Long & Agyekum, 1983). Long and Agyekum's (1983) study prompted them to support the statements of validity of the SDLRS. Brockett (1985a) notes that several authors have successfully assessed their participants' perceived readiness for self-direction in learning with the SDLRS and infers "that there appears to be substantial support for the validity and reliability of the scale" (p. 18).

However, support for the SDLRS does not preclude criticism. Candy (1991) does not dismiss the tool but notes that what is being measured by the SDLRS is unclear. He also notes that, from the developer's point of view, it is assumed that "'self-directed learning readiness' is a context-free personal attribute, instead of being subject and context specific" (1991, p. 155). Field (1989, 1991), has provided one of the most outspoken critiques of Guglielmino's scale. He cites many problems with validity and reliability of the survey and asserted that "the problems inherent in the scale are so substantial that it should not continue to be used" (1989, p. 138). Bonham (1991) notes that the lower SDLRS scores could indicate a dislike of learning in general rather than a lack of readiness for self-direction in learning and advises that the name of the tool be changed to the Learning Readiness Scale. Fisher, King and Tague (2001) cite the cost of the tool as a prohibitive factor in its utilization. Hoban, Lawson, Mazmanian, Best and Seibel (2005) state that the SDLRS "falls short of measuring characteristics that Guglielmino determined were associated with self-directed learning" (p. 376).

While Brockett (1985a) asserts that the tool is valid and reliable, he reminds the reader that there are some populations in which the tool may not be useful. For example,

some respondents stated that the questions were confusing. Though persons with a high school education or higher did not respond in this way. Therefore, the SDLRS may not be an appropriate tool to use with persons with less structured educational experiences. Brockett (1985a) also reminds the reader that this scale is not a measure of actual ability to be self-directed but a measure of perceived readiness.

Regardless of the criticisms (Bonham, 1991; Field, 1989, 1990), the SDLRS is still the most widely used tool for the purpose of assessing learning preferences and self-direction in learners (Juisto & DiBiasio, 2006). The developer cautions the researcher to not mention the phrase "self-directed learning readiness" when administering the tool. In fact, the tool is titled "Learning Preference Assessment" in an attempt to eliminate influencing the way the participant responds to the questions (Guglielmino & Associates, n.d.).

Self-Perception of Readiness

Recalling Brockett's (1985a) reminder that the SDLRS is a reflection of the respondent's perception of self-directedness, it is wise to explore how learners view their readiness to take control of their learning process. Few researchers have tackled this specific problem in relation to undergraduate learners. While a few studies have utilized a qualitative approach to understanding self-directedness in undergraduate students, most studies focus on the objective assessment of the readiness level as determined by the SDLRS.

In 2000, Litzinger, Wise, Lee and Bjorklund (2003) studied undergraduate engineering students at various points of their education. In this study, 145 participants completed the SDLRS. The authors noted that there were no statistical differences in self-

directedness between students in the first semester of courses and those in the eighth semester of courses. Their conclusion was that the program of study did not encourage students to become more self-directed. Once the preliminary data were retrieved, these authors administered the SDLRS to senior students prior to the last semester of coursework and again at the end of the last semester of coursework. Their results were the same; no statistical difference in the two scores which implies no improvement in the students' ability to be self-directed. These authors also noted a lack of correlation between the SDLRS scores and the grade point averages of the individuals who responded to the survey.

Lunyk-Childs, et al. (2001) performed focus-group interviews to discover the perceptions of both faculty and students regarding self-directed learning. They discovered, when interviewing undergraduate nursing students, the desire of the students to be self-directed clashed with the "painful" process of developing the skills necessary to become self-directed. They also discovered that the students longed for consistency, support, resources and a confirmation that they were indeed learning what they needed to know for that content area.

Jiusto and DiBiasio (2006) also studied undergraduate engineering students to determine if an experiential interdisciplinary project would increase the students' readiness for self-directed learning. This study used three different tools – the SDLRS, the Individual Development and Educational Assessment system (IDEA) and an internal student project quality assessment protocol – to evaluate the project. The SDLRS portion of the study consisted of a pre- and post-project design. Their results showed that the project had a "modest, positive effect on students' readiness for self-directed learning" (p.

201). The authors reported that the results were statistically significant at the p=0.06 level with an average change in SDLRS score of 3.3 points. Interestingly, the average change between pre- and post-project SDLRS scores was not significant enough to progress from the average level of readiness to the above average level. Another interesting finding in this study is that the authors noted that some learners who scored high on the pre-project SDLRS had a negative self-directed learning experience in the program. This reflects Candy's (1991) statement that changes in self-directedness are dependent upon context.

Dynan, Cate and Rhee (2008) performed a similar study with the purpose of exploring how structured and unstructured environments impact self-directedness. These authors studied two semesters: one semester offered in a very structured format and one offered in an unstructured format. Four sections of the studied course were offered in each semester and 185 learners participated in the study. The authors' hypotheses included the assumption that structured environments will improve a learner's preparedness for self-directed learning as well as the assumption that SDLRS scores will increase when the structure of the course matches the pre-assessment score of the learner (i.e. if the learner scores lower on the SDLRS, he or she would function better in a more structured course). The authors discovered that, while structure match enhanced self-directed learning skills, there was no significant difference in the improvement between SDLRS scores of the structured cohort and those of the unstructured cohort.

In her dissertation, Beth Amey (2008) studied the difference in SDLRS scores between senior-level bachelor degree social work students and master degree social work students after both groups had completed the required field experience. She administered the SDLRS prior to the field experience and again at the completion of the field

experience to 115 bachelor degree students and 70 master degree students. She found that the bachelor degree students had a significant change in SDLRS scores while the master degree students had no statistically significant change in scores. It is important to note that the field experiences of the bachelor degree students were more extensive than those of the master degree students, which could explain the findings of Amey's study. Another possible explanation for these findings is that the master degree students' SDLRS scores were initially higher than those of the bachelor degree students, indicating a higher ability to be self-directed prior to the experience with little room for improvement in the context of the program of study.

Kocaman, Dicle and Uger (2009) performed a longitudinal study of undergraduate nursing students in Turkey. They provided 50 students with the Fisher model of self-directed learning readiness at the beginning of each year and at the completion of the program of study. The Fisher model, based upon the SDLRS, was developed for the nursing education community and contains 40 tailored items to address nursing education specifically (Fisher, King & Tague, 2001). While this scale is not Guglielmino's original scale, it is interesting to note that Kocamon, Dicle and Uger discovered that the nursing students' scores increased with each survey provided (2009). The authors infer that the scores increased as the students received adequate faculty support and matured in life experiences (Kocamon, Dicle, & Uger, 2009), though a Hawthorne effect could also cause the progressive increase in scores.

Readiness in Undergraduate Students

Every undergraduate student's educational experience is unique. In most cases, he or she has completed a very structured high school experience and enters the collegiate

world a few months after graduation. In these few short months, the new undergraduate college student is expected to have transitioned from a pedagogical being to a self-directed learner. In the United States approximately 57% of the undergraduate population is female; this shift in gender began in the mid-1980s (Snyder, Dillow, & Hoffman, 2009). The majority of undergraduate students are between the ages of 18 and 24 years, though the stereotypical picture of undergraduate students is being challenged as more adults return to college in later years.

Dynan, Cate and Rhee (2008) discovered that many undergraduates are unprepared for self-directed learning. This lack of preparedness may be a result of a lifetime of overly-structured learning experiences and a lack of opportunity to be self-directed. The perceived lack of preparedness for self-directedness could also be attributed to locus of control. Persons with an internal locus of control are typically motivated by personal goal-setting while persons with an external locus of control rely more on feedback and guidance from others (Strickland, 2007). Regan (2003), however, asserts that a clear division between the internal and external loci exists only in theory and that most people are a "complex combination of both" (p. 598).

McCall (2002) focused on undergraduate ministerial students in his dissertation. He studied eight students who were either junior or senior level status and were embarking upon their internships within their program of study. He administered the SDLRS prior to the one-year internship experience and again at its conclusion. Considering that McCall's focus was on the experiences of the participants, he did not evaluate the statistical difference in the SDLRS scores pre and post internship. However, the differences in scores for each individual participant are interesting. Of the eight

participants, two scored lower on the SDLRS after the internship experience. Interestingly, these two participants were two of three participants to score in the average scoring range set forth by Guglielmino (1977). The third participant to score in the average range increased the post-internship score by four percent, which propelled this participant into the above average scoring range. The five participants that scored in the above average range prior to the internship experience scored either the same score or higher on the post-internship SDLRS; none of those who initially scored in the above average range scored lower than the original score. One could infer from these results that persons who are initially noted to be more self-directed will continue to become increasingly self-directed with each new experience while those who are noted to be less comfortable with taking learning responsibility may recoil from an experience that promotes self-directedness.

Posner (1991) studied high school students and concluded that the competent self-directed learner is one who has "redefined scholastic competence in self-directed terms" (p. 4). He also noted that "the critical point of development occurs when students have completed more than one self-directed project" (p. 3). While this study was performed with high school students, not college undergraduates, the differences between these two populations are small. Indeed, there may only be two or three years of life experience separating these two groups which allows the reader to assume that Posner's (1991) findings can be inferred to be similar to the undergraduate population.

Turner's (2007) dissertation also studied readiness for self-direction in high school seniors. She administered the SDLRS to two groups of high school senior students: one group from a college preparatory school and one group from a vocational

education school. The researcher discovered no significant difference between the two groups of high school students. The mean scores of both groups-216.65 and 216.25, respectfully-are interpreted by the SDLRS scale as “average.” The purpose of Turner’s scale was to compare the self-directedness of students from two different high school experiences, but one can infer from these results that the traditional undergraduate student will score within this “average” range and therefore feel less inclined to demonstrate self-directed learning.

Litzinger, Wise, Lee and Bjorklund (2003) noted that readiness to be self-directed was independent of academic standing within the student’s academic program of study. Posner (1991) states that until a learner can move past the acquisition of grades and focus on learning for the sake of learning, the transition to self-directedness and life-long learning will not occur. In an effort to encourage this move toward self-direction, many course professors alter the college-level course structure to allow learners the opportunity to make that transition.

Course Delivery Methods

Using technology to supplement a traditional course is not a new concept. Many institutions not only offer individual courses alternatively but also entire programs of study. Alternative course delivery methods provide many learners with the opportunity to choose a course that suits their learning needs and styles and maximize thus maximize their educational experience. The three course delivery methods targeted in this review are the traditional, online and blended methods. Each will be discussed in detail.

Traditional Learning Environments

The phrase “traditional learning environment” refers to the stereotypical version of the learning environment: a content expert at a podium speaking to a large group of students who are diligently writing notes to help them memorize the content. Henschke, Cooper and Isaac (2003) note that this environment “announces to anyone entering the room that the name of the game here is one-way transmission and the proper role of the students is to sit and listen to the professor” (p. 2). While this setting does still exist on college campuses, many educators strive for audience participation in their classrooms to facilitate meaningful conversation and, ultimately, learning of the content. The use of visual aides and new technology in the classroom can stimulate the learning environment and draw the attention of the audience. Traditional learning environments, also called “face-to-face” courses, require on-campus, classroom attendance on a regular basis for successful completion of the course objectives.

No two traditional courses are alike in either content or instructor delivery style; the only feature of the courses that allows for categorization in this way is the mandatory face-to-face participation. Many course instructors incorporate lectures with visual aides to satisfy several learning styles at once. The visual aides presented in the classroom settings can include movies or other video clips, images on overhead projectors and presentations created on computer software such as Microsoft® PowerPoint®. These supplements allow for a large group of people to connect with the material presented; however, some instructors rely too heavily on the audio/visual media and neglect to steer the session past the superficial aspects presented with these methods. Judson (2006) notes that course instructors believe that their technologically-advanced lectures are aligned

with their teaching philosophy and beliefs but the lessons are often misaligned and can present a confusing front to the learners.

Another method of supplementing the traditional lecture is to stimulate group participation. Separating a larger group in to several smaller groups allows the students an opportunity to explore topics together and become an active participant in the discovery of new ideas. However, the course instructor must provide adequate guidance for discussion and be available for questions and points of clarification. In sessions with a large number of students, this could be overwhelming and difficult to manage.

As course instructors strive to create a welcoming and conductive environment to learning, there are many physical aspects to the traditional learning environment that are difficult to control. Graetz and Goliber (2002) note that lighting, temperature, crowded conditions, and noise levels in the classroom can impact student achievement. These extraneous factors can negatively impact a very carefully crafted educational session.

The traditional learning environment is widely criticized. There is the belief that they “encourage passive learning, ignore individual differences and needs of the learners, and do not pay attention to problem solving, critical thinking, or other higher order thinking skills” (Johnson, Aragon, Shaik & Palma-Rivas, 2000, p. 29). Some students enroll in traditional learning environments due to their perceptions of increased opportunities for interaction, immediate feedback and meaningful learning activities (Leasure, Davis & Thievon, 2000). However, many universities and colleges are experiencing a shortage of space, though this is not the only limiting factor for traditional classes. This limitation in physical resources has prompted several educational institutions to explore the feasibility of alternative course delivery methods.

Internet Learning Environments

In the 1980's, the Internet made its debut and has been a viable educational opportunity since the mid-1990's. College credit and non-credit courses have been offered online, and both have been highly successful. However, the internet is not without its doubters. Hirschhiem (2005) reports that the "loss of educational quality as a result of Internet delivery is the major concern" (p. 101) of most educators. Yet, the internet has gained vast popularity with traditional educational institutions, corporations and private companies. The format allows the learner to access the educational information at a time and place that is convenient for the learner. Additionally, the online learner has immediate access not only to the course itself but also online libraries and databases (Hunt, 2005).

The course instructor who utilizes an online format for course delivery has many tools at his or her disposal. Many course instructors provide instruction in the form of document files created with computer software programs such as Microsoft® PowerPoint®, Microsoft® Word®, and Adobe Acrobat®. The benefit to using these programs is that the student is able to repeatedly access the electronic file and, if desired, print a hard copy.

Another method of course instruction is through the use of audiovisual files. Programs such as Wimba® and Tegrity® allow the course instructor to record a voice file that the students can then listen to at a time of their choosing. These voice files can be an informal message to the students or a recording of a live class. The Tegrity® program allows for a video capture as well as an audio capture. While these files benefit those learners with an auditory learning style, the students' internet connection must be reliable

and efficient enough to support the uninterrupted downloading of the data. A telephone line dial-up internet connection may not allow the student to retrieve the information.

Many course instructors facilitate discussion in online classes. There are two types of online discussion environments: synchronous and asynchronous. In synchronous discussion environments, learners and educators can communicate in real-time. Some examples of synchronous discussion environments include virtual classroom, instant messaging and online chat rooms. The benefit of such environments is the immediate feedback the learners receive from both their peers and the educator. The biggest disadvantages of synchronous discussion environments are largely technical, such as computer crashes and scheduling. Additionally, outdated computers can hinder the learner's participation (Anderson-Inman, Knox-Quinn & Tromba, 1996).

Asynchronous discussion environments allow learners to participate in educational activities without the requirement of synchronous log-in with other learners and the educator. The educator provides the educational material in a variety of ways (web site link, word processed document, video, audio, etc) and the students access the learning material at a time and in a way that is convenient for them. The primary benefit to such an environment is that the course is available 24-hours per day, allowing all learners to participate regardless of the time zone in which they may be located. This also allows learners to work at their own paces. Some limitations of asynchronous environments include access to technology (i.e. slow modems, availability to computers, and home vs. work or public access), literacy of technology, technical support available to learners, and delayed feedback from peers and educators (Simonson, et al., 2003).

Many learners elect to complete courses via online delivery methods due to the flexibility in time and location. The online environment eliminates the need to commute to campus and the scheduling of coursework allows the learner to determine a time that works best for him or her. In this way, learners can participate in learning activities while also fulfilling their commitments to work and family.

While there are many benefits to the online learning environment, several disadvantages have been noted. One disadvantage noted by researchers is that online learning environments lack of consistent, efficient communication with the course instructor (Gagne & Shepherd, 2001). Other studies report that feelings of isolation due to the missing face-to-face component are major drawbacks to this learning environment (Strickland, 2007; Wojciechowski, 2005). Another disadvantage is that not all persons who elect to enroll in an online course are sufficiently self-directed enough or technologically knowledgeable for the challenges an online course presents (Strickland, 2007).

Blended Learning Environments

The term blended refers to courses that meet in the traditional classroom but are also supplemented with electronic media (Welker & Berardino, 2005). These courses still require on-campus participation, but the number of course meetings may be fewer than the traditional course. The concept of blending the attributes of online and traditional courses can create “enhanced opportunities for teacher-student interaction, increased student engagement in learning, added flexibility in the teaching and learning environment, and opportunities for continuous improvement” (Vaughan, 2007, p. 81).

As with the online learning environment, the blended method requires the learner to possess a higher level of self-directedness and the ability to work independently. The course provides the flexibility of the online environment (i.e. time and location) with face-to-face meetings that reinforce relationships between learners, their peers and their instructor (Blake, Wilson, Cetto & Pardo-Ballester, 2008).

Quality of Alternative Course Delivery Methods

The popularity of online and blended classrooms is evident in modern society. Many institutions market the "education anywhere" concept. Despite the popularity and convenience offered by these methods, there are still educators who are not confident that learners benefit from these environments as much as the traditional classroom. That +is, is learning taking a back seat to convenience? In a report from the Chronicle of Higher Education, Shieh (2009) reported that 70 percent of faculty members surveyed felt that learning outcomes in online courses were inferior to the traditional courses. Adams (2008) reported a related finding, noting that persons who are decision-makers for filling entry-level positions prefer graduates who have more traditional education experiences over those with online education experiences. Other concerns focus on the commercialization of education and lowering of standards or devaluing of university degrees (Johnson, Aragon, Shaik and Palma-Rivas, 2000).

A great deal of research has focused on the differences in learning outcomes among the three methods of course delivery. One group studied oral proficiency in undergraduate students enrolled in a traditional Spanish language course versus those enrolled in online and blended sections of the same course. Their purpose was "to ascertain if students in those technologically-supported learning environments can keep

pace with the oral progress demonstrated by students in face-to-face learning environments" (Blake, Wilson, Cetto & Pardo-Ballester, 2008, p. 116). These authors discovered that, when comparing the three course delivery methods, there were slight differences in oral proficiency but no statistical difference among the three groups.

Rivera and Rice (2002) also studied student outcomes in undergraduate students enrolled in a traditional section of a management information systems course versus those enrolled in an online section of the course. Their study yielded no significant difference in examination averages between the two cohorts; their results also showed no significant difference between individual exam scores between the groups. The authors concluded that there was no significant difference in student performance between the traditional and online sections of the course studied.

Gagne and Shepherd (2001) studied student outcomes in graduate students enrolled in a traditional accounting course versus those enrolled in an online section of the same course. The researchers conducted an analysis of variance with four performance measures. Their findings support prior research in that the performance of both groups of students was similar.

Another group of researchers (Mentzer, Cryan and Teclehaimanot, 2007) studied 36 traditional undergraduate learners who were randomized into either the online section or the traditional section of the course taught by the same professor. The comparison of student outcomes between sections regarding scores on the midterm examination and final examination showed no statistical difference. However, the final course grade showed that the traditional section scored higher than the online group.

With the intent to discover differences in academic outcomes between students in traditional versus blended learning environments, Strickland (2009) performed a retrospective analysis of two cohorts of undergraduate students. With permission from the course instructor, information was retrieved from instructor records. This information included gender, age, grade point average prior to the start of the studied course session, final examination grade and final course grade. The first cohort completed the senior-level respiratory therapy course in a traditional environment. The second cohort, who completed the course one year later with the same professor, experienced a blended environment. Upon comparison, no statistical difference in academic outcomes was noted between the final examination grades and the course grades. This study concluded from the presented data that "there is no statistical difference in academic outcomes when comparing the traditional classroom setting to the blended classroom setting" (Strickland, 2009, p. e15).

The results of all of these studies were ultimately the same: no significant statistical difference in student outcomes between the traditional, blended and online sections of each course could be reported. A common criticism of the student outcomes research is the lack of control over variables in the research design. Bernard et al. (2004) state that while these studies, and others, fail to show statistical difference in outcomes, the variability surrounding the mean is wide and "precludes any such simplistic conclusion" (p. 406).

Learner Satisfaction in Alternative Course Delivery Methods

Learner satisfaction with regard to the various course delivery methods is another common research topic. One research group (Johnson, Aragon, Shaik & Palma-Rivas,

2000) studied student satisfaction between graduate students enrolled in a human resource development course. These students were enrolled in either a traditional course or an online course. The researchers noted that the traditional course learners rated satisfaction higher than the online learners but allowed for the personal connection between learner and instructor as a possible explanation.

Rivera and Rice (2002) noted that learners in the blended and traditional sections of the studied course rated satisfaction higher than their online section counterparts. The authors hypothesize that the learners in the online section may not have been as technologically savvy as the educators anticipated. Another possibility is that the learners were not self-directed (Rivera & Rice, 2002). Additionally, the lack of relationship built between the learner and course instructor could have accounted for the researchers' findings.

Skylar et al. (2005) studied student satisfaction of undergraduate education students in a special education course delivered in three methods: traditional, online and "class in a box." The "class in a box" used by these researchers "was instruction in a take-home study format contained on three CD-ROMs" (Skyler, et al., 2005, p. 27) that the student was able to complete at his or her own pace. This study noted no statistical difference in satisfaction between learners in online sections versus traditional sections when an ANOVA was performed on the results from the satisfaction surveys. The authors did not include a sample of the satisfaction survey (Skylar, et al., 2005).

In a case study performed by El Mansour and Mupinga (2007), 12 blended learners and 34 online learners were compared. The blended learners reported that the face-to-face interaction with the instructor and instructor availability were positive

aspects to the course, though the structured schedule of the campus sections were a drawback. The online learners provided positive feedback regarding flexibility in time and location, though they did report feelings of isolation from the course instructor and peers as well as technological problems with the course platform.

Mentzer, Cryan and Teclehaimanot (2007) studied 36 traditional undergraduate learners to determine differences in levels of satisfaction between learners in a traditional course environment and learners in an online environment. The participants were randomized into either the online section or the traditional section of the course taught by the same professor. Learners enrolled in the face-to-face section of this study reported higher levels of satisfaction with the course than did their counterparts in the online section of the course.

Vaughan (2007) reports that students who participated in a blended learning endeavor favored the experience due to convenience and decreased commuting time. The students in this study reported that they enjoyed the flexibility of location as they felt comfortable learning from their homes. However, this study also reported challenges that are traditionally encountered in the blended environments. Students who have not developed adequate time management skills or who have not attained a self-directed learning style may not be as satisfied with the less-structured course delivery method (Vaughan, 2007).

Strickland's (2009) retrospective analysis of the traditional and blended environments also evaluated student satisfaction levels using the standardized university end-of-course evaluation form and anonymous comments from the students. The quantitative analysis of the Likert scale university questionnaire used for evaluation

yielded no statistical differences in satisfaction levels between students in the traditional environment and those in the blended environment. However, the qualitative analysis of the anonymous comments did reveal some differences. The traditional cohort, who completed the course in 2005, was more pleased with the outcomes of the course. The blended cohort, who completed the course in 2006, implied dissatisfaction in that the blended aspect increased the overall coursework. The author concluded that the traditional students in this study were more satisfied with the course than the blended students.

Burnett, Bonnici, Miksa & Kim (2007) studied the frequency, intensity and topicality in online learning. This study focused on the interaction between learners and their peers as well as learners and their instructor. The researchers found that "most students reported preferring synchronous (interactive chat) to asynchronous (discussion boards) communication" (p. 31). The respondents in this study indicated that, overall, they were pleased with the levels of interaction in their online courses.

Other studies, such as those conducted by O'Leary and Quinlan (2007) and Woods (2002), focused on the type of interaction between learner and instructor. O'Leary and Quinlan (2007) studied the effect of personal telephone communication from the instructor on learner satisfaction and course outcomes in an online course. Interestingly, the personalized communication did not affect satisfaction and the group who received the personal communication earned lower grades than those of the control group. In a similar study, Woods' 2007 research studied the effects of personalized emails to online students. This study found no difference in the amount of participation from students who received frequent emails and those who received infrequent emails (Woods, 2007).

Ellis and Calvo (2004) attempted to describe the learners' experiences, through a study that was a quantitative exploration of closed-ended Likert-scale questionnaires provided to online learners. While inferences toward participation and learning were drawn from this work, true descriptions of the experiences were not conveyed. All of these studies focused on a different set of circumstances and the inconsistency among results can lead to confusion when attempts to generalize the findings are made.

Self-Directedness in Various Course Delivery Methods

What motivates students towards self-directedness in learning is the source of much debate. Regan (2003) studied nursing students in an attempt to answer this question. Using a focus group and subsequent questionnaire, the researcher inquired as to the motivation of the participants to become more self-directed in their learning. She notes that 100% (97 respondents) indicated that "a good lecture motivated them to direct their own learning" (Regan, 2003, p. 595) and that 93% of respondents agreed that clear guidance and feedback motivated them toward self-directedness in learning. The researcher qualifies her findings by pointing out that the participants defined all classroom activity, whatever its form, as a lecture. The author disagrees with educators who regard lectures as a more pedagogical approach to learning, stating that "such views of adult learning fail to recognise [*sic*] the important link between lectures and the concept of the adult learner" (Regan, 2003, p. 597).

It is widely accepted that learners who choose to complete a course through alternative methods (i.e. online and blended courses) should possess a higher level of motivation and readiness to be self-directed (Chou & Chen, 2008; Hsu & Shiue, 2005; Song, 2007). Many studies have examined the potential relationship of SDLRS scores

with other markers of success in online and blended environments such as grade point averages, course grades, and course completion (Chou & Chen, 2008). Anderson (1993) compared SDLRS scores between online courses and traditional courses but did not find that one cohort fared better academically as a group; rather, the individuals with higher SDLRS scores in either section were successful. Oladoke's (2006) dissertation research found that learning styles, motivation and convenience of learning online influenced graduate students' ability to become self-directed in their learning. While these studies have expanded the literature base into the prediction of academic success, none of the studies have focused on the learners' journey toward self-directedness. Indeed, lacking in this reviewed research is a study of the evolution of self-directedness during the various course delivery methods.

Summary

The review of literature presented here provides a foundation for understanding the context of the study. Understanding the distinction between andragogy and pedagogy allows the educator to consider the needs of adults as learners and experienced beings. The ability and desire to direct one's own learning is a platform to lifelong learning. Indeed, inspiring lifelong learning is a common goal of many educators. The progression of the learner's self-directedness evolves with maturity and experience.

Assessing readiness for self-directed learning can be useful to set the stage for success in higher education. This readiness varies among individuals and can be dependent upon many situations. Few tools exist to evaluate readiness for self-direction in learning. Though widely debated, the SDLRS remains the most widely used tool for this purpose (Guglielmino & Associates, n.d.; Guglielmino & Klatt, 1993). Many

researchers attempt to correlate the resulting scores with academic outcomes and course delivery methods with less than consistent results.

Understanding readiness for self-directed learning and how that readiness impacts success in various course delivery methods is vital for success in higher education. The alternative methods of course delivery have been widely studied and found to be viable forms of education. The quality of education and student satisfaction with alternative course delivery methods has been noted to be at least comparable with the traditional classroom environment. However, the perception of evolution of self-directedness has been largely ignored. The focus of this study allows for the exploration of this phenomenon.

Chapter 3

Research Methodology

Past research into the efficacy of course delivery methods is abundant, as is past research in self-directedness of learners (Leasure, Davis & Thievon, 2000; Graetz & Goliber, 2002; Regan, 2003; Wojciechowski, 2005; Mentzer, Cryan & Teclehaimanot, 2007). These past research efforts have provided the educator with specific knowledge about outcomes and satisfaction but none have explored self-directedness in the context of various course delivery methods or the impact of one course. As the participants in this study are positioned to soon enter the health care arena, their ability to be self-directed in the realm of health care ethics can have a major impact on their future careers.

The purpose of this study was to determine how learners' perception of their ability to be self-directed evolved during a health care ethics course. In addition to determining the basic change in self-directedness for each participant, this survey study also examined the relationship between course delivery method and the degree of evolution of self-directedness during an undergraduate health care ethics course. This study probed beyond measuring global satisfaction and learning outcomes into the experience of the learning from the perspective of the learners.

Rationale for Design

Every study has a paradigm or "basic set of beliefs which guide the actions of the proposal" (Guba as cited in Creswell, 2007, p. 19). For this project, the researcher chose a constructivist paradigm. Constructivism, as described by Grbich (2007), asserts that "knowledge is subjective, constructed and based on the shared signs and symbols which are recognized by members of a culture" (p. 8). The culture of the participants was that of

the learner in an undergraduate course and the researcher in this context was that of the course instructor. Though the participants and the researcher have a different perspective, there was a shared experience between them. Within constructivism, a "co-construction of knowledge between researcher and researched" (Schofield-Clark, n.d., ¶ 16) is encouraged; in this way, the researcher's situation is a necessary addition to the interpretation of the results.

The quantitative research design utilized by this study was a quasi-experimental, non-equivalent groups design. In quasi-experimental research, the variables are identified and the researcher searches for relationships between the variables without manipulating them. While quasi-experimental methods limit the researcher's ability to predict future events based on the study at hand, this research proposes an explanation of the phenomena observed, not a causal effect (Merriam & Simpson, 2000). The quasi-experimental, non-equivalent group design was chosen for the purpose of comparing the differences in evolution of self-directedness across the cohorts. The three groups were non-equivalent as the selection of participants in each section is not randomized. The self-selection process of enrolling in the various course sections prevented this equivalency.

The researcher utilized a phenomenological approach to the qualitative component of this study. The exploration of the lived experiences and the desire to co-construct an interpretation to the collective experiences of the participants further typifies the study as a hermeneutical phenomenology. Based on Creswell's (2007) definition of phenomenological studies, this approach allowed the researcher to describe "the meaning for several individuals of their life experiences of a concept or a phenomenon" (p. 57).

The phenomenon in question was the undergraduate learners' perception of being self-directed in the learning environment. The researcher discovered commonality in the participants' experiences in an effort to discover a fundamental truth regarding this topic.

Research Questions

This study sought to answer the question, to what extent does the undergraduate learner's readiness to be self-directed evolve during a health care ethics course? Subquestions were:

1. How does the evolution of readiness to be self-directed differ among course delivery methods?
2. What is the undergraduate learner's perception of his/her change in self-directedness during the health care ethics course?

With respect to the main research question above, the null hypothesis was that the post-course assessment would show that all sections of the course have not increased their readiness to be self-directed. With regards to the first subquestion, an alternative hypothesis was that the online section would demonstrate a more dramatic increase in self-directedness as compared to the blended and traditional sections. Another alternative hypothesis was that the traditional section would have the least dramatic increase in self-directedness as compared to those in the online and blended sections. Through qualitative analysis, the undergraduate learner's perception of change was determined to address the second subquestion.

Study Setting

The vessel for learning in this study was a health care ethics course taught by the researcher at a large Midwestern university. Three sections of this course were offered

and each section had a maximum capacity of 25 learners. The course participants self-selected the course section in which they enrolled. One section was offered as an online section and was designated in the course catalog as *Internet*. This course was delivered via Blackboard®, a web-based educational platform widely used by institutions of higher education. Learners were not required to attend campus gatherings at any time during the semester; all discussions, homework, examinations, research papers, and group presentations were performed through the Blackboard® platform.

The remaining two sections were designated as *campus* in the course catalog and were scheduled at specific times with meeting dates on campus. One of these two sections was offered in a traditional format with required course meetings. The traditional course consisted of regular course meetings twice per week and was not supported by supplemental Internet resources or the Blackboard® platform. The second of these two sections was offered in a blended format. The blended section required campus attendance with mandatory online participation via the Blackboard® platform. In contrast to the traditional course section, the blended section required fewer on-campus course meetings.

All three course sections, regardless of delivery method, were taught by the same instructor. Consistent with the logic of replication, participants in all three sections used the same textbook and syllabus as well as completed the same assignments and projects. This consistency in course expectations across the sections assisted the researcher in maintaining control over the variables.

The course instructor, who was also the researcher, had taught this course every semester for three and one half years prior to the studied semester. The instructor taught

the course via all three proposed methods in previous semesters and remained the course instructor for all three sections in the studied semester for continuity. In addition to content knowledge, she had eight years of traditional higher education teaching experience and five years of blended and online higher education teaching experience.

The researcher/course instructor was also an active member of the Committee for Health Ethics at the local university hospital. The predominant duty of the ethics committee members is to assist in the evaluation of medical situations in which ethics consultations have been requested by the medical team. In this role, committee members utilize ethical theories as well as legal statutes to arrive at the most ethical response to the situation at hand. The experience gained from the committee interactions added to the practicality of the ethics course for all participants.

Study Participants

The participants consisted of 66 undergraduate students who enrolled in a large Midwestern university health care ethics course taught by the researcher. The ethics course was offered by the health professions school of the university and fulfills one writing intensive requirement for general education as established by the campus writing program. The course was open for enrollment to any undergraduate student, though the course participants were predominantly health professions majors. In rare circumstances, a graduate student may be allowed to take the course. Students must have previously completed the English exposition course with a grade of C or higher to qualify for enrollment into the health care ethics course as per campus writing program policy. The convenience sample of participants varied widely with regards to gender, age, grade point average and class standing (i.e. freshman, sophomore, junior, senior or graduate).

Three sections of the course were offered in the studied semester. One section was delivered in the traditional format, one in the blended format and one in the online format. The traditional format section consisted of 23 participants. The blended format section consisted of 25 participants. The online format section consisted of 20 participants. The participants were able to self-select the section of their choice, thereby eliminating the randomness of the sample.

The majority of participants who enrolled in this course for the studied semester self-identified with or had already been accepted into a health profession major. The health professions programs represented in this sample included respiratory therapy, radiographic sciences, physical therapy, occupational therapy, diagnostic medical sonography, nuclear medicine, and health sciences, as well as nursing, public health, pre-medicine, pre-chiropractic, pre-dental and pre-physician assistant majors. The diagnostic medical sonography and physical therapy programs require this course for entry into the professional phase while health sciences program identifies this course as a core requirement; this course is an elective course for the other programs represented.

Instruments Employed

Demographic information was collected on the course start date to provide a thorough description of the participants in each course section. This information was available to the course instructor through the roster application of the faculty center in the online registration system utilized by the university. Included in this demographic survey were the participants' age, gender, class standing, and grade point average prior to the start of the course.

A short student information form (Appendix A) was used to gather information not available through the online registration system. This form inquired as to the participants' professional path and motivation for enrolling in the course as well as the motivation for enrolling in a specific section of the course and what the participants hoped to learn in the course. The last question on the form asked if the participants had previously completed an ethics or philosophy course. This question identified those who brought experience with ethical theories, problems and dilemmas to the course environment. This form was provided at the beginning of the semester.

The Self-Directed Learning Readiness Scale (SDLRS) (Appendix B) was used to allow the participants to self-assess their attitudes toward learning and readiness to manage their own learning. This survey, developed by Guglielmino in 1977 (Guglielmino, 1977), is composed of 58 questions that require a Likert-scale type of response. The SDLRS is a reliable and validated tool and the most commonly used for the purpose of evaluating readiness for self-directed learning (Guglielmino & Klatt, 1993; Guglielmino, 1989; Long & Agyekum, 1983). In keeping with the recommended practice of administering the survey, the title was altered to read "Learning Preferences Assessment" to eliminate response bias. The participants completed the survey at the beginning of the course and again at the conclusion of the course. This survey was accompanied by a permission letter approved by the Institutional Review Board (IRB). In addition to the individual scores, the difference between the pre-course and post-course scores was noted.

At the conclusion of the course, the participants also completed the standardized university course evaluation form (Appendix C). This form included 30 items that

allowed students to evaluate the course on content, instructor effectiveness, satisfaction, and learning outcomes. Of particular interest to the study are items III-1 (course satisfaction), IV-2 (amount of learning that occurred) and IV-3 (relevance and usefulness of the course) which provide feedback as to the overall course experience.

Upon completion of the post-course SDLRS, the difference between each participant's pre- and post-course score was determined. One participant from each section was approached to participate in a semi-structured interview designed by the researcher (Appendix D). The purpose of the interview was to allow the participants an opportunity to reflect upon the studied semester and why their approach to self-directedness in learning environments changed. The researcher chose to interview only one participant from each section of the studied course because the extreme cases were of interest. Focus groups were not considered due to the lack of individualism the results could produce. The individual experience was the interest of the researcher. The questions asked by the researcher probed at the participants' experiences in the health care ethics course as well as prior experiences and how those experiences affected his/her ability to take responsibility for learning.

Study Procedures

The potential participants were allowed to begin self-selection of course section when the studied semester's courses opened for enrollment. The participants self-selected their preferred section of the course, presumably based on scheduling constraints, academic advisor suggestions, preference of campus-based or internet-based courses, and availability of seats left in each section. On the first day of the semester, the researcher

collected the demographic data from the roster application of the faculty center in the online registration system utilized by the university.

On the first meeting date for the blended and traditional sections of the course, the participants engaged in the typical beginning-of-semester activities. These included a review of course structure, syllabus, and assignment expectations. At this time, the researcher/educator provided the students with the student information form (Appendix A) and the SDLRS survey (Appendix B). Class time was allotted for the completion of these two forms. The completed documents were stored in a section-specific binder and awaited the data compilation that took place at the end of the semester. The online section participants completed the same documents within the first week of the semester in an online survey tool, as this section did not meet on campus at all during the semester.

Upon completion of the sixteen-week semester, the participants in all three sections again completed the SDLRS survey as well as the standardized university course evaluation form. The post-course SDLRS score for each participant was compared with his or her pre-course SDLRS score. The participant from each section with the largest change in SDLRS score with an accompanying change in scoring level was approached after the posting of course grades for a semi-structured interview. The researcher conducted in-person interviews with the three identified participants to discuss the change in self-directedness that occurred during the semester. The location of the interview was the choice of the participant. The interview was audio recorded for the creation of a verbatim transcript of the interactions.

Data Analysis

The data analysis began with a summary of each section's demographic characteristics: age, gender, class standing and grade point average. This analysis was vital to the understanding of the individual participants; in addition, it allowed the researcher to compare each section. The preliminary data analysis also included a summary of the student information form.

The SDLRS was evaluated for each participant's pre-course and post-course responses. Analysis of the SDLRS outcome consisted of a two-way analysis of variance (ANOVA). An assumption of the ANOVA model is that errors are normally distributed with constant variance. The normality of this data set was evaluated by constructing a histogram of the standardized residuals and performing the Anderson-Darling test of normality.

The course evaluations were compiled by a third-party and returned to the researcher/course instructor within two weeks after the conclusion of the course. The evaluations were summarized by course section and the original comments from each section were compiled anonymously into one document. This document was then analyzed for common themes.

The interviews were converted into verbatim transcripts and analyzed for common or recurrent themes. The themes that emerged from each interview were then compared cross-case to discover commonalities between participants. Finally, the themes discovered in the research were contrasted with those in published literature.

Ethical Issues

This study was approved by the IRB at the University of Missouri-St. Louis as well as the IRB on the campus at which the research occurred. Considering that the researcher was also the course instructor, the participants did not have a "gatekeeper." This study had the potential to introduce a power imbalance as the researcher/course instructor had control over the final grades of the participants. To provide the participants with a choice of participation, the student information form and the SDLRS were accompanied by a cover letter approved by the IRB (Appendix E) stating that the participants' responses are voluntary and they could opt out of participation at any time.

The personal interviews were accompanied by an informed consent document approved by the IRB that explained the purpose and procedures of the study prior to the actual interview and was signed by the participant. In addition, the participant chosen for the interview request was not approached by the researcher until after the final grades were submitted to the university registrar. This should have alleviated any feelings of coercion on the part of the participant.

Chapter 4

Presentation of the Data

The purpose of this study was to determine how the learners' perception of self-directedness evolved during a healthcare ethics course. In addition to identifying the evolution of self-directedness for an individual, the study compared the three different sections to discover what differences existed among the variable course delivery methods with regard to the evolution of the participants' perceptions of self-directedness. This study probed beyond the measurement of global satisfaction and learning outcomes into the experience of the learning from the perspective of the learner.

This study sought to answer the question, to what extent does the undergraduate learner's readiness to be self-directed evolve during a health care ethics course? Subquestions were:

1. How does the evolution of readiness to be self-directed differ among course delivery methods?
2. What is the undergraduate learner's perception of his/her change in self-directedness during the health care ethics course?

With respect to the main research question above, the null hypothesis was that the post-course assessment would show that all sections of the course have not increased their readiness to be self-directed. With regards to the first subquestion, an alternative hypothesis was that the online section would demonstrate a more dramatic increase in self-directedness as compared to the blended and traditional sections. Another alternative hypothesis is that the traditional section would have the least dramatic increase in self-directedness as compared to those in the online and blended sections. Through qualitative

analysis, the undergraduate learner's perception of change was determined to address the second subquestion.

To accurately disseminate the information obtained from the participants in this study, a detailed analysis of each section is necessary. This chapter will explore each cohort individually to gain a complete understanding of the dynamics of each section. For each section, the researcher will discuss the participant demographics, course setting, Self-Directed Learning Readiness Scale (SDLRS) score, course evaluation results and participant interview findings. After this comprehensive analysis of each section is complete, the researcher will compare the findings of the SDLRS and university evaluation scores as well as search for common themes among the cohort interview results. It is important to remember that each section followed the same topic outline for the studied semester; hence, all discussions, regardless of format, reflected the same topic at the same point in time. In addition, all sections completed the same course assignment requirements with identical instructions for completion. The only difference in the three sections of the studied course was the instructional delivery method.

The primary evaluation tool for data collection was the SDLRS. This survey tool asks the participant to respond to each of the 58 questions with a statement that best describes his/her attitude toward that statement (see table 3 on page 25). Of the statements presented, 17 statements are negatively phrased and the scoring system is reversed (i.e. a response of "almost never" would generate a score of five on a negatively phrased item). Once complete, the sum of the participant's responses provides the researcher with a score that can be translated to a description of the participant's readiness for self-directed learning (see table 4 on page 25). According to Guglielmino &

Associates (n.d.), the average score for this instrument is 214 with a range of scores between 58 and 290 and a standard deviation of 25.59.

While the SDLRS has been noted to be a reliable and valid tool by many researchers (Guglielmino, 1989; Guglielmino & Klatt, 1993; Long & Agyekum, 1983), the researcher performed a statistical analysis of the instrument to examine the psychometric properties. Cronbach's alpha was used as it is a measure of internal consistency and is used for assessing internal correlation of items. Based on the pre-course survey results for all three cohorts, the resulting alpha for this sample was 0.89, a value that is acceptable for the statements of reliability or consistency of the tool.

A secondary component to the data collection was the standardized university evaluation completed by each section at the end of the studied semester (Appendix C). The general purpose of the instrument is to allow each student an opportunity to critique the course content and the course instructor. The instrument was delivered during the last face-to-face class period by an administrative assistant. The course instructor/researcher was not present so as to prevent bias. The information was compiled electronically, de-identified and provided to the researcher by the same administrative assistant.

The standardized university course evaluation form is a Likert scale survey with positively and negatively phrased items (Appendix C). The evaluation of the course involves four sections. The first section allows the educational institution to comply with Missouri Senate Bill 389 by providing consumer information. Unlike the remainder of the survey, these three questions are assessed on a four-point Likert scale. The second section provides feedback regarding the instructor's abilities. Section III provides a

general evaluation of the course while Section IV provides information about the course to other students. Sections II, III and IV are evaluated on a five-point Likert scale.

Lastly, a semi-structured interview was utilized to gain the perspective of the course participants. One participant from each section was approached to participate in a semi-structured interview designed by the researcher. The purpose of the interview was to allow the participants an opportunity to reflect upon the studied semester and why their approach to self-directedness in learning environments changed.

Traditional Course Delivery Section

This section of the studied course consisted of participants who attended the class as it was presented in a traditional model. The demographics of the participants and discussion of the course format are presented below.

Description of Traditional Course Participants

The traditional section began the studied semester with 25 participants; however, one female participant withdrew from the course after the first week and a second female participant withdrew from the course after four weeks. The first participant who withdrew from the course did not provide communication to the course instructor as to the reasons behind her decision. The second withdrawn participant did communicate with the course instructor that her personal life demanded more of her time and attention and she needed to eliminate course hours. Both participants completed the pre-course SDLRS but as neither completed the course, the demographic and pre-course information was excluded from the data analysis.

The remaining 23 participants consented to the study and completed all pre- and post-course evaluations. The participants ranged in age between 19 and 24 years. Male

participants composed 26% of the course population in the traditional section and female participants composed 74% of the course population. The grade point average for this population ranged from 2.100 to 3.813 based on a 4.0 standard university grade point scale. Seven of the 23 participants were identified in the registration system as sophomore students, while 13 were identified as junior students and 3 were identified as senior students. The self-identified majors represented in this cohort included radiographic sciences, ultrasonography, nuclear medicine sciences, physical therapy, occupational therapy, nursing, pre-medicine, pre-chiropractic, biomedical engineering and health care administration. One participant identified that she was undecided as to her major at the beginning of the semester (table 5).

Table 5:

Descriptive statistics for the traditional section.

Characteristics	N = 23	Frequency	Percent
Gender	Male	6	26.09
	Female	17	73.91
Standing	Sophomore	7	30.43
	Junior	13	56.52
	Senior	3	13.04
Major	Radiographic sciences	1	4.35
	Ultrasonography	5	21.74
	Nuclear medicine	1	4.32
	Physical therapy	9	39.13
	Occupational therapy	1	4.32
	Nursing	1	4.32
	Public health	1	4.32
	Chiropractic	1	4.32
	Administration	1	4.32
	Undecided	1	4.32
	Non-health professions	1	4.32

While 20 participants identified that they enrolled in the health care ethics class because it was required for their respective major program of study, 2 of the 20 also

noted that the course content was of interest to them. One of the 20 participants who noted that this was a required class also noted that he had heard that the course was a good class to take. Three of the participants stated that this class was recommended by the advisor for their major program of study; one of the three noted that, in addition to the recommendation from the program major, the course material was of interest to her. Eight of the 23 participants stated that they had previously completed an ethics course in their past academic endeavors.

Of the 23 participants, 12 stated that they registered for the traditional section because the timing of the course fit with their academic and work schedules. Two stated that they enrolled in this specific course section because it was the only section of the course available for enrollment. Two participants stated that they "just picked it" when they enrolled in their semester courses. One participant stated that she didn't know other course sections existed and five participants did not respond to the question.

Description of Traditional Course Environment

The traditional section environment was based upon a stereotypical undergraduate course setting. For this three credit hour course, the participants were expected to attend one and one-half hour class sessions twice per week. During the 16-week-semester, the participants were expected to attend a total of 28 class days.

The structure of each class session was a mixture of instructor lecture, small group discussions and large group discussions. During each session, a brief lecture was provided by the course instructor. Lecture notes and supplemental reading material (such as published manuscripts and Web site content) were provided in paper form to each participant during the class period. During most sessions, the participants were assigned

to groups of five to six participants each to discuss a case or topic assigned by the course instructor. Upon completion of the discussions, each small group presented their topic and conclusions to the entire class.

Two course sessions were led by guest instructors. The first guest session was a mock ethics committee evaluation. Two ethics consultants from the local university hospital's bioethics department demonstrated how a consultation session progresses, what information is necessary to obtain and how a recommendation is constructed. Following the 45-minute consultation of a hypothetical case presented by the course instructor, the participants were able to question the consultants and discuss the ethical principles and issues involved. During the second guest session, a university ethics professor provided a lecture regarding ethical issues encountered at the end of life. This professor also provided the opportunity for questions and discussion.

The course utilized nine homework assignments, three in-class assignments, two examinations, one research paper and one group project. Homework assignments were paper-based and provided to the students at the time assigned for completion. In-class assignments consisted of paper-based responses based upon a video presented during the class period. The midterm examination was a paper-based examination provided to the participants in the eighth week of the semester. The course was designated as a writing intensive course by the Campus Writing Program; therefore the research paper required a rough draft, peer review and final draft. The research paper requirements were completed by the end of the tenth week of the semester. All components of the research paper assignment were completed in paper-based format by the participants. After the completion of the research paper requirements, the participants were allowed to choose

their peer groups for the group project. The group project consisted of a power point presentation and verbal presentation to the class in the last two weeks of the semester. Each peer group evaluated a specific case as if they were a functioning medical ethics committee and presented their case, rationale, discussion and recommendations to the class followed by a discussion period. In the sixteenth week of the semester, a comprehensive, paper-based final examination was provided to the participants.

Evolution of Self-Directedness in the Traditional Course Environment

The participants were asked to complete the SDLRS at the beginning of the semester. The traditional section completed this survey on the first scheduled day of class. The second survey was completed in the last week of the semester. The difference between the pre- and post-course evaluations was 15 weeks.

The results of the 58-question SDLRS were analyzed by individual and by cohort (table 6). The maximum score obtainable on the SDLRS instrument is 290 while the lowest score obtainable via the instrument is 58. The lowest pre-course SDLRS score in the traditional cohort was 178 while the lowest post-course SDLRS score was 177. The maximum score on the instrument pre-course was 284 and the maximum post-course score was 271. Individual changes between pre- and post-course results ranged from a 38 point decline in scores to a 36 point increase in scores. The scores of five participants declined by more than 10 points while the scores of seven participants increased by more than 10 points. Approximately 70% of the post-course SDLRS scores in this section were not different enough from the pre-course SDLRS scores to produce a categorical change. The differences in scores of two participants, 9% of the section participants, produced a

decline in categories of the SDLRS while the differences in scores of five participants, 21% of the section participants, produced a categorical increase.

Table 6:

Individual SDLRS scores for the traditional section.

Identification Code	Pre-course SDLRS	Post-course SDLRS	Difference
T-1	210	230	+20
T-2	185	177	-8
T-3	244	246	+2
T-5	210	227	+17
T-6	235	231	-4
T-7	219	215	-4
T-8	199	193	-6
T-9	284	271	-13
T-10	262	224	-38
T-11	204	223	+19
T-12	223	222	-1
T-13	215	227	+12
T-14	237	220	-17
T-15	178	184	+6
T-16	216	237	+21
T-17	236	240	+4
T-18	263	252	-11
T-19	210	207	-3
T-20	221	223	+2
T-21	227	263	+36
T-23	249	234	-15
T-24	224	235	+11
T-25	238	238	0

A positive change of 1.3 points was noted between pre- and post-course evaluations for the traditional section (table 7). This improvement in scores vaulted the cohort from the *average* level to the *above average* level, as the maximum score for the *average* level is 226. However, the statistically insignificant change in cohort scores negates the positive implications of the improvement in categories.

Table 7:

Summary statistics of the traditional section SDLRS.

Variable	Number of participants	Group mean score	Standard deviation	Median SDLRS score	Minimum SDLRS score	Maximum SDLRS score
Pre-course SDLRS	23	225.6	24.9	223.0	178.0	284.0
Post-course SDLRS	23	226.9	22.3	227.0	177.0	271.0
Change in SDLRS	23	1.3	15.8	0.0	-38.0	36.0

Evaluation of the Traditional Course Delivery Method

Of the 23 participants, 21 completed the anonymous standardized university evaluation. As the results were obtained without identification, it was not possible to correlate comments and course evaluation scores with SDLRS scores. Group means can be found in table 8.

Table 8:

Summary of the traditional section student evaluation of instruction and course.

Item of evaluation	Number of responses	Group mean
I-1. The course content, including the lectures, syllabus, grading standards and student responsibilities, was presented clearly.	21	3.8
I-2. The instructor was interested in student learning	21	3.8
I-3. Considering both the possibilities and limitations of the subject matter and the course (including class size and facilities), the instructor taught effectively.	21	3.8
II-1. Instructor's organization of the course	20	4.8
II-2. Instructor's voice	21	5.0
II-3. Instructor's explanations	20	5.0
II-4. Ability to present alternative explanations	21	4.8
II-5. Use of examples and illustrations	21	4.9
II-6. Quality of questions or problems raised by instructor	20	4.8
II-7. Students' confidence in instructor's knowledge	21	4.6
II-8. Instructor's enthusiasm	20	4.9
II-9. Encouragement given to students to express themselves	21	4.8
II-10. Answers to students' questions	21	4.5
II-11. Availability of extra help when needed	19	4.6
II-12. Instructor's language proficiency	21	5.0
II-13. Instructor's use of technology (i.e. email, Web pages, computer assignments, etc) enhanced my learning in this course	17	4.8
III-1. The course as a whole was:	21	4.6
III-2. The content of the course was:	21	4.7
IV-1. The use of class time was:	21	4.6
IV-2. The amount you learned in the course was:	21	4.5
IV-3. Relevance and usefulness of course content were:	21	4.6
IV-4. Evaluative and grading techniques (tests, papers, projects, etc) were:	21	4.4
IV-5. Reasonableness of assigned work was:	21	4.6
IV-6. Clarity of student responsibilities and requirements was:	21	4.5

Note: Questions in section I had a 1-4 rating scale; Questions in sections II-IV had a 1-5 rating scale.

Three items were identified as items related to the study: III-1, IV-2, and IV-3. Item III-1 asks the participant to rate the course as a whole, using the options excellent (five on the Likert scale), quite good, satisfactory, fair, poor (one on the Likert scale) and

no comment. The respondents in the traditional section of the studied course reported a mean score of 4.6; 66.7% of the responses were “excellent,” 28.6% of the responses were reported as “quite good” and the remaining 4.8% of responses were noted to be “satisfactory.”

Item IV-2 asks the participant to rate the amount of learning that occurred in the course. The Likert scale for section four of the instrument uses the same options as were available in section III. The respondents in the traditional section of the studied course reported a mean score of 4.5; 61.9% of the respondents noted that the amount of learning was “excellent” while 28.6% noted that the amount of learning was “quite good” and 4.8% of responses were noted to be “satisfactory.”

Item IV-3 of the instrument asks the participant to rate the relevance and usefulness of the course content. Using the same Likert scale options, the respondents in the traditional section of the studied course reported a mean score of 4.6. The majority of respondents, 71.4%, noted that the relevance and usefulness of the course content were “excellent” while 19% rated this item as “quite good.” Two respondents, 9.5% of the cohort surveyed, rated this item as “satisfactory.”

In addition to the 24-question Likert scale evaluation instrument, the participants were encouraged to free-write any comments about the course and course instructor. Three questions were presented to the participant: a) What aspects of teaching or content of this course do you feel were especially good? b) What changes could be made to improve the teaching or the content of this course? c) Please provide any additional comments regarding the teaching or the content of this course. Many comments focused on the instructor’s personality (“She was humorous;” “I loved [her] enthusiasm”) and

teaching style ("…teaching method was the most effective I've had in my whole college career…;" "Went outside the box"). Other comments were related to the face-to-face nature of the course ("Good use of class time;" "I actually wanted to participate & come every day"). Recalling the traditional nature of the course, it was not expected that the participants would comment directly upon the course delivery method nor were comments of this nature received. However, when asked what changes could be made to improve the teaching or content of the course, some participants commented upon the lack of technology use:

- "Use of Blackboard"
- "I would like to be able to see my grade up on Blackboard."

Blended Course Delivery Section

The participants in this course format attended some in-class, traditional sessions while also participating in non-traditional asynchronous discussions. Below is a discussion on the demographics of the participants and the course format. These descriptions will assist the researcher in placing the information obtained from the SDLRS scores, course evaluation results and interview findings into the context of the experiences of the learners.

Description of Blended Course Participants

The blended section of the health care ethics course began and ended the semester with all 25 pre-enrolled participants. All participants consented to the study and completed the pre- and post-course evaluations. All data obtained from this section was complete and was included in the final data analysis.

The 25 participants ranged in age between 19 and 35 years. Male participants composed 24% of the course population in the traditional section and female participants composed 76% of the course population. The grade point average for the 25 participants in this population ranged from 2.143 to 3.965 based on a 4.0 standard university grade point scale. Grade point averages for two participants were unable to be obtained. Seven of the 25 participants were identified in the registration system as sophomore students, while 10 were identified as junior students and eight were identified as senior students. The self-identified majors represented in this cohort included respiratory therapy, ultrasonography, nuclear medicine sciences, physical therapy, occupational therapy, nursing, pharmacy, pre-physician assistant, pre-dental, and health care administration. Three participants identified that their major was undecided at the beginning of the semester (table 9).

Table 9:

Descriptive statistics for the blended section.

Characteristic	N = 25	Frequency	Percent
Gender	Male	6	24
	Female	19	76
Standing	Sophomore	7	28
	Junior	10	40
	Senior	8	32
Major	Respiratory therapy	1	4
	Ultrasonography	1	4
	Nuclear medicine	1	4
	Physical therapy	4	16
	Occupational therapy	2	8
	Nursing	4	16
	Pharmacy	2	8
	Physician assistant	1	4
	Dentistry	1	4
	Administration	5	20
	Undecided	3	12

Of the 25 participants in the blended section, 13 identified that they enrolled in the health care ethics course because it was required by their major program of study. Of these 13 responses, four participants identified that the course material also interested them. Seven participants noted that this course was recommended by the advisor for their program of study. Two of these seven respondents also noted that the subject matter interested them. Three participants stated that they enrolled in the course only because the material interested them. One participant noted that they enrolled in this course because it was designated as a writing intensive course and he needed a writing intensive course to fulfill graduation requirements. One participant did not answer this question. Nine of the 25 participants noted that they had taken an ethics course during their undergraduate college education prior to enrollment in the healthcare ethics course.

When asked about the reasons for enrolling in the blended course section, 12 participants noted that the timing of the course fit best into their academic and work schedules. One participant did not know that there were other sections available, one stated that it was the only section available at the time she enrolled and another stated that she was encouraged to take that section by her academic advisor. The 10 remaining participants did not respond to the question.

Description of Blended Course Environment

The course setting for the blended section was designed as a mixture of online course delivery and traditional course delivery. In this three credit hour course, the participants were expected during most weeks to attend the one and one-half hour course session once per week and participate in an online discussion board via the Blackboard® platform once per week. The first week required the presence of the participants in class

for two sessions as the first week was an introduction to the class. The eighth week required the participants' presence twice as well; one day in class was for a review of the material presented in the previous seven weeks and one day was for the administration of a paper-based midterm evaluation. Weeks 14 and 15 required the presence of the participants twice per week for the case presentations by the groups. The participants were expected to attend 18 in-class sessions and participate in 10 online discussions during the studied semester.

The in-class sessions were similar in nature to the traditional section's structure. A mixture of instructor lecture, small group discussions and large group discussions was utilized. Each session, a brief lecture was provided by the course instructor. Lecture notes and supplemental reading material was provided to the participants via the file sharing features in the course website on Blackboard®. In addition, various videos and web links were provided to the participants through this platform. During most sessions, the participants were assigned to groups of five to six participants each to discuss a case or topic assigned by the course instructor. Upon completion of the discussions, each small group presented their topic and conclusions to the entire class.

The two course sessions led by guest instructors in the traditional section were video recorded using the Tegrity® system supported by the Blackboard® platform. The participants were provided with the video in a web link. The sessions were utilized as material for two of the online discussions in which the participants engaged. The other eight discussion board topics were similar in nature to the in-class discussions held by the traditional section cohort.

The course utilized nine homework assignments, three in-class assignments, two examinations, one research paper and one group project. The homework assignments were electronically available via the assignment feature on the course website in the Blackboard® platform utilized by the university. In-class assignments were paper-based responses based upon a video presented during the class. The midterm examination was a paper-based examination provided to the participants in the eighth week of the semester. As the course was designated as a writing intensive course by the Campus Writing Program, the research paper required a rough draft, peer review and final draft. The research paper requirements were completed by the end of the tenth week of the semester. All submissions for the research paper were made electronically through the Blackboard® course website assignment features. After the completion of the research paper requirements, the participants were allowed to choose their peer groups for the group project. The group project consisted of a power point presentation and verbal presentation to the class in the last two weeks of the semester. Each peer group evaluated a specific case as if they were a functioning medical ethics committee and presented their case, rationale, discussion and recommendations to the class followed by a discussion period. In the sixteenth week of the semester, a comprehensive, paper-based final examination was provided to the participants.

Evolution of Self-Directedness in the Blended Course Environment

The results of the 58-question SDLRS were analyzed by individual and by cohort for the blended section (table 10). The maximum score obtainable on the SDLRS instrument is 290 while the lowest score obtainable via the instrument is 58. The lowest pre-course SDLRS score in the blended cohort was 201 while the lowest post-course

SDLRS score was 196. The maximum score on the instrument pre-course was 250 and the maximum post-course score was 255. Individually, the changes between pre- and post-course SDLRS survey scores ranged between a decline of 28 points and an improvement of 20 points. The scores of four participants declined by more than 10 points while the scores of five participants increased by more than 10 points. Approximately 64% of the post-course SDLRS scores in this cohort were not different enough from the pre-course SDLRS scores to produce a categorical change. The differences in scores of four participants, 16% of the cohort, produced a decline in categories of the SDLRS while the differences in scores of five participants, 20% of the cohort, produced a categorical increase.

Table 10:

Individual SDLRS scores for the blended section.

Identification Code	Pre-course SDLRS	Post-course SDLRS	Difference
B-1	234	233	-1
B-2	219	202	-17
B-3	227	245	+18
B-4	243	254	+11
B-5	217	245	+28
B-6	219	202	-17
B-7	214	221	+7
B-8	217	219	+2
B-9	220	228	+8
B-10	224	229	+5
B-11	211	212	+1
B-12	204	196	-8
B-13	228	224	-4
B-14	250	245	-5
B-15	246	255	+9
B-16	214	215	+1
B-17	232	240	+8
B-18	212	215	+3
B-19	209	206	-3
B-20	213	213	0
B-21	201	213	+12
B-22	231	211	-20
B-23	232	221	-11
B-24	226	235	+9
B-25	202	218	+16

A positive change of 2.1 points was noted between pre- and post-course evaluations for the blended section (table 11). While this was an improvement in cohort scores, the change was not enough to move the cohort from the original level of *average.*

Table 11:

Summary statistics of the blended section SDLRS.

Variable	Number of participants	Group mean score	Standard deviation	Median SDLRS score	Minimum SDLRS score	Maximum SDLRS score
Pre-course SDLRS	25	221.8	13.1	219.0	201.0	250.0
Post-course SDLRS	25	223.9	16.5	221.0	196.0	255.0
Change in SDLRS	25	2.1	11.4	2.0	-20.0	28.0

Evaluation of the Blended Course Delivery Method

Of the 25 participants in the blended section, 20 completed the anonymous standardized course evaluation. As the results were obtained without identification, was not possible to correlate comments and course evaluation scores with SDLRS scores. Group means can be found in table 12.

Table 12:

Summary of the blended section student evaluation of instruction and course.

Item of evaluation	Number of responses	Group mean
I-1. The course content, including the lectures, syllabus, grading standards and student responsibilities, was presented clearly.	19	3.7
I-2. The instructor was interested in student learning	19	3.8
I-3. Considering both the possibilities and limitations of the subject matter and the course (including class size and facilities), the instructor taught effectively.	19	3.7
II-1. Instructor's organization of the course	20	4.8
II-2. Instructor's voice	20	4.9
II-3. Instructor's explanations	20	4.7
II-4. Ability to present alternative explanations	20	4.6
II-5. Use of examples and illustrations	20	4.9
II-6. Quality of questions or problems raised by instructor	20	4.7
II-7. Students' confidence in instructor's knowledge	20	4.8
II-8. Instructor's enthusiasm	20	5.0
II-9. Encouragement given to students to express themselves	20	4.9
II-10. Answers to students' questions	20	4.8
II-11. Availability of extra help when needed	19	4.7
II-12. Instructor's language proficiency	20	5.0
II-13. Instructor's use of technology (i.e. email, Web pages, computer assignments, etc) enhanced my learning in this course	19	4.7
III-1. The course as a whole was:	20	4.8
III-2. The content of the course was:	20	4.6
IV-1. The use of class time was:	20	4.8
IV-2. The amount you learned in the course was:	20	4.7
IV-3. Relevance and usefulness of course content were:	20	4.6
IV-4. Evaluative and grading techniques (tests, papers, projects, etc) were:	20	4.8
IV-5. Reasonableness of assigned work was:	20	4.6
IV-6. Clarity of student responsibilities and requirements was:	20	4.7

Note: Questions in section I had a 1-4 rating scale; Questions in sections II-IV had a 1-5 rating scale)

Three items were identified as items related to the study: III-1, IV-2, and IV-3. Item III-1 asks the participant to rate the course as a whole, using the options excellent (five on the Likert scale), quite good, satisfactory, fair, poor (one on the Likert scale) and no comment. The respondents in the blended section of the studied course reported a

mean score of 4.8; 80% of the responses were “excellent” and the remaining 20% of the responses were “quite good.”

Item IV-2 asks the participant to rate the amount of learning that occurred in the course. The Likert scale for section four of the instrument uses the same options as were available in section III. The respondents in the blended section of the studied course reported a mean score of 4.7; 65% of the respondents noted that the amount of learning was “excellent” while the remaining 30% noted that the amount of learning was “quite good.”

Item IV-3 of the instrument asks the participant to rate the relevance and usefulness of the course content. Using the same Likert scale options, the respondents in the blended section of the studied course reported a mean score of 4.6. The majority of respondents, 65%, noted that the relevance and usefulness of the course content were “excellent” while 30% rated this item as “quite good.” One respondent, five percent of the cohort surveyed, rated this item as “satisfactory.”

In addition to the Likert scale evaluation, the participants were encouraged to free-write comments on a separate sheet of paper. Three questions were presented to the participant: a) What aspects of teaching or content of this course do you feel were especially good? b) What changes could be made to improve the teaching or the content of this course? c) Please provide any additional comments regarding the teaching or the content of this course. Many comments were directed at the instructor’s personality (“…enthusiastic about class;” “…always in a good mood”) and teaching style (“I liked how you switched between lecturing, watching videos, & having class projects to keep us from getting bored;” “The instructor was excellent at teaching concepts in a way that the

student could understand."). Recalling that the participants in this cohort did not realize that the course delivery method of their section was different from other sections, it is interesting to note that several comments were directed toward the blended course delivery model:

- "Everything was posted online."
- "Enjoyed the class discussions as well as the discussion board on Blackboard."
- "Class power point availability [electronically on Blackboard®]…allows for more discussion, less note taking."
- "Not having Monday class was nice, we still had classwork but it was a break from coming to school."
- "I liked…how we incorporated discussion boards because that gave us a chance to act on ethics and have practice at it."
- "I do believe that the discussion board did help with comprehension of material though."

Online Course Delivery Section

An online course delivery was the third format used for the health care ethics course. As with the other formats, participant demographics and the course format will be presented.

Description of Online Course Participants

The online section of the health care ethics course began the semester with 23 pre-enrolled participants. Two of the participants, both female, dropped the course in the first week without completing the pre-course evaluations. One student did not give consent to participate in the study, so her information was withdrawn from data analysis. All of the

remaining 20 participants completed the pre-course evaluations but two participants did not complete the post-course SDLRS. One female participant simply did not complete the post-course SDLRS while the other female participant was pregnant and began labor earlier than expected. She was not able to complete the post-course evaluations or the course in the time allotted for the studied semester. Both of these participants' information was excluded from data analysis.

The remaining 18 participants ranged in age between 19 and 38 years. Male participants composed 33% of the course population in the traditional section and female participants composed 67% of the course population. The grade point average for the 18 participants in this population ranged from 2.247 to 3.970 based on a 4.0 standard university grade point scale. One of the 18 participants was identified in the registration system as a freshman student, while two were identified as sophomore students, nine were identified as junior students and six were identified as senior students. The self-identified majors represented in this cohort included respiratory therapy, radiographic sciences, ultrasonography, nuclear medicine sciences, physical therapy, nursing, public health, and microbiology. Three participants identified that they were undecided as to their major at the beginning of the semester (table 13).

Table 13:

Descriptive statistics for the online section.

Characteristic	N = 20	Frequency	Percent
Gender	Male	6	30
	Female	14	70
Standing	Freshman	1	5
	Sophomore	4	20
	Junior	9	45
	Senior	6	30
Major	Respiratory therapy	1	5
	Radiographic sciences	2	10
	Ultrasonography	1	5
	Nuclear medicine	3	15
	Physical therapy	6	30
	Occupational therapy	1	5
	Nursing	1	5
	Public health	1	5
	Undecided	3	15
	Non-health professions	1	5

When asked about the reason for enrolling in the healthcare ethics course, 11 participants stated that this course was required in their major program of study. Four noted that the course was an academic major requirement and three noted that they enrolled in the class because the course content was of interest to them. Four of the 18 participants noted that they had taken an ethics course during their undergraduate college education prior to enrollment in the healthcare ethics course.

The participants in the online section provided a wide range of responses to the question, “Why did you enroll in this section of CPD 4480?” The most common responses were that it fit into their schedule (5 respondents), that it was the only section left for enrollment (2 respondents) and that the course was convenient (3 respondents). Other responses included course flexibility, format allows for savings in travel and time, it was the most interesting option, an advisor recommended this section, the format

allows for working at his/her own pace, the format does not interfere with work or other classes and, quoting one respondent, “I like online classes.”

Description of Online Course Environment

The course setting for the online section was designed for all materials to be delivered and all assignments to be completed in an electronic format. In this three credit hour course, the participants were not expected to attend class sessions at all. Instead, they were expected to participate in an online discussion board via the Blackboard® platform each week.

The intent of the discussion board in the online course section was to provide each participant with the opportunity to simulate in-class discussion via asynchronous means. The discussion board participant of each participant consisted of an original post and subsequent peer replies. Participants were pre-assigned to one of four discussion groups constructed of five to six students each. Each week, with the exception of the eighth week, the participants were presented with a case, question or topic for discussion. After each participant posted a discussion thread with their original thoughts to the question or case scenario at the beginning of the week, it was expected that he or she respond to the other original threads in the group before the week’s end. The result of this forum was a discussion between each group of participants and the course instructor. The group participants were also able to become well acquainted with each other with the goal of improving comfort with the discussion of difficult topics.

The two course sessions previously mentioned that were led by guest instructors in the traditional section were video recorded using the Tegrity® system supported by the Blackboard® platform. The participants were provided with the video in a web link. The

sessions were utilized as material for two of the online discussions in which the participants engaged.

Each week, participants were provided with course materials through the file-sharing system on the course's Blackboard® website. The participants were provided with weekly readings in the form of Microsoft ® Power Point® presentations and Microsoft® Word® document files prepared by the course instructor. Supplemental readings in the form of web links, published manuscripts and videos were also available.

The course utilized nine homework assignments, three video-based assignments, two examinations, one research paper and one group project. The homework assignments were electronically available via the assignment feature on the course website in the Blackboard® platform utilized by the university. The video-based assignments were the same assignments the other two sections completed in class. The participants were provided with the video in a streaming format online and the responses were submitted electronically through the Blackboard® assignment feature. The midterm examination was a web-based examination provided to the participants in the eighth week of the semester. The participants could either locate their own proctor based on the university policy or attend one of two proctored sessions offered by the course instructor. As the course was designated as a writing intensive course by the Campus Writing Program, the research paper required a rough draft, peer review and final draft. The research paper requirements were completed by the end of the tenth week of the semester. All submissions for the research paper were made electronically through the Blackboard® course website assignment features. After the completion of the research paper requirements, the participants were notified that their group for the presentation

assignment consisted of their discussion group peers. The group project consisted of a power point presentation and discussion session with the class through the Blackboard® discussion board in the last week of the semester. Each peer group evaluated a specific case as if they were a functioning medical ethics committee and presented their case, rationale, discussion and recommendations to the class followed by a discussion period. In the sixteenth week of the semester, a comprehensive, web-based final examination was provided to the participants. Again, the participants could locate a proctor of their choice or attend one of two proctored sessions provided by the course instructor.

Evolution of Self-Directedness in the Online Course Environment

The results of the 58-question SDLRS were analyzed by individual and by cohort for the online section (table 14). The maximum score obtainable on the SDLRS instrument is 290 while the lowest score obtainable via the instrument is 58. The lowest pre-course SDLRS score in the online cohort was 185 while the lowest post-course SDLRS score was 180. The maximum score on the instrument pre-course was 245 and the maximum post-course score was 239. Individual changes between pre- and post-course SDLRS results were noted to range between a decline of 42 points and an increase of 21 points. The scores of three participants declined by more than 10 points while the scores of five participants increased by more than 10 points. Approximately 55% of the post-course SDLRS scores in this cohort were not different enough from the pre-course SDLRS scores to produce a categorical change. The differences in scores of three participants, 17% of the cohort, produced a decline in categories of the SDLRS while the differences in scores of five participants, 28% of the cohort, produced a categorical increase.

Table 14:

Individual SDLRS scores for the online section.

Identification Code	Pre-course SDLRS	Post-course SDLRS	Difference
O-1	231	213	-18
O-2	231	N/A	N/A
O-4	226	231	+5
O-5	210	220	+10
O-6	223	215	-8
O-7	243	N/A	N/A
O-9	206	226	+20
O-10	198	208	+10
O-11	208	208	0
O-12	223	234	+11
O-13	206	180	-26
O-14	245	203	-42
O-16	213	208	-5
O-18	244	239	-5
O-20	223	225	+2
O-21	234	235	+1
O-22	209	226	+17
O-23	185	206	+21
O-24	212	232	+20
O-25	190	192	+2

A positive change of 0.8 points was noted between pre- and post-course evaluations in this section (table 15). While this was an improvement in cohort scores, the change was not enough to move the cohort from the original level of *average.*

Table 15:

Summary statistics of the online section SDLRS.

Variable	Number of participants	Group mean score	Standard deviation	Median SDLRS score	Minimum SDLRS score	Maximum SDLRS score
Pre-course SDLRS	20 (18)	218.0 (215.9)	17.2 (16.7)	218.0 (212.5)	185.0	245.0
Post-course SDLRS	18	216.7	16.0	217.5	180.0	239.0
Change in SDLRS	18	0.8	16.7	2.0	-42.0	21.0

Evaluation of the Online Course Delivery Method

Of the 18 participants, nine completed the anonymous standardized university course evaluation. As the results were obtained without identification, was not possible to correlate comments and course evaluation scores with SDLRS scores. Group means can be found in table 16.

Table 16:

Summary of the online section student evaluation of instruction and course

Item of evaluation	Number of responses	Group mean
I-1. The course content, including the lectures, syllabus, grading standards and student responsibilities, was presented clearly.	8	3.63
I-2. The instructor was interested in student learning	9	3.67
I-3. Considering both the possibilities and limitations of the subject matter and the course (including class size and facilities), the instructor taught effectively.	9	3.50
II-1. Instructor's organization of the course	9	5.0
II-2. Instructor's voice	9	4.80
II-3. Instructor's explanations	9	4.44
II-4. Ability to present alternative explanations	9	4.44
II-5. Use of examples and illustrations	9	4.88
II-6. Quality of questions or problems raised by instructor	9	4.67
II-7. Students' confidence in instructor's knowledge	9	4.89
II-8. Instructor's enthusiasm	8	5.00
II-9. Encouragement given to students to express themselves	9	4.56
II-10. Answers to students' questions	9	4.33
II-11. Availability of extra help when needed	9	4.89
II-12. Instructor's language proficiency	9	5.00
II-13. Instructor's use of technology (i.e. email, Web pages, computer assignments, etc) enhanced my learning in this course	9	5.00
III-1. The course as a whole was:	8	4.50
III-2. The content of the course was:	9	4.44
IV-1. The use of class time was:	9	4.83
IV-2. The amount you learned in the course was:	8	4.38
IV-3. Relevance and usefulness of course content were:	9	4.44
IV-4. Evaluative and grading techniques (tests, papers, projects, etc) were:	9	4.22
IV-5. Reasonableness of assigned work was:	9	4.22
IV-6. Clarity of student responsibilities and requirements was:	9	4.44

Note: Questions in section I had a 1-4 rating scale; Questions in sections II-IV had a 1-5 rating scale.

Three items were identified as items related to the study: III-1, IV-2, and IV-3. Item III-1 asks the participant to rate the course as a whole, using the options excellent (five on the Likert scale), quite good, satisfactory, fair, poor (one on the Likert scale) and no comment. The online section of the studied course reported a mean score of 4.50; half of the responses were "excellent" and the other half of the responses were "quite good."

Item IV-2 asks the participant to rate the amount of learning that occurred in the course. The Likert scale for section four of the instrument uses the same options as were available in section III. The online section of the studied course reported a mean score of 4.38; 37.5% of the respondents noted that the amount of learning was "excellent" while the remaining 62.5% noted that the amount of learning was "quite good."

Item IV-3 of the instrument asks the participant to rate the relevance and usefulness of the course content. Using the same Likert scale options, the group mean was reported at 4.22. The majority of respondents, 55.6%, noted that the relevance and usefulness of the course content were "excellent" while 33.3% rated this item as "quite good." One respondent, 11.1% of the cohort surveyed, rated this item as "satisfactory."

The participants were provided with an opportunity to free-write comments regarding any aspect of the course upon which they wished to provide feedback. Three questions were presented to the participant: a) What aspects of teaching or content of this course do you feel were especially good? b) What changes could be made to improve the teaching or the content of this course? c) Please provide any additional comments regarding the teaching or the content of this course. Many responses were geared toward the course instructor's personality and teaching style ("She was very enthusiastic and encouraging to everyones [*sic*] comments;" "She seemed to really want everyone to

succeed which was refreshing") and the structure of the course ("I liked the content of this course a lot;" "The amount of assigned work was reasonable and easily explained"). There were, however, several comments geared toward the course delivery method:

- "I liked the fact that I took this course online."
- "It was very fun to interact with other people in my class over the internet. It was a lot easier than I thought it would be."
- "…I wasn't sure what to expect. I can say that I think the course was set up and taught quite effectively from an online perspective."
- "The course content was easy to understand and easy to learn even without having to go to an actual classroom."
- "…it was great because you're thinking about the content of the class periodically through out the week."
- "I have taken [online classes] before and appreciate the extra time it frees up in my schedule."

Perception of Change

For each section of the studied course, one participant was selected based upon the difference between the pre- and post-course scores of his/her SDLRS survey. The selected participant was approached for an interview after the course grades were entered into the university records management system. The participant agreed to be interviewed and signed the informed consent document prior to the interview session.

The selected participant for the traditional section was a female student aged 20 years and ranked as a junior student in the university system. The participant had identified her major as nursing in the pre-course survey, though she indicated a different

career path during the interview. Her pre-course SDLRS score was 262, which placed her in the *above average* level. According to the instrument developer, this indicated that the participant "prefers self-direction in learning" (Guglielmino & Associates, n.d., ¶ 31). The participant's post-course SDLRS score was 224, dropping her from the *above average* level to the *average* level.

The blended section participant was also a female. She was 21 years of age and ranked as a college senior in the university system. She had identified her major in the pre-course survey as health sciences for her undergraduate degree with ultrasonography as her anticipated graduate program of study. She noted that she had never completed an ethics course in the past and was apprehensive about taking the studied course. Her pre-course SDLRS score was 217. This score categorized the student as *average,* meaning that she is "capable but not fully comfortable with self-directed learning" (Guglielmino & Associates, n.d.). The participant's post-course SDLRS score was 245; this revealed a drastic improvement in scores to move the participant into the *above average* level.

The only male participant was from the online section. He was 21 years old and ranked as a college senior in the university system. He had identified his major in the pre-course survey as microbiology, which is not a program located within the health professions. In the pre-course survey, he noted that he enrolled in the ethics course because the subject matter interested him and he had yet to complete an ethics course in his academic career thus far. The participant's pre-course SDLRS score was 245. This score categorized the student as *above average,* meaning that he prefers self-direction in learning (Guglielmino & Associates, n.d.). The participant's post-course SDLRS score

was 203; this revealed a drastic decline in scores to move the participant into the *average* level.

Themes

From the three participant interviews, four themes emerged: Motivation, outside influences and other academic experiences. Motivation emerged as both external and internal. Therefore, they will be discussed individually. While outside influences and other academic experiences influenced each interviewee differently, they were still important aspects of their educational journey. As the following discussion will show, some themes were more important for some of the interviewees than others.

Emerging Theme: External Motivators

Throughout the interview, the traditional participant commented about achieving "good grades" and obtaining all course points that she could. She spoke about the importance of attending class to make sure she acquired points from "little quizzes in class" and the in-class assignments. She spoke often of completing homework assignments and the effort involved in focusing and listening in class. The participant's external motivation was the grade she would earn in each class and that this was the driving force behind her academic success was evident. She did remark that "as much effort as you put in (to the assignment or test) is what you're going to get (i.e. grade)."

The blended section participant was noted to be confident and self-assured. When she was notified of the results of the survey, she was surprised at her performance. Once the tool's interpretation was explained to the participant, she rationalized the results with her impending graduation. She noted that the score change was "because I'm going to be graduating and I'm starting to realize that I've got to take initiative…to get my degree

and what I want out of life, I've got to do what I've got to do and be prepared." Her motivation stems from her desire to complete her undergraduate education and obtain a coveted seat in her chosen graduate program. She noted that she focused more on classes that were of interest to the admissions committee and did not focus much on the courses that were not part of her core undergraduate curriculum. She also stated that, while graduating was very important, her primary goal was to join the ultrasonography graduate program.

The online student had previously completed college courses in the online delivery format and he expressed comfort with the delivery method. He noted that an online class was not significantly different from a traditional class, though the discussion boards made him a little more focused. He noted, "the online participation definitely made me stay on top of things." His desire to be validated in his knowledge and his use of knowledge was noted when he stated that "if I'm going to say something (written on the discussion board) I'm going to make sure I'm saying something accurate so it can't come back and (his peers in the class) hold it against me." He also noted that he enrolled in the class because "I have always found my opinions to be slightly off base from others in ethical matters" and that he wanted to make sure he was "going down the right path." This statement displays a need for his thoughts and ideas to be validated by others.

Emerging Theme: Internal Motivators

During the interview, the blended section participant spoke many times of relying on herself for her academic success. When asked about instructor participation in students' learning processes, she was hesitant to assign responsibility to the course instructor. She stated that she would "ask questions but other than that I think that I take

my own initiative and get my stuff done." She stated that she enjoyed the blended learning environment because the structure "gave me my own time and responsibility to get the stuff done." When pressed about the role of the course instructor in encouraging students toward success, she noted "you're in school for a reason and you're taking the class for a reason so I don't think that they (the course instructor) should constantly be telling you what to do."

The traditional section participant did not identify internal motivators; in fact, her lack of internal motivation was a stark contrast to the other two interviewees. When she was made aware of her decline in SDLRS scores, she responded that she was not surprised and agreed with the tool's explanation that an *average* score indicates that the "learners are capable but not fully comfortable with self-direction in learning" (Guglielmino & Associates, n.d.). She stated that, during the studied semester, "I realized that my professors could help me" and "I thought I could do it all on my own…but it's just so much easier to get extra tips and more guidance from professors." These new revelations transformed her academic performance during the studied semester. Indeed, her grades distinctly differ from her first two years of college coursework, in which she consistently performed at a mediocre or lower academic level. She noted that her new idea of a "good" course instructor is one who is available for questions whenever she needs help.

Emerging Theme: Outside Influences

The traditional section participant spoke at length about the outside influences on her academic performance. She noted that during her freshman year in college, she lived in the dormitories on campus. This was a very distracting environment, especially to a

new college student. During her sophomore year, she resided in her sorority house. Again, the atmosphere was more entertaining than collegiate and she spent a lot of time on activities other than academics. In this, her third year, she has moved out of the sorority house and is living off-campus. She stated that “getting out of that (environment) and focusing on school and living away from campus a little bit kind of helped, too.” She commented that the lack of activity around her helped her study. In addition, she has entered into a steady relationship with a young man who is studious and focused on his academics. She noted that he had an impact on her academics because “it’s kind of who you surround yourself with, too.” She also mentioned that her brother has recently begun his medical school education. As she now believes her career path to involve embryology, she is cognizant of her desire to achieve the same status as her brother.

The online section participant was positively affected by outside influences. Though the participant did not overtly comment that his mentor, a microbiology professor, was an influence, his high regard of the professor was evident. He admitted that, while performing his duties as a teaching assistant in the microbiology department, he used the same instruction techniques that were used by his mentor. He noted that his mentor encourages him to seek answers beyond the superficial and discover the truth of the question.

Emerging Theme: Other Academic Experiences

The traditional section participant had previously completed the course involved in this study in a prior semester. She stated in her pre-course survey that she “did not fulfill myself with the grade I was shooting for, so I’d like to try much harder this time around.” The previous course was taught by a different professor in an online

environment. The participant noted that the traditional experience was more helpful to her “because I learn so much better with someone speaking to me rather than reading a book.” She related that the online class was “vague” and she had difficulty remembering when to complete assignments. She noted that “when you have to go to class it’s more obvious that you have a quiz coming up.” When asked if she would take another online class, she remarked that “I could, but it’s a lot harder to keep up with. I will probably just do it (take classes) in person from now on. It might just be the way I learn though.”

The blended section participant’s other academic experiences have positively affected her outlook. During the last academic application period, she applied to the radiography program though she was mistaken in the duties that comprise the career. She was denied entry into that undergraduate program, but also learned that she was interested in the ultrasonography aspect of diagnostic imaging which is not part of the undergraduate program. She spoke of the rejection in a positive light, noting that “in the end, it all worked out.” In the past semester, she enrolled in a physiology course that was, in her opinion, not effectively taught. She noted that the professor was not organized and the course materials were not helpful. She decided that she “just had to step up and study all of it.” She remarked that she received her desired grade and that the experience gave her confidence in learning.

When discussing other courses completed during the studied time frame, the online section participant stated that his physics class was less than fulfilling. He remarked that his professor was unorganized and a non-native English speaker. The accent of the individual, the participant stated, was a barrier to understanding the course content. In addition, the participant was frustrated that the professor allegedly used the

pre-packaged power point presentation from the textbook author and read those presentations in class rather than providing more meaning to the text reading. The participant stated, “I realized that the physics professor was using the pre-made slides and didn’t change a thing and was reading out of the book…I’m going to show up to class in case he throws us a pop quiz but I’m not really listening to him because he’s unorganized and I can’t understand what he said.” In the end, the participant noted he was more “proactive” in the class and taught himself. He also denied that experience made him learn more in the class due to the extra effort he put forth. He stated, “in fact, it made me a lot more frustrated.”

Summary

The data presented here has been evaluated and presented in the next chapter. The findings have been placed in context with the existing literature to develop an understanding of the phenomenon. Recommendations for practice and future research will be presented.

Chapter 5

Summary and Future Recommendations

This chapter begins with a summary of the study. Throughout the chapter, data from each section of the studied course will be compared in an effort to discover differences and similarities among the three course delivery methods. Conclusions and recommendations for future study will complete this chapter.

The purpose of this study was to determine how learners' own perception of their ability to be self-directed in their learning evolved during a health care ethics course. This study sought to expose basic changes in self-directedness for each participant. Also, this study examined the relationship between course delivery method and the degree of evolution of self-directedness during an undergraduate health care ethics course. This study probed beyond measuring global satisfaction and learning outcomes into the experience of the learning from the perspective of the learners enrolled in all three sections of the studied course.

This study sought to answer the question, to what extent does the undergraduate learner's readiness to be self-directed evolve during a health care ethics course? Subquestions were:

1. How does the evolution of readiness to be self-directed differ among course delivery methods?
2. What is the undergraduate learner's perception of the change in self-directedness during the health care ethics course?

With respect to the main research question above, the null hypothesis was that the post-course assessment would show that all sections of the course have not increased

their readiness to be self-directed. With regards to the first subquestion, an alternative hypothesis was that the online section would demonstrate a more dramatic increase in self-directedness as compared to the blended and traditional sections. Another alternative hypothesis was that the traditional section would have the least dramatic increase in self-directedness as compared to the online and blended sections. Qualitative analysis was used to determine the undergraduate learner's perception of change to address the second subquestion.

The study was conducted during one standard 16-week semester at a large Midwestern university. Three sections of this course were offered and each section had a maximum capacity of 25 learners. The course participants self-selected the course section in which they enrolled. One section was offered as an online section and was designated in the course catalog as *Internet*. This section of the course was delivered via Blackboard®, a web-based educational platform widely used by institutions of higher education. Learners were not required to attend campus gatherings at any time during the semester; all discussions, homework, examinations, research papers, and group presentations were performed through the Blackboard® platform.

The remaining two sections of the course were designated as *campus* in the course catalog and were scheduled at specific times with meeting dates on campus. One of these two sections was offered in a traditional format with required course meetings. The traditional course consisted of regular course meetings twice per week and was not supported by supplemental Internet resources or the Blackboard® platform. The second of these two sections was offered in a blended format. The blended section required campus attendance along with mandatory online participation via the Blackboard® platform. In

contrast to the traditional course section, the blended section required fewer on-campus course meetings.

All three course sections, regardless of delivery method, were taught by the same instructor. Consistent with the logic of replication, participants in all three sections used the same textbook and syllabus as well as completed the same assignments and projects. This consistency in course expectations across the sections assisted the researcher in exerting some control over the variables.

The SDLRS provided the learners with an opportunity to self-evaluate their attitudes toward learning. In this chapter, the phrase ‘SDLRS scores’ is used to identify the score or scores obtained from the data collection instrument. This should not be confused with a definition of self-directedness in learning.

Upon completion of the post-course SDLRS, the difference between each participant’s pre- and post-course score was explored. One participant from each section was approached to participate in a semi-structured interview (Appendix D). The researcher chose this participant based on the differences observed between the pre- and post-course SDLRS scores as well as an observed change in scoring level. The participant with the largest difference and a scoring level change from each section of the studied course was contacted for an interview. The purpose of the interview was to allow the participants an opportunity to reflect upon the studied semester and examine why their approach to self-directedness in learning changed. The request for the interview was made after the grades were posted for the course to reduce any feeling of coercion the participant might experience.

It is important to note that the studied course was not constructed in a self-directed fashion. The focus of the study was on the impact on self-directedness in learning potentiated by the course delivery method (traditional, blended and online). The course structure was limited by the standard university setting which encourages pedagogical concepts (i.e. examinations, homework assignment, research papers). However, the course instructor utilized self-directed learning principles when interacting with all learners in the course. Combs (1974) identified that the provision of opportunity for self-direction in learning necessitates providing experiences that call "for decision, independence and self-direction" (p. 248). Many of the discussions, assignments and activities embedded in the course were designed to provide the learner with opportunities to seek out further knowledge of the topic at hand and make their own independent decisions. The extent to which the learner accepted this responsibility for these activities varied.

Comparison of the Findings among Course Delivery Sections

To answer the research questions posed in this study, a comparison of the data among the three cohorts was conducted. In an attempt to discover the sources of any differences and similarities among the cohorts, the researcher compared findings of demographics, course environments, SDLRS scores, course evaluation results, and participant interviews. The researcher also related the findings to the literature.

Demographics of the Three Cohorts

The demographic data from each of the three cohorts was collected in an attempt to relate the findings of the SDLRS to the age, gender, grade point average (GPA) and class standing of the individuals. The traditional section participants had a lower range of

ages (19-24 years) than the blended and online sections (19-35 and 19-38, respectively), though the mean age for each cohort was very similar. The data collected for GPA for each cohort was also similar, both in mean scores and ranges (table 17). The university utilizes a 4.0 scale for the calculation of GPA (4.0 representing the highest grade a student can achieve).

Data regarding gender, class standing, and anticipated program major is reflected in table 18. Not unlike previous comparisons of the SDLRS scores to age and GPA, the data show that the participants were similarly distributed in regard to these variables (Anderson, 1993; Oladoke, 2006; Chou & Chen, 2008). It is important to note that the information provided in tables 17 and 18 demonstrates the consistency of the variables, such as age, GPA, gender, class standing and major. This is a strong indicator of the validity of the primary findings. Many authors (Guglielmino, Guglielmino & Long, 1987; Litzinger, Wise, Lee & Bjorklund, 2003; Oliveria & Simões, 2006) have posited that age, GPA, gender and class standing have minimal influence on readiness for self-directed learning.

Table 17:

Age and GPA statistics for all three sections of the studied course.

Course Format	Variable	N	Mean	Range
Traditional	Age (years)	23	20.39	19-24
	GPA	23	3.10	2.10-3.90
Blended	Age (years)	25	22.28	19-35
	GPA	23	3.04	2.14-3.97
Online	Age (years)	20	21.35	19-38
	GPA	20	3.10	2.25-3.97

Table 18:

Descriptive statistics for all three sections of the studied course.

Variable		Traditional Cohort N = 23	Blended Cohort N = 25	Online Cohort N = 20
Gender	Male	6	6	6
	Female	17	19	14
Standing	Freshman	0	0	1
	Sophomore	7	7	4
	Junior	13	10	9
	Senior	3	8	6
Major	Respiratory therapy	0	1	1
	Radiographic sciences	1	0	2
	Ultrasonography	5	1	1
	Nuclear medicine	1	1	3
	Physical therapy	9	4	6
	Occupational therapy	1	2	1
	Nursing	1	4	1
	Public health	1	0	1
	Pharmacy	0	2	0
	Physician assistant	0	1	0
	Dentistry	0	1	0
	Chiropractic	1	0	0
	Administration	1	5	0
	Undecided	1	3	3
	Non-health professions	1	0	1

Course Environments

One goal of the researcher was to maintain consistency with as many variables as possible. Each section, while different in course delivery method, maintained the same expectations for all participants. All participants were held to the same academic level of performance for course functions (i.e. discussions and topic-related interactions). The timeline of events for course examinations, assignments, projects and topics was the same for all sections of the studied course.

The major difference among the studied sections of the course was the amount of time each section spent in the physical classroom. The participants enrolled in the

traditional section attended 28 days for in-class discussion and lecture, as compared to 18 days for those enrolled in the blended section and zero days for those enrolled in the online section. To enhance interaction in the blended and online sections, the course instructor provided asynchronous discussion boards on the Blackboard® course platform. For the 10 days the blended section did not meet in class sessions, the participants engaged in a discussion board to enhance their understanding of the concepts. The online section, however, completed all discussions about course concepts in the discussion board format provided on the Blackboard® course website for that section.

Several authors (Burnett, Bonnici, Miksa & Kim, 2007; Kassop, 2003; Shana, 2009; Stodel, Thompson & MacDonald, 2006) have espoused the use of discussion boards as a method of enhancing understanding of course material. Burnett, Bonnici, Miksa and Kim (2007) state "participating in group discussion online contributes to community building…that interaction may be positively correlated with retention and student satisfaction" (p. 24). The discussion board is one aspect of online learning that can influence lifelong learning for learners (Kassop, 2003). In a 2009 study aimed at examining the impact of discussion forums on achievement, Shana discovered that learners "found online discussions beneficial and useful" (p. 225). This study noted that learner feedback described the feature as "flexible, convenient, attractive, motivating, satisfying, safe, rewarding and 'learner-friendly'" (p. 225). While researching learners' perceptions of online learning, Stodel, Thompson and MacDonald (2006) found that learners enjoyed the reflective nature of the discussion boards.

Other authors have identified that the discussion board can be confusing and superficial (Song & Hill, 2007; Stodel, Thompson & MacDonald, 2006; Strickland,

2009). Most of the dissatisfaction expressed by learners involved unclear expectations regarding content and the schedule of postings (Strickland, 2009). Other learners expressed that some discussions were too drawn out; the amount of time allotted for the discussion was excessive and the postings were superficial due to exhaustion of content (Stodel, Thompson & MacDonald, 2006). Song and Hill (2007) noted that many learners who participate in discussion boards do so to fulfill a course requirement and do not fully engage in critical thinking.

A minor difference among the studied sections was the use of technology. The participants in the blended and online sections had access to the course Blackboard® website, which allowed them to access course materials electronically at their convenience. The course instructor posted extra readings in the form of uploaded documents, lecture notes and website links as well as video clips and Tegrity® recordings for enhancement of course knowledge. The participants were also able to submit homework assignments and projects electronically through the Blackboard® assignment feature. This allowed the participant to submit the assignment in a secure fashion as well as decrease printing costs throughout the semester. Participants in the blended section were able to access notes from in-class sessions as well as supplemental materials. This was helpful to those who were absent from an in-class session.

In contrast, the traditional section participants were not provided with the Blackboard® course website. They were instead provided with paper copies of all supplemental materials including homework assignments, lecture notes and journal articles as well as grade updates. In the event of an absence, the participant was required to seek out the course instructor to obtain that session's materials. Many participants

neglected to do this and, as a result, were unable to complete homework assignments or successfully complete projects. Also, the lack of a Blackboard® course website forced participants to print their homework assignments and submit them to the course instructor personally. This resulted in a larger rate of incomplete or late assignments and projects when compared to the online and blended sections of the studied course.

Evolution of Self-Directedness

The primary research question addressed by this study was, how does the undergraduate learner's readiness to be self-directed evolve during a health care ethics course? To answer that question, the researcher utilized the SDLRS questionnaire both at the beginning of the studied semester and at the conclusion of the studied semester. The null hypothesis developed by the researcher was that the post-course SDLRS assessment would show that the participants in all sections of the course would not increase their readiness to be self-directed. Summary statistics for the SDLRS scores are found in table 19.

Table 19:

Summary SDLRS statistics for all three sections of the studied course.

Course Format	Variable	N	Mean	Range
Traditional	SDLRS pre	23	225.6	178-284
	SDLRS post	23	226.9	177-271
	Change	23	1.3	(-38)-36
Blended	SDLRS pre	25	221.8	201-250
	SDLRS post	25	223.9	196-255
	Change	25	2.1	(-20)-28
Online	SDLRS pre	20	218.0	185-245
	SDLRS post	18	216.7	180-239
	Change	18	0.8	(-42)-21

The initial findings of the SDLRS scores show the mean scores for all three sections of the studied course fall in the *average* level for readiness of self-directedness as established by Guglielmino (1977) (table 4, page 25). The range of individual scores spans all three categories, both in pre-course results and post-course results. The only cohort to demonstrate a change in level of readiness was the traditional section, changing from *average* to *above average*.

When evaluating the differences between all individuals who participated in the study, it is interesting to note that 63.64% (42 of 66 participants) had minimal changes in their scores and no subsequent change in SDLRS level of readiness. Of those participants whose scores demonstrated a change, nine participants (13.64%) demonstrated a decline in post-course SDLRS scores dramatic enough to change their SDLRS level designation. The remaining 15 participants (22.72%) demonstrated an increase in post-course SDLRS scores high enough to change their SDLRS level designation. While all individuals did not increase their readiness to be self-directed as interpreted by the SDLRS, the majority of the three sections either maintained their readiness level or improved it. These findings reject the null hypothesis, as it states that all sections would not increase their readiness to be self-directed.

A sub-question posed by the researcher was, how does the evolution of readiness to be self-directed differ among course delivery methods? One hypothesis presented was that the online section would demonstrate a more dramatic increase than the other two sections in self-directedness as interpreted by the SDLRS. A second hypothesis for this sub-question was that the traditional section would show the least dramatic increase in self-directed readiness of the three sections. Each of these hypotheses was not accepted.

When observing the group data for the three sections of the studied course, it is noted that all three sections had a positive change in mean SDLRS score. The online section did not demonstrate the most dramatic increase between pre-course and post-course SDLRS scores. Instead, the blended section of the studied course produced the most dramatic change between pre-course and post-course SDLRS scores at 2.1 points. In fact, the online section of the studied course produced the least dramatic change in SDLRS scores at a mean change of 0.8 points. As previously noted, the traditional section was the only section to produce a change large enough to alter the level of readiness for learning, though the change was not statistically significant (1.3 points). Due to this statistically insignificant change, the improvement in the level of readiness does not imply that this group achieved a higher state of readiness. Thus, as stated above, both hypotheses were not accepted.

The results of this study are not inconsistent with current literature. Litzinger, Wise, Lee and Bjorklund (2003) studied undergraduate engineering students who were completing their university capstone courses and produced similar results. The 24 participants in their study completed a pre-course and post-course SDLRS. The pre-course SDLRS was administered in week three of the studied semester and the post-course SDLRS was administered 10 weeks later to "determine whether capstone courses increase their readiness for self-directed learning" (¶ 20). Their results showed a mean pre-course SDLRS score of 228.7 and a mean post-course SDLRS score of 236.2. These scores produced a mean change of 7.5 points. The authors discuss that, even though this change was positive, it was not statistically significant within the scope of their study. While this change is larger than the change discovered in the study at hand, it should also

be noted that the participants in this 2003 study scored in the *above average* level on the pre-SDLRS. This could indicate that the group studied had previously attained a higher level of self-directedness.

Williams (2004) also discovered similar results. She studied 135 bachelor degree-seeking nursing students, administering the SDLRS at the beginning of the first year of a problem-based learning program and again at the completion of the program. The mean initial SDLRS score was 219.6 and the mean end-of-year SDLRS was 220.1, producing a mean change of 0.5 points. The author noted that this change did not represent a statistical change in self-directedness in her cohort.

Jiusto and DiBiasio (2006) performed a similar research study. They were interested in the effect on self-directedness produced by a one-semester experiential interdisciplinary project. This study enrolled 107 participants and administered the SDLRS pre- and post-semester. Their results were similar to the study at hand; the mean pre-semester SDLRS was 219.4 and the mean post-semester SDLRS was 222.7. This produced a mean change of 3.3 points. The researchers identified this change as "positive" and used this change to support their claims of success with the project (p. 195).

Mori, Batty and Brooks (2008) also performed a similarly structured research study. They studied the effect of an electronic reflexive practice exercise with physiotherapy students in Canada. Their sample consisted of 87 participants who were surveyed with the SDLRS prior to the internship experience and again 28 weeks later at the end of the internship. They discovered a mean pre-internship SDLRS score of 218.2 and a mean post-internship SDLRS score of 224.6, producing a mean change of 6.4

points. The authors state that the "SDLRS significantly improved with the exercise" (p. e232) and that these results are statistically significant at the $p<0.05$ level. However, though the mean scores at both evaluation times are indicative of the *average* SDLRS level, the authors do not address this lack of change in SDLRS readiness categories.

The researcher's first hypothesis that the online section would demonstrate a greater increase in SDLRS scores than the other two sections was not accepted. This result prompted the researcher to ask, does lack of face-to-face contact alter the level of a learner's readiness for self-directed learning? Lowe (2005) discussed the online learner's lack of preparedness for accepting responsibility for his or her learning. His perception is that the majority of learners in traditional classrooms are not taught how to be self-directed, nor are they encouraged to take personal responsibility for learning in the traditional setting. This led to dependency upon the course instructor and a passive learning attitude toward self-direction. As online classes are becoming increasingly popular on traditional campuses, the lack of skill needed to be self-directed in learning may negatively impact the learners' academic performance.

Other authors support Lowe's statements about the lack of prior experiences preparing learners to become self-directed in their learning (Chou & Chen, 2008; Dynan, Cate & Rhee, 2008; Hsu & Shiue, 2005; Song & Hill, 2007). Many authors (Chou & Chen, 2008; Dynan, Cate & Rhee, 2008; Hsu & Shiue, 2005) assert that those who enroll in an online course should already possess the skills necessary to accepting responsibility for learning. In reality, many learners do not possess skill to be self-directed in learning nor are they screened for these qualities. Therefore, learners who have not previously been expected to accept responsibility for their own learning may not be as satisfied with

the online course and may not be able to improve upon self-directed learning skills during the same online course.

It is also important to recall Posner's (1991) study of high school students. He concluded that "the critical point of development occurs when students have completed more than one self-directed project" (p. 3). In support of this statement, an interview with Dr. John Henschke (personal communication, February 12, 2010) revealed that only during his second experience with self-directedness in learning at Boston University was he able to grasp the concept of self-directed learning and begin taking responsibility for his own learning in future educational endeavors. Kocaman, Dicle and Ugur (2009) noted that their participants' SDLRS scores increased initially after the first year of the nursing program and continued to increase with each passing year. This reinforces Posner's (1991) statement and indicates that continued exposure to self-directed learning activities is more beneficial to promoting lifelong learning.

The researcher's second hypothesis was that the participants in the traditional section of the studied course would show the least dramatic increase in SDLRS scores of the three sections of the studied course. Even though the traditional section produced a change large enough to move the cohort from the *average* SDLRS level to the *above average* level, the change was not the most dramatic, nor was the change the least dramatic. It was discovered that the blended section participants demonstrated the most dramatic change in SDLRS scores. Therefore, this hypothesis was not accepted. This prompted the researcher to explore potential factors that could have influenced this change.

The literature surrounding methods of fostering self-direction is plentiful (Blake, Wilson, Cetto & Pardo-Ballester, 2008; El Mansour & Mupinga, 2007; Lunyk-Childs, et al., 2001; Vaughan, 2007). Lunyk-Childs, et al. (2001) research identified that learners longed for consistency, support, resources and a confirmation of learning goals and objectives within the learning environment. El Mansour and Mupinga (2007) noted that blended learning participants responded positively to personal interaction with the course instructor. Placed in context with the current study, it can be inferred that learners in the blended section receive the personal feedback that they desire while also learning self-directedness in being allowed to explore the course content in an independent manner. In this fashion, the course instructor is fostering the development of self-directed learning skills and encouraging the acceptance of personal responsibility in learning. This approach could factor into the higher SDLRS scores reported by the blended cohort.

The inference that blended courses help learners develop self-directed learning skill is supported by Vaughan (2007). His research reports that the blended course environment can promote an increased engagement by the learner in the course context while simultaneously providing more opportunities for improvement on an independent level. Blake, Wilson, Cetto and Pardo-Ballester (2008) support this as well, noting that the face-to-face meetings reinforce the relationships necessary to foster self-directedness.

Evaluation

The post-course standardized university evaluation results from all three sections have been compared as well. Though the mean group scores vary slightly, none of the differences are statistically significant. Based on the results from this evaluation, it can be inferred that the participants in all three cohorts were equally satisfied with the course

(table 20). Section I allows the learner to provide consumer information. Unlike the remainder of the survey, these three questions are assessed on a four-point Likert scale. Section II provides feedback regarding the instructor's abilities. Section III provides a general evaluation of the course while Section IV provides information about the course to other students. Sections II, III and IV are evaluated on a five-point Likert scale. The questions asked in each section are denoted by Arabic numbers following the Roman numeral section identifier.

Table 20:

Summary statistics for the three sections' student evaluation of instruction and course.

Item of evaluation	Traditional Section mean	Blended Cohort mean	Online Cohort mean
I-1. The course content, including the lectures, syllabus, grading standards and student responsibilities, was presented clearly.	3.8	3.7	3.6
I-2. The instructor was interested in student learning	3.8	3.8	3.7
I-3. Considering both the possibilities and limitations of the subject matter and the course (including class size and facilities), the instructor taught effectively.	3.8	3.7	3.5
II-1. Instructor's organization of the course	4.8	4.8	5.0
II-2. Instructor's voice	5.0	4.9	4.8
II-3. Instructor's explanations	5.0	4.7	4.4
II-4. Ability to present alternative explanations	4.8	4.6	4.4
II-5. Use of examples and illustrations	4.9	4.9	4.9
II-6. Quality of questions or problems raised by instructor	4.8	4.7	4.7
II-7. Students' confidence in instructor's knowledge	4.6	4.8	4.9
II-8. Instructor's enthusiasm	4.9	5.0	5.0
II-9. Encouragement given to students to express themselves	4.8	4.9	4.6
II-10. Answers to students' questions	4.5	4.8	4.3
II-11. Availability of extra help when needed	4.6	4.7	4.9
II-12. Instructor's language proficiency	5.0	5.0	5.0
II-13. Instructor's use of technology (i.e. email, Web pages, computer assignments, etc) enhanced my learning in this course	4.8	4.7	5.0
III-1. The course as a whole was:	4.6	4.8	4.5
III-2. The content of the course was:	4.7	4.6	4.4
IV-1. The use of class time was:	4.6	4.8	4.8
IV-2. The amount you learned in the course was:	4.5	4.7	4.4
IV-3. Relevance and usefulness of course content were:	4.6	4.6	4.4
IV-4. Evaluative and grading techniques (tests, papers, projects, etc) were:	4.4	4.8	4.2
IV-5. Reasonableness of assigned work was:	4.6	4.6	4.2
IV-6. Clarity of student responsibilities and requirements was:	4.5	4.7	4.4

Note: Questions in section I had a 1-4 rating scale; Questions in sections II-IV had a 1-5 rating scale.

The satisfaction results obtained from this study are not surprising. Minor differences exist but none indicate that one section was substantially more satisfied than others. It can be concluded from these results that the three sections of the studied course are equally satisfied with their educational experience within the context of the studied course. Many researchers have studied whether or not a difference in satisfaction exists among various course delivery methods. Skylar et al. (2005) noted no statistical difference in satisfaction among learners enrolled in online, traditional and class-in-a-box (i.e. CD ROM correspondence course) formats. El Mansour and Mupinga (2007) reported differences in favored aspects between blended and online learners, but overall satisfaction results were not statistically significant from one method to another. A 2009 study by Strickland also noted no statistical difference in satisfaction between learners enrolled in an online course versus those enrolled in a blended course.

Perception of Change

For each section of the studied course, a participant was selected for an interview. The interviewees were the individual from each section of the studied course with the greatest change between their pre- and post-course scores on the SDLRS survey. The three interviews were compared to discover commonalities among the participants.

The traditional section participant was a female student aged 20 years and ranked as a junior in the university system. The participant had identified her major as nursing in the pre-course survey, though she indicated a different career path during the interview. Her pre-course SDLRS score was 262, which placed her in the “above average” level. According to the instrument developer, this indicated that the participant “prefers self-direction in learning” (Guglielmino & Associates, n.d., ¶16). The participant’s post-

course SDLRS score was 224, dropping her from the *above average* level to the *average* level.

The blended section participant was a female student aged 21 years and ranked as a senior in the university system. She had identified her major in the pre-course survey as health sciences for an undergraduate degree and ultrasonography as her anticipated graduate program of study. She noted that she had never completed an ethics course in the past and was apprehensive about taking the studied course. Her pre-course SDLRS score was 217. This score categorized the student as *average*, meaning that she is "capable but not fully comfortable with self-directed learning" (Guglielmino & Associates, n.d., ¶16). The participant's post-course SDLRS score was 245; this revealed a drastic improvement in scores to move the participant into the *above average* level.

For the online section of the course, a male student aged 21 years and who ranked as a senior in the university system was interviewed. He had identified his major in the pre-course survey as microbiology, which is not a program located within the health professions. In the pre-course survey, he noted that he enrolled in the ethics course because the subject matter interested him and he had yet to complete an ethics course in his academic career thus far. The participant's pre-course SDLRS score was 245. This score categorized the student as *above average*, meaning that he "prefers self-direction in learning" (Guglielmino & Associates, n.d., ¶16). The participant's post-course SDLRS score was 203; this revealed a dramatic decline in SDLRS scores and moved the participant into the *average* level.

Four themes were noted to be similar for all three interviewees: internal and external motivation, outside influences and other academic experiences. These themes

were identified based on the coding of the transcripts produced from the interviews. The first theme, motivation, will be discussed in relation to external motivation and internal motivation. However, it should be noted that Regan (2003) argues that there is no clear division between intrinsic and extrinsic motivation. She further states that "the reality is that for most individuals, it is a complex combination of both" (p. 598). Motivation for self-directedness has been a popular topic in educational research and for the purpose of this discussion external and internal motivators will be clearly divided to demonstrate teacher-centered (external) motivators and learner-centered (internal) motivators.

Emerging theme: External motivation. Though different for each participant, all three interviewees identified some external motivator that influenced their self-directedness in their studies. The blended section participant noted that her motivators were graduation and grades. Specifically, she was more focused on her grades in the classes that her graduate program would scrutinize and dismissed her other courses as unimportant. Due to failures in the past, she feared that she would not be accepted to the ultrasonography program. This fear had a significant impact on her desire to please the admissions committee. She stated "I know that they're [the required courses] the ones that are most important that I have to get done. Those are the ones that really matter." The motivation fueled by the program requirements and application process was a major factor in this participant's drive to learn.

The traditional section participant was also motivated by grades. She noted that the grades she earned in her first two years of college were not acceptable; in fact, she had taken the studied course in a previous semester in the online format and had not earned a passing grade. She was motivated to prove to her advisor and past professors

that she could indeed pass the course. She is looking toward a career in medicine, which requires excellent undergraduate grades. She was clear to express her desire to demonstrate her academic abilities to a future admissions committee for medical school. At no time during the interview did the participant discuss her desire to learn or retain information; she focused a great deal instead on how to attain acceptable grades. When asked about her personal definition of self-directed learning, she responded that it is "just putting the full amount of effort in that you need to to get a good grade."

The online section participant, like the blended participant, was motivated by his grades and how they will affect his application to graduate school. He was in the process of applying to the microbiology department doctoral program and felt that every grade needed to reflect his drive to succeed. In addition to the studied course, the student also took a physics course during the studied semester. His experience in the physics course he completed during the studied semester clearly angered him because he felt that he could have earned a better grade in the course which would then improve his application for his chosen graduate program.

Regan (2003) surveyed nursing students in the United Kingdom and found that external motivators were dominant factors to participation in learning. She found that 100% of respondents identified a good lecture as motivating. Approximately 95% of respondents noted that passing grades, clear guidance and feedback from the course instructors motivated them to learn. Schunk and Zimmerman (1994) and Wang and Wu (2008) also note that feedback from course instructor is an important motivator. These studies support the external motivators expressed by the participants in this study. Additionally, grades and achieving an end goal were very important to the interviewees.

It became clear that focus on grades as a motivating force can reduce a learner's self-directedness in education. Posner (1991) asserts that until a learner can identify a goal less superficial than the achievement of grades or graduation from their educational path, true self-directedness in learning cannot occur.

Emerging theme: Internal motivation. Two of the three participants were very motivated by internal factors. The online section participant was motivated by a desire to validate his ideas. He admitted that he wanted affirmation that his personal beliefs were appropriate. He stated, "I have always found my opinions to be slightly off base from others in ethical matters and caring for the patient in one way or another." In his pre-course survey, he also noted that, "I like to 'unexpectedly' learn things, rather than knowing what I'm going to learn." This statement implies that the participant approaches learning environments with an open mind and allows learning to lead him to knowledge.

The blended section participant was motivated by fear of failure. While she expressed it as a desire to get good grades, what she sought was redemption and acceptance. Her attitude and body language indicated that future rejection was not an option for her in this application process. While presenting a favorable impressions to the admissions committee was an external motivator mentioned previously, her ability to internalize pas rejection and decide how she could best achieve her goals was interesting. She noted in her interview, "I've got to take initiative…to get my degree and what I want out of life, I've got to do what I've got to do and be prepared."

The traditional section participant did not express any internal motivation factors at all and her apparent lack of internal motivation was striking. Many of her responses focused upon finding an easier path and the acquisition of grades. This participant spoke

at length about what she wants from a course instructor rather than what she needs to accomplish as a learner. When asked about her decline in SDLRS scores, she remarked that she was not surprised. She stated, “I think what happened was that I realized that my professors could help me... Because I would never like go into office hours I thought I could do it all on my own and I realized that that was not true. Like I can, but it’s just so much easier to get extra tips and more guidance from professors that I found out by the end of the semester.” She also noted that while she did not feel that it was imperative that the course instructor remind her of course due dates, she did feel that the instructor should “have open office hours or a broad range of time to meet with them just to be there.”

Regan (2003) validates the blended learning participant’s internal motivator which was fueled by past failures. She states that “one wants to avoid the pain and discomfort of that negative experience again and therefore learns what is necessary to avoid it” (p. 598). Schunk and Zimmerman (1994) identified that personal academic goals and values can be internal motivators for self-directedness in learning. They also note that feedback from course instructors, while identified here as an external motivator, can be useful in increasing internal motivators of learners.

Oliveria and Simões (2006) state that personal confidence can also impact a learner’s ability to be self-directed. This confidence can be context related; Candy (1991) reminds educators that self-directedness is context-based and a learner may be more self-directed in one content area while possessing little self-direction qualities in another. Interesting subject matter, relevancy to career path and practical application of subject

matter can inspire learner confidence and desire to take responsibility for learning experiences (Knowles, 1970; Regan, 2007).

Emerging themes: Outside influences. Two of the three participants were greatly influenced by other people. The traditional section participant noted that she had to move out of her dorm room and then her sorority house because they were too distracting. She also noted that a lot of her friends wished to "go party" during the week and she "couldn't afford to do it," indicating the need for study time. In addition, she had begun dating a young man who is very focused on his own education. She noted that his studiousness influenced her to study more and, as a result, she has become more focused on academic outcomes. In addition, her brother has started his medical education. As this is a goal of the participant, her brother's participation is a constant reminder of her aspirations which may push her to succeed.

The online section participant spoke highly of his mentor in his program of study. He admitted that, when he was performing duties of a teaching assistant, he used the same instruction techniques used by his mentor. When the interview presented an opportunity to explain a task or an experience, this participant frequently used experiences with his mentor to illustrate his point. During the interview, the researcher remarked that she perceived the mentor had a major impact upon the participant. The participant stated, "he has… he is very much the answer a question with a question type which I emulate as a TA [teaching assistant]." This is commonly referred to as the Socratic teaching method which encourages confidence that can lead to self-directedness.

In stark contrast, the blended section participant seemed completely independent. Her answers focused on her own accomplishments and duties for achieving her goals.

She enjoyed the blended section because the course met only once per week and it "gave me my own time and responsibility to get the stuff done." She also noted "I think that I take my own initiative and get my stuff done and know what to do." This participant demonstrated a high degree of self-directedness in achieving her goals.

Noted previously in the discussion of external motivation, feedback from outside sources (i.e. course instructor, class peers, acquaintances) can impact a learner's ability to be self-directed. Regan (2007) noted that an enthusiastic tutor, a tutor who values students and is a "really good mentor" (p. 596) can motivate learners to take more responsibility for their learning. This statement supports the online participant's remarks that his mentor has been an important influence on how he approaches learning environments. From his statements, it can be inferred that this participant would not be as successful without the influence of his mentor. Wang and Wu (2008) support this idea; they observe that in addition to improving motivation, feedback directed toward mastery, achievement and self-improvement can influence a learner's self-esteem, which may be another factor to foster self-directedness.

Emerging themes: Other academic experiences. Two of the three participants experienced other courses in the studied semester that impacted their readiness for self-directedness. Both examples used by the blended section participant and the online section participant indicated that the other courses were unorganized, did not utilize course materials or course time appropriately, and forced students to seek the required information from other sources. The blended section participant took the opportunity to seek out the teaching assistants and study groups to accomplish her goals. She stated that

she had to “figure it out on my own” and while that was difficult, it pushed her to be more independent in her learning.

The online section participant, however, reacted differently to the same experience. He noted that the other course he experienced was taught by a professor who read straight from the text during the lecture session. The participant stated that, though he passed the class, he wasn’t happy with his grade and thought he could have performed better if the professor had been more explanatory in the class period. When the researcher asked if this course could have influenced him to learn more because he had to take responsibility for his learning, he stated “no…in fact it made me a lot more frustrated.”

When placed into context, it is interesting to compare the blended section participant’s remarks and those of the online section participant. The blended section participant chose to take this unorganized course experience and make herself more responsible for her learning; her post-course SDLRS scores improved dramatically at the end of the semester and she believes the unorganized course was instrumental in that process. Conversely, the online section participant decided that he would prefer more structure and input from course instructors. His post-course SDLRS scores declined dramatically at the end of the semester. He believes that the unorganized course not only failed to facilitate self-directedness in learning but reduced all learning in the course.

Interestingly, the traditional section participant also demonstrated a drop in SDLRS scores at the post-course assessment. She agreed with the interpretation of the SDLRS results and noted that this semester she discovered that she could ask her professors to help her. Prior to the studied semester, she noted that “I thought I could do it all on my own and I realized that was not true.” She also said that, while she could

comprehend the course content on her own if she put forth the effort, “it’s just so much easier to get extra tips and more guidance from professors.” Her statements help highlight the role teachers play in guiding students toward self-directedness in learning.

In support of the negative impact course instructors have on the traditional participant’s self-directedness, Knowles, Holton and Swanson (2005) also indicate that many programs violate adult learning principles, providing that overly structured environment. Dynan, Cate and Rhee (2008) state that past learning experiences can be an important influence on a learner’s ability to be self-directed in future academic endeavors. They add that a lifetime of overly structured learning experiences do not prepare learners to accept responsibility for their learning.

The time constraints and lack of opportunities can lead a learner to assume a more passive role in the learning environment, relying heavily on course instructors and developing a negative self-esteem as an independent learner. Levett-Jones (2005) claimed that many educational situations produce anxiety which leads to reliance on the course instructor. She further states that it is a mistake to expect self-directedness from learners in any situation without proper preparation of the learner for the experience. Henschke (2007) also states that the stress of the situation can be a large barrier to self-directedness.

Conclusions and Discussion

Based on the results determined by this study, it can be concluded that the undergraduate learner’s readiness to be self-directed does not significantly evolve during a health care ethics course. Further, it can be concluded that there was not a statistically significant change in SDLRS scores among all three sections of the course. While each section demonstrated an improvement in self-directedness as measured by the SDLRS,

none demonstrated a dramatic change that would indicate that course format impacts the evolution of self-directedness in the studied course. The learner's perception of change identified internal and external motivators, outside influences and prior academic experiences as having the greatest impact on his or her ability to be self-directed in the context of the studied semester.

Participation Quality

An area of concern from the researcher's perspective was type of responses received on the instrument utilized for data collection. The Self-Directed Learning Readiness Scale (SDLRS) (Appendix B) was used to allow the participants to self-assess their attitudes toward learning and readiness to manage their own learning. Some researchers consider the SDLRS a reliable and valid tool and it is the most commonly used for the purpose of evaluating readiness for self-directed learning (Guglielmino & Klatt, 1993; Guglielmino, 1989; Long & Agyekum, 1983). In keeping with the recommended practice of administering the survey, the title was altered to read "Learning Preferences Assessment" to eliminate response bias. However, the tool was delivered by the course instructor/researcher. In the case of the traditional and blended sections, the course instructor/researcher was present during the completion of the survey. Some participants' responses were predominantly 4 ("usually true of me; I feel this way more than half the time") and 5 ("almost always true of me; there are very few times when I don't feel this way") on the scale, regardless of positive or negative wording. The researcher was concerned that the participants might not have answered the statements on the survey honestly. Instead, the researcher suspected that the participants would

mistakenly think that more positive responses (regardless of positive or negative phrasing) would induce the course instructor/researcher to think more highly of them.

To explore this perception, the researcher calculated a ratio of negatively phrased statements answered with a 4 (“usually true of me; I feel this way more than half the time”) and 5 (“almost always true of me; there are very few times when I don’t feel this way”) response on the scale to positively phrased statements answered in the same fashion. The instrument contains 17 negatively phrased statements. A tally of the number of responses of either 4 or 5 on the scale was determined for all 17 items. For example, of the 23 participants in the traditional section of the course, two participants responded with a score of 4 or 5 on item number three in the pre-course assessment. The individual item tallies were averaged among the number of responses and the 17 items (table 21). All scoring for each section of the course (pre- and post-course assessments) were consistently scored. The same scoring method was used to assess the responses to the 41 positively phrased items (table 22). The post-course responses were included in table 22 to evaluate the difference in responses after the learning experiences.

It is interesting to note that participants in both the traditional and blended sections of the course increased the number of 4 and 5 responses on the post-course assessment from the pre-course assessment regardless of negative or positive phrasing. The participants in the online section of the course decreased the number of 4 and 5 responses on both negatively and positively phrased statements. One possible explanation for this change is that two participants did not complete the post-course assessment. Of the 20 participants, only 18 completed the post-course assessment while all 20 completed the pre-course assessment. Another possible explanation for this finding is that the participants in the

online section did not have face-to-face interaction with the course instructor which could then impact their comfort level with accepting responsibility for their learning.

Table 21:

Frequency of negatively phrased items for the pre-course and post-course surveys for all sections of the course.

Item Number on the SDLRS	Traditional Section		Blended Section		Online Section	
	Pre-course survey (N=23)	Post-course survey (N=23)	Pre-course survey (N=25)	Post-course survey (N=25)	Pre-course survey (N=23)	Post-course survey (N=23)
3	2	1	0	1	2	0
6	6	3	4	6	3	5
7	5	8	3	7	2	1
9	1	3	1	1	2	1
12	3	1	2	3	3	2
19	3	4	7	4	1	1
20	1	0	2	3	2	2
22	6	1	4	5	3	4
23	1	4	3	3	5	4
29	7	6	2	3	8	8
31	2	3	3	1	2	3
32	1	3	2	1	1	3
35	4	6	6	6	6	5
44	2	2	1	2	2	1
48	2	4	1	2	5	2
53	3	1	1	0	3	1
56	0	0	0	1	0	0
Total	47	50	42	49	50	43

Table 22:

Frequency of positively phrased items for the pre-course and post-course surveys for all sections of the course.

Item Number on the SDLRS	Traditional Section		Blended Section		Online Section	
	Pre-course survey (N=23)	Post-course survey (N=23)	Pre-course survey (N=25)	Post-course survey (N=25)	Pre-course survey (N=20)	Post-course survey (N=18)
1	23	23	24	25	19	17
2	18	16	13	15	15	18
4	15	19	23	21	17	15
5	21	18	21	20	15	13
8	21	17	21	24	18	13
10	18	14	17	18	15	13
11	9	10	14	12	13	8
13	11	7	8	10	8	5
14	19	19	21	19	18	16
15	15	15	19	17	16	13
16	21	20	19	19	18	15
17	11	13	10	12	6	9
18	6	10	12	9	7	6
21	20	22	18	22	17	14
24	16	16	12	15	10	10
25	11	12	11	14	8	9
26	21	20	21	23	14	15
27	7	12	14	13	11	11
28	10	16	11	13	9	5
30	19	17	19	21	16	15
33	18	16	19	15	13	12
34	18	18	17	19	9	14
36	6	9	12	16	6	4
37	21	21	23	23	15	13
38	7	10	10	12	11	10
39	17	17	18	16	13	12
40	16	21	18	17	17	15
41	12	13	16	17	15	12
42	11	10	17	16	7	10
43	15	19	19	20	10	13
45	20	20	19	18	14	13
46	20	20	19	17	13	14
47	13	19	14	19	11	7
49	20	21	21	21	17	15
50	18	14	18	15	15	10
51	18	18	18	17	15	11
52	22	22	24	24	18	17

Table 22 continued
Frequency of positively phrased items for the pre-course and post-course surveys for all sections of the course.

Item Number on the SDLRS	Traditional Section		Blended Section		Online Section	
	Pre-course survey (N=23)	Post-course survey (N=23)	Pre-course survey (N=25)	Post-course survey (N=25)	Pre-course survey (N=20)	Post-course survey (N=18)
54	22	23	23	25	19	15
55	19	20	24	22	17	15
57	17	21	21	20	17	13
58	19	22	22	22	18	12
Total	661	690	717	733	560	497

Based upon the findings in tables 21 and 22, the ratio of negatively phrased statements answered with a 4 ("usually true of me; I feel this way more than half the time") and 5 ("almost always true of me; there are very few times when I don't feel this way") response on the scale to positively phrased statements answered in the same fashion proved the researcher's fear that the participants responded in a haphazard fashion to be unfounded (table 23). To obtain the ratio of negatively phrased items to positively phrased items, the researcher first added all responses scored as a 4 or 5 on the scale for the negatively phrased items in the pre-course assessment for a given section of the studied course. The sum of these responses was divided by 17 (representing all negatively phrased items). For example, the total of these responses for the traditional section of the course was 47. The dividend of 47 by 17 is 2.76. The researcher then added all responses scored as a 4 or 5 on the scale for the positively phrased items in the pre-course assessment. The sum of these responses was divided by 41 (representing all positively phrased items). For the traditional section, this sum was 661. The dividend of 661 by 41 is 16.12. The simplified ratio of 2.76:16.12 is 1:5.84. Therefore, the ratio calculated for the pre-course assessment of the traditional section of the course indicates that for every negatively phrased statement answered with a 4 or 5 on the SLDRS, 5.84

positively phrased statements would be answered in the same manner. Indeed, the ratios support the validity of self-reporting instruments like the SDLRS and support the generalization of the responses gathered in the study. All ratios concerning the pre-course and post-course survey responses were calculated in the same fashion.

Table 23:

Ratio of negatively phrased responses to positively phrased responses on the SDLRS

Assessment	Traditional Section	Blended Section	Online Section	All Sections
Pre-course	1:5.84	1:7.08	1:4.65	1:5.79
Post-course	1:5.66	1:6.21	1:4.79	1:5.60
Average	1:5.75	1:6.61	1:4.71	1:5.69

Dual Role of the Researcher

Another area of concern from the researcher's perspective was assuming the dual role of researcher and course instructor. Other researchers have successfully fulfilled both roles (Gagne & Shepherd, 2001; Welker & Berardino, 2005). However, it is important that the researcher bracket herself appropriately to identify potential biases.

In fulfilling this dual role, the researcher took great measures to ensure that all course participants (regardless of enrolled sections) received the same course content, instructions, assignments, and time frame to complete assigned work as well as instructor communication (electronic and face-to-face). In an effort to present the same professional appearance to the blended and traditional sections, the researcher wore clothing of similar styles on the corresponding days of class. For example, she wore a dress on the day that the traditional section of the course discussed ethical issues involved at the end-of-life; she also wore a dress of a similar style and color on the day that the blended section of the course discussed the same topic.

Interacting with all sections similarly was a difficult task. The participants in the traditional section of the studied course were very quiet and not very participative in course discussions. In contrast, the blended section participants were very boisterous and involved in the discussions. The resulting atmosphere created by the blended section participants was much more positive than that created by those enrolled in the traditional section. The online section participants were difficult to engage in the electronic discussion board each week. The atmosphere created by the online participants was interpreted by the course instructor to be very unengaged. The participants were encouraged to discuss freely but most performed at the minimal level to achieve a passing grade on the activity.

Though it was challenging to remain consistent in instructor-learner interactions, the results of the efforts were positive. The researcher can conclude that she was successful in maintaining objectivity between sections of the studied course based on results from the student evaluation of the instruction and course reported in table 20 (page 16).

Implications for Practice

The primary implication of this study is the realization that course delivery method does not impact the learner's ability to be self-directed. The course instructor can foster self-directedness in any course delivery format with a variety of tools and technology. Similarly, a secondary implication is that one semester of university coursework is not enough time or experience for the learner's self-directedness to significantly evolve. A third implication of the study is underscoring of the validity of self-reporting surveys and questionnaires. The ratios calculated in this study demonstrate

that researchers can use instruments like the SDLRS with confidence that the findings will be relatively accurate for the sample. This confidence can then allow the researcher to generalize the sample findings to a larger population.

The most significant implication of the study is the discovery of the factors that learners identify as influential upon their ability to be self-directed. Although many authors (Knowles, 1970; Knowles, Horton & Swanson, 2005; Oliveria & Simões, 2006; Schunk & Zimmerman, 1994; Wang & Wu, 2008) have identified factors that impact self-directedness, it is interesting to learn which factors an undergraduate student identifies as important. Based on the interviews conducted for this study, motivation appears to be the major influencing factor. Both internal and external motivators can assist the learner in moving toward accepting responsibility for his or her learning. The educator can use this information to identify such motivators and structure the learning environment, regardless of delivery method, to guide the learner to various forms of self-directed learning. In time, the learner becomes more confident and less dependent upon the course instructor. This may produce the independent, self-reliant learner who epitomizes lifelong learning.

As noted previously, the blended section produced the highest mean change in SDLRS scores among the three cohorts. A possible explanation for this finding is that the blended section participants reaped the advantages of the traditional and online delivery methods: they were able to make face-to-face connections with the course instructor and their peers once per week as well as take advantage of course flexibility and discussion boards. The traditional section participants did not have access to the Blackboard® system and were not expected to discuss concepts outside of the classroom (i.e. on the discussion

board) so they may have felt that all of their instruction and guidance must come from the course instructor during class time. In contrast, the online section participants may have felt lost in the online environment because they did not have the face-to-face contact with the course instructor. The blended delivery method could foster a mentoring relationship while also promoting a safe environment for the learner to accept more responsibility which in turn could increase the learner's self-directedness in learning. It is important to place this potential in context with the phenomenon of self-directed learning and recall that it may require more than one experience to affect the learner's readiness for self-direction.

Another area to consider is the difference in participation among the sections. The researcher noted that the blended section participants were more engaged and more likely to complete projects with minimal guidance as compared to the traditional participants. The researcher/course instructor felt that she had to plan more activities for the traditional section because the participants were hesitant to discuss daily topics freely. In contrast, the blended section participants were eager to discuss the day's topic and frequently stayed past the official course session to finish a discussion or clarify statements posted on the weekly discussion board. This difference may have stemmed from the fact that the participants were only in class once per week and felt that they had limited time to convey their thoughts.

When teaching an online section, it is important for the practitioner to remember that the discussion board is the main form of communication. Undergraduate students may be hesitant to share ideas, as noted in the interview with the online participant in this study. This hesitancy may arise from the participant's lack of confidence in his/her

knowledge, lack of interest in course material or the perception that he/she is alone in the course. Course instructor participation on the discussion board may be necessary to stay on topic and allow for a more in-depth exploration of the discussion topic.

Limitations

One major limitation of this study was the length of time allotted for data collection. The study lasted for one standard (16 week) university semester. Recalling Posner's (1991) caution; Henschke's (personal communication, February 12, 2010) experiences; and the findings of Kocaman, Dicle and Ugur (2009), the learner may not be ready to become more self-directed until he or she has participated in and completed a minimum of two consecutive self-directed learning experiences.

The sample size of the study and the sample technique may be limitations to the generalizability of the study findings. While the sample was diverse in age, gender and career path within the health professions, it was not an accurate sample of the entire university population. The studied course is of interest only to students who are either currently enrolled in a health professions program or seek to enroll in a health professions program.

The small number of interviewed participants can be construed as a limitation to this study. While these participants were interviewed due to the extremities of their scores, their experiences cannot be generalized to a larger population of learners. The results of the interviews must be evaluated within the context of the studied semester, the lived experiences of the participant and the participant's current life situation.

Recommendations for Future Research

Future research into the phenomenon of evolution of self-directedness can add to the existing literature by following the same cohorts of learners through consecutive semesters of coursework. As many university programs of study are sequential and structured, research into different programs during the professional phase can identify how these programs foster self-directedness and lifelong learning. Lessons from inquiries such as these can assist educators in developing and implementing strategies earlier in the undergraduate curricula and to guide learners toward self-directed learning.

A major consideration for the evaluation of the evolution of self-directedness in learning is the length of time a learner is evaluated. Longitudinal studies can enhance the existing knowledge by allowing for a more detailed assessment of the phenomenon. Short studies such as the one presented here may not provide enough experience for the learner to accept responsibility for his/her learning.

Considering the limited number of participants as well as the level of diversity of the studied sample, future studies can expand upon the research methodology to include undergraduate students of all majors currently enrolled in the university. Separate studies regarding graduate students may also be necessary as these two groups of students have different life experiences. However, it is still important to understand that subject matter context is a major factor influencing self-directedness. Future researchers should take care to study courses in which the context is similar and the variables can be held constant.

References

Adams, J. (2008). Understanding the factors limiting the acceptability of online courses and degrees. *International Journal on E-Learning, 7*(4), 573-587.

Amey, B. (2008). An exploration of the relationship between experiential learning and self-directed learning readiness. *Dissertation Abstracts International, 69*(11), A. (UMI No. 3336074)

Amstutz, D. D. (1999). Adult learning: Moving toward more inclusive theories and practices. In T. C. Guy (ed.), *Providing culturally relevant adult education: A challenge for the twenty-first century* (pp. 19-31). New Directions for Adult and Continuing Education, 82. San Francisco, CA: Jossey-Bass.

Anderson, M. R. (1993). Success in distance education courses versus traditional classroom education courses. *Dissertation Abstracts International, 54*(12), 4339. (UMI No. 9413704).

Anderson-Inman, L., Knox-Quinn, C., & Tromba, P. (1996). Synchronous writing environments: Real-time interactions in cyberspace. *Journal of Adolescent and Adult Literacy, 40*(2), 134-138.

Aspden, L. & Helm, P. (2004). Making the connection in a blended learning environment. *Educational Media International, 41*(3), 245-252.

Bates, A. W. (1997). *Technology, open learning and distance education.* New York: Routledge.

Bernard, R. M., Abrami, P. C., Lou, Y., Borokhovski, E., Wade, A., Wozney, L., et al. (2004). How does distance education compare with classroom instruction? A meta-analysis of the empirical literature. *Review of Educational Research, 74*(3), 379-439.

Billman, C. S. (2008). The impact of instructional delivery methods on retention of BSN-C students. *Dissertations Abstracts International, 69*(12), A. (UMI No. 3341169)

Blake, R., Wilson, N. L., Cetto, M., & Pardo-Ballester, C. (2008). Measuring oral proficiency in distance, face-to-face and blended classrooms. *Language Learning and Technology, 12*(3), 114-127.

Bonham, L. A. (1991). Guglielmino's self-directed learning readiness scale: What does it measure? *Adult Education Quarterly, 41*(2), 92-99.

Booth, M. (2007). A study of adult undergraduate learners' experiences of becoming and being self-directed learners. *Dissertation Abstracts International, 68*(08), A. (UMI No. 3279462)

Brigley, S. (n.d.). *How to teach ethics.* Retrieved April 8, 2009, from Cardiff University, School of Postgraduate Medical and Dental Education Web site: http://www.cardiff.ac.uk/pgmde/medical_education/howtoseries/How%20to%20Ethics.pdf

Brockett, R. G. (1985a). Methodological and substantive issues in the measurement of self-directed learning readiness. *Adult Education Quarterly, 36*(1), 15-24.

Brockett, R. G. (1985b). A response to Brookfield's critical paradigm of self-directed adult learning. *Adult Education Quarterly, 36*(1), 55-64.

Brookfield, S. (1984). Self-directed learning: A critical paradigm. *Adult Education Quarterly, 35*(2), 59-71.

Burnett, K., Bonnici, L. J., Miksa, S. D., & Kim, J. (2007). Frequency, intensity and topicality in online learning: An exploration of the interaction dimensions that contribute to student satisfaction in online learning. *Journal of Education for Library and Information Science, 48*(1), 21-35.

Caffarella, R. S. (1993). Self-directed learning. In S. B. Merriam (Ed.), *An update on learning theory* (pp. 25-35). New Directions for Adult and Continuing Education, 57. San Francisco, CA: Jossey-Bass.

Candy, P. (1991). *Self-direction for lifelong learning: A comprehensive guide to theory and practice.* San Francisco, CA: Jossey-Bass Publishers.

Chou, P. N. & Chen, W. F. (2008). Exploratory study of the relationship between self-directed learning and academic performance in a web-based learning environment. *Online Journal of Distance Learning Administration, 6*(1). Retrieved May 22, 2009, from http://www.westga.edu/~distance/ojdla/spring111/chou111.html

Combs, A. W. (1974). Fostering self-direction. In D. L. Avila, A. W. Combs, & W. W. Purkey (Eds.), *The helping relationship sourcebook* (pp. 244-249). Boston, MA: Allyn and Bacon, Inc.

Cooper, M. K. & Henschke, J. A. (2003). *Andragogy: The international foundation for its research, theory and practice linkage.* Proceedings of the Academy of Human Resource Development International Research Conference, Minneapolis, MN.

Creswell, J. W. (2007). *Qualitative inquiry & research design: Choosing among five approaches* (2nd ed). Thousand Oakes, CA: Sage Publications.

Dynan, L., Cate, T., & Rhee, K. (2008). The impact of learning structure on students' readiness for self-directed learning. *Journal of Education for Business, 84*(2), 96-100.

El Mansour, B. & Mupinga, D. M. (2007). Students' positive and negative experiences in hybrid and online classes. *College Student Journal,41*(1), 242-248.

Elias, J. & Merriam, S. (1995). *Philosophical foundations of adult education* (2nd ed.). Florida: Krieger Publishing Company.

Ellis, R. A. & Calvo, R. A. (2004). Learning through discussions in blended environments. *Educational Media International, 41*(3), 263-274.

Ellis, R. A., Calvo, R., Levy, D. & Tan, K. (2004). Learning through discussions. *Higher Education Research & Development, 23*(1), 73-93.

Field, L. (1989). An investigation into the structure, validity, and reliability of Guglielmino's self-directed learning scale. *Adult Education Quarterly, 39*(3), 125-139.

Field, L. (1991). Guglielmino's self-directed learning readiness scale: Should it continue to be used? *Adult Education Quarterly, 41*(2), 100-103.

Fisher, M., King, J., & Tague, G. (2001). Self-directed learning readiness scale for nursing education. *Nurse Education Today, 21*(7), 516-525.

Fitzgerald, C. T. (2003). Self-directed and collaborative online learning: Learning style and performance. *Dissertation Abstracts International, 64*(05), A. (UMI No. 3090404)

Gagne, M. & Shepherd, M. (2001). Distance learning in accounting: A comparison between a distance and a traditional graduate accounting class. *T.H.E. Journal, 28*(9), 58-65.

Graetz, K. A. & Goliber, M. J. (2002). Designing collaborative learning places: Psychological foundations and new frontiers [Electronic version]. In N. Van Note Chism & D. J. Bickford (eds.), *The importance of physical space in creating supportive learning environments* (pp. 13-22). New Directions for Teaching and Learning, 92.

Grbich, C. (2007). *Qualitative data analysis: An introduction.* Thousand Oaks, CA: Sage Publications.

Groves, M. & O'Donoghue, J. (2009). Reflections of students in their use of asynchronous online seminars. *Educational Technology & Society, 12*(3), 143-149.

Grow, G. O. (1991). Teaching learners to be self-directed. *Adult Education Quarterly, 41*(3), 125-149.

Guglielmino & Associates (n.d.). SDLRS/LPA. Retrieved June 30, 2009, from http://www.lpasdlrs.com/main.html

Guglielmino, L. (1977). Development of the self-directed learning readiness scale. *Dissertation Abstracts International, 38*(11), 6467A. (UMI No. 7806004)

Guglielmino, L. (1989). Reactions to Field's investigation into the SDLRS. *Adult Education Quarterly, 39*(4), 235-245.

Guglielmino, P. J., Guglielmino, L. M., & Long, H. B. (1987). Self-directed learning readiness and performance in the workplace: Implications for business, industry, and higher education. *Higher Education, 16*(3), 303-317.

Guglielmino, P. J. & Klatt, L. A. (1993). *Entrepreneurs as self-directed learners.* Retrieved July 1, 2009, from the International Council for Small Business Web Site: http://www.sbaer.uca.edu/research/icbs/1993/pdf/12.pdf

Henschke, J. (2007). Foreword. In S. Isenberg, *Applying andragogical principles to internet learning* (pp. xv-xxiii). New York: Cambria Press.

Henschke, J. A. & Cooper, M. K. (2007, November). *Additions toward a thorough understanding of the international foundations of andragogy in HRD & adult education.* Paper presented to the Commission on International Adult Education Pre-Conference American Association for Adult and Continuing Education Conference, Milwaukee, WI.

Henschke, J. A., Cooper, M. K., & Isaac, E. P. (2003, March). *Teaching adults and non-traditional vocational students.* Presented to Conversations in Teaching and Technology, St. Louis, MO.

Hirschheim, R. (2005). The Internet-based education bandwagon: Look before you leap. *Communications of the ACM, 48*(7), 97-101.

Hoban, J. D., Lawson, S. R., Mazmanian, P. E., Best, A. M., & Seibel, H. R. (2005). The self-directed learning readiness scale: A factor analysis study. *Medical Education, 39*(4), 370-379.

Houle, C. O. (1992). *The literature of adult education: A bibliographic essay.* San Francisco, CA: Jossey-Bass.

Hsu, Y. C. & Shiue, Y. M. (2005). The effect of self-directed learning readiness on achievement comparing face-to-face and two-way distance learning instruction. *International Journal of Instructional Media, 32*(2), 143-155.

Huang, Y. C. (2006). E-portfolios: Their impact on self-directed learning and computer technology skills on pre-service teachers. *Dissertation Abstracts International, 69*(01), A. (UMI No. 3298785)

Hunt, D. M. (2005). Web-based distance learning: Substitute or alternative to the traditional classroom: Making the delivery method decision. *Online Journal of Distance Learning Administration, 8*(3). Retrieved July 26, 2009, from http://www.westga.edu/~distance/ojdla/fall83/hunt83.htm

Isenberg, S. (2005). The experience of applying andragogical principles to internet learning. *Dissertation Abstracts International, 66*(05), 1594A. (UMI No.3173437)

Jackson, M. J. & Helms, M. M. (2008). Student perceptions of hybrid courses: Measuring and interpreting quality. *The Journal of Education for Business, 84*(1), 7-12.

Jarvis, P. (1995). *Adult & continuing education: Theory and practice* (2nd ed.). London: Routledge.

Johnson, S. D., Aragon, S. R., Shaik, N., & Palma-Rivas, N. (2000). Comparative analysis of learner satisfaction in online and face-to-face learning environments. *Journal of Interactive Learning Research, 11*(1), 29-49.

Judson, E. (2006). How teachers integrate technology and their beliefs about learning: Is there a connection? *Journal of Technology and Teacher Education, 14*(3), 581-597.

Juisto, S. & DiBiasio, D. (2006). Experiential learning environments: Do they prepare our students to be self-directed, life-long learners? *Journal of Engineering Education, 95*(3), 195-204.

Kassop, M. (2003). Ten ways online education matches, or surpasses, face-to-face learning. *The Technology Source.* Retrieved February 27, 2010, from http://ts.mivu.org/default.asp?show=article&id=1034

Knowles, M. S. (1970). *The modern practice of adult education.* New York: Association Press.

Knowles, M. S. (1975). *Self-directed learning: A guide for learners and teachers.* New York: Association Press.

Knowles, M. S., Holton, E. F., & Swanson, R. A. (2005). *The adult learner* (6th ed.). San Diego, CA: Elsevier.

Kocaman, G., Dicle, A., & Uger A. (2009). A longitudinal analysis of self-directed learning readiness level of nursing students enrolled in a problem-based curriculum. *Journal of Nursing Education, 48*(5), 286-290.

Krentler, K. A. & Willis-Flurry, L. A. (2005). Does technology enhance actual student learning? The case of online discussion boards. *The Journal of Education for Business, 80*(6), 316-321.

Langenbach, M. (1988). *Curriculum models in adult education.* Florida: Krieger Publishing Company.

Leasure, A. R., Davis, L., & Thievon, S. L. (2000). Comparison of student outcomes and preferences in a traditional vs. world wide web-based baccalaureate nursing research course. *Journal of Nursing Education, 39*(4), 149-154.

Levett-Jones, T. L. (2005). Self-directed learning: Implications and limitations for undergraduate nursing education. *Nurse Education Today, 25*(5), 363-368.

Litzinger, T., Wise, J., Lee, S. H., & Bjorklund, S. (2003). Assessing readiness for self-directed learning. *Proceedings of the American Society for Engineering Education Annual Conference & Exposition, USA,* Section 1330.

Long, H. B. & Agyekum, S. K. (1983). Guglielmino's self-directed learning readiness scale: A validation study. *Higher Education, 12*(1), 77-87.

Lowe, S. D. (2005). Responding to learner needs in distance education: Providing academic and relational support (PARS). In S. J. Levine (Ed.), *Making distance education work: Understanding learning and learners at a distance* (pp. 73-78). Okemos, MI: LearnerAssociates.net

Lunyk-Child, O. I., Crooks, D., Ellis, P. J., Ofosu, C., O'Mara, L., & Rideout, E. (2001). Self-directed learning: Faculty and student perceptions. *Journal of Nursing Education, 40*(3), 116-123.

Matuga, J. M. (2009). Self-regulation, goal orientation, and academic achievement of secondary students in online university courses. *Educational Technology & Society, 12*(3), 4-11.

McCall, D. L. (2002). Motivational components of self-directed learning among undergraduate students. *Dissertation Abstracts International,62*(10), 326A. (UMI No. 3029729)

Means, B., Toyama, Y., Murphy, R., Bakia, M., & Jones, K. (2009). *Evaluation of evidence-based practices in online learning: A meta-analysis and review of online learning studies.* Washington, DC: U. S. Department of Education.

Mentzer, G. A., Cryan, J., & Teclehaimanot, B. (2007). Two peas in a pod? A comparison of face-to-face and web-based classrooms. *Journal of Technology and Teacher Education, 15*(2), 233-246.

Merriam, S. B. (2001). Andragogy and self-directed learning: Pillars of adult learning theory. In S. B. Merriam (ed.), *The new update on learning theory* (pp. 3-13). New Directions for Adult and Continuing Education, 89. San Francisco, CA: Jossey-Bass.

Merriam, S. B. & Simpson, E. L. (2000). *A guide to research for educators and trainers of adults* (Rev. 2nd ed.). Malabar, FL: Krieger Publishing Company.

Mori, B., Batty, H. P., & Brooks, D. (2008). The feasibility of an electronic reflexive practice exercise among physiotherapy students. *Medical Teacher, 30*(8), e232-238.

Oladoke, A. O. (2006). Measurement of self-directed learning in online learners. *Dissertation Abstracts International, 67*(01), A. (UMI No. 3206369)

O'Leary, P. F. & Quinlan, T. J. (2007). Learner-instructor telephone interaction: Effects on satisfaction and achievement of online students. *The American Journal of Distance Education, 21*(3), 133-143.

Oliveria, A. L. & Simões, A. (2006). Impact of sociodemographic and psychological variables in the self-directedness of higher education students. *International Journal of Self-Directed Learning, 3*(1), 1-12.

Posner, F. G. (1991). Self-directed learning: The missing ingredient for school reform. *Changing Schools, 19*(1), 1-4 & 8.

Raidal, S. L., & Volet, S. E. (2009). Preclinical students' predispositions toward social forms of instruction and self-directed learning: A challenge for the development of autonomous and collaborative learners. *Higher Education, 57*(5), 577-596.

Regan, J. A. (2003). Motivating students towards self-direction. *Nurse Education Today, 23*(8), 593-599.

Reischmann, J. (2004). Andragogy. History, meaning, context, function. Retrieved July 26, 2009, from http://www.uni-bamberg.de/fileadmin/andragogik/08/andragogik/andragogy/Andragogy-Internet.pdf

Richards, L. (2005). *Handling qualitative data: A practical guide.* Thousand Oaks, CA: Sage Publications.

Rivera, J. C. & Rice, M. L. (2002). A comparison of student outcomes and satisfaction between traditional and web based course offerings. *Online Journal of Distance Learning Administration, 5*(3). Retrieved March 26, 2007, from http://www.westga.edu/~distance/ojdla/fall53/rivera53.html

Savicevic, D. M. (1991). Modern concepts of andragogy: A European framework. *Studies in the Education of Adults, 23*(2), 179-201.

Savicevic, D. M. (1999). Understanding andragogy in Europe and America: Comparing and contrasting. In J. Reischmann, M. Bron, & Z. Jelenc (Eds.), *Comparative Adult Education 1998: The Contribution of ISCAE to an Emerging Field of Study* (pp. 97-119). Slovenia: Slovenian Institute for Adult Education.

Schofield-Clark, L. (n.d.). *Constructivist methods in the symbolism, media and the lifecourse and the symbolism, meaning and the new media home projects.*

Retrieved February 8, 2008, from the University of Colorado-Boulder Journalism Web site: http://www.colorado.edu/Journalism/mcm/qmr-const-theory.htm

Schunk, D. H. & Zimmerman, B. J. (Eds.) (1994). *Self-regulation of learning and performance: Issues and educational applications.* Hillsdale, NJ: Lawrence Earlbaum Associates, Inc.

Shana, Z. (2009). Learning with technology: Using discussion forums to augment a traditional-style class. *Educational Technology & Society, 12*(3), 214-228.

Shieh, D. (2009). *Professors regard online instruction as less effective than classroom learning.* Retrieved February 10, 2009, from http://www.chronicle.com/free/2009/02/11232n.htm

Simmons, S., Jones, W., & Silver, S. (2004). Making the transition from face-to-face to cyberspace. *TechTrends, 48*(5), 50-55.

Simonson, M., Smaldino, S., & Albright, M. (2003). *Teaching and learning at a distance: Foundations of distance education* (2nd ed.). Columbus, OH: Merrill Prentice Hall.

Skylar, A. A., Higgins, K., Boone, R., Jones, P., Pierce, T., & Gelfer, J. (2005). Distance education: An exploration of alternative methods and types of instructional media in teacher education. *Journal of Special Education Technology, 20*(3), 25-33.

Snyder, T. D., Dillow, S. A., & Hoffman, C. M. (2009). Digest of education statistics, 2008 (NCES 2009-020). Washington, DC: U. S. Department of Education.

Song, L. & Hill, J. R. (2007). A conceptual model for understanding self-directed learning in online environments. *Journal of Interactive Online Learning, 6*(1), 27-42.

Strickland, S. (2007). Understanding successful characteristics of adult learners. *Respiratory Care Education Annual, 16,* 31-38.

Strickland, S. (2009).The effectiveness of blended learning environments for the delivery of respiratory care education. *Journal of Allied Health Education, 38*(1), e11-e16.

Stodel, E. J., Thompson, T. C., & MacDonald, C. J. (2006). Learner's perspectives on what is missing from online learning: Interpretations through the community of inquiry framework. *International Review of Research in Open and Distance Learning, 7*(3), 1-24.

Tallent-Runnels, M. K., Thomas, J. A., Lan, W. Y., Cooper, S., Ahern, T. C., Shaw, S. M., & Liu, X. (2006). Teaching courses online: A review of the research. *Review of Educational Research, 76*(1), 93-135.

Tippins, D. J. & Tobin, K. G. (1993). Ethical decisions at the heart of teaching: Making sense from a constructivist perspective. *Journal of Moral Education, 22*(3), 221-240.

Turner, J. E. (2007). Readiness for self-directed learning: Comparison of college-prep and vocational education public high school seniors. *Dissertations Abstracts International, 68*(06), A. (UMI No. 3271296)

Vaughan, N. (2007). Perspectives on blended learning in higher education. *International Journal on E-Learning, 6*(1), 81-94.

Wang, S. L. & Wu, P. Y. (2008). The role of feedback and self-efficacy on web-based learning: The social cognitive perspective. *Computers and Education, 51*(4), 1589-1598.

Welker, J. & Berardino, L. (2005). Blended learning: Understanding the middle ground between traditional classroom and fully online instruction. *Journal of Educational Technology Systems, 34*(1), 33-55.

Williams, B. (2004). Self direction in a problem-based learning environment. *Nurse Education Today, 24*(4), 227-285.

Wojciechowski, A. & Palmer, L. B. (2005). Individual student characteristics: Can any be predictors of success in online classes? *Online Journal of Distance Learning Administration, 8*(2). Retrieved July 24, 2007, from http://www.westga.edu/%7Edistance/ojdla/summer82/wojciechowski82.htm

Woods, R. H. (2002). How much communication is enough in online courses? Exploring the relationship between frequency of instructor-initiated personal email and learners' perceptions of and participation in online learning. *International Journal of Instructional Media, 29*(4), 377-394.

Appendix A
CPD 4480: Ethics for the Clinician
Student Information

The information you enter on this form is confidential. Only the course instructor will see this information. The information on this page will help the course instructor understand the population of students who enroll in CPD 4480.

Your name: _____

What is your anticipated major?

Why did you enroll in CPD 4480?

- ☐ It is required for my major.
- ☐ It is recommended for my major.
- ☐ The subject matter interests me.
- ☐ I needed another class and this one was open.
- ☐ Someone told me that this was a good class to take.
- ☐ Other (please specify)

Why did you enroll in this section of CPD 4480?

Have you previously completed an ethics class?

- ☐ Yes
- ☐ No

What do you hope to learn in this course?

Appendix B

Self-Directed Learning Readiness Scale

SDLRS-A

Appendix B

Name _____ Sex _____ Birthdate _____

Date of Testing _____ Location of Testing _____

QUESTIONNAIRE

INSTRUCTIONS: This is a questionnaire designed to gather data on learning preferences and attitudes towards learning. After reading each item, please indicate the degree to which you feel that statement is true of you. Please read each choice carefully and circle the number of the response which best expresses your feeling.

There is no time limit for the questionnaire. Try not to spend too much time on any one item, however. Your first reaction to the question will usually be the most accurate.

ITEMS:	RESPONSES				
	Almost never true of me: I hardly ever feel this way.	*Not often true of me: I feel this way less than half the time.*	*Sometimes true of me: I feel this way about half the time.*	*Usually true of me: I feel this way more than half the time.*	*Almost always true of me: there are very few times when I don't feel this way.*
1. I'm looking forward to learning as long as I'm living.	1	2	3	4	5
2. I know what I want to learn.	1	2	3	4	5
3. When I see something that I don't understand, I stay away from it.	1	2	3	4	5
4. If there is something I want to learn, I can figure out a way to learn it.	1	2	3	4	5
5. I love to learn.	1	2	3	4	5
6. It takes me a while to get started on new projects.	1	2	3	4	5
7. In a classroom, I expect the teacher to tell all class members exactly what to do at all times.	1	2	3	4	5
8. I believe that thinking about who you are, where you are, and where you are going should be a major part of every person's education.	1	2	3	4	5
9. don't work very well on my own.	1	2	3	4	5

	Almost never true of me; I hardly ever feel this way.	Not often true of me; I feel this way less than half the time.	Sometimes true of me; I feel this way about half the time.	Usually true of me; I feel this way more than half the time.	Almost always true of me; there are very few times when I don't feel this way
10. If I discover a need for information that I don't have, I know where to go to get it.	1	2	3	4	5
11. I can learn things on my own better than most people.	1	2	3	4	5
Even if I have a great idea, I can't seem to develop a plan for making it work.	1	2	3	4	5
13. In a learning experience, I prefer to take part in deciding what will be learned and how.	1	2	3	4	5
14. Difficult study doesn't bother me if I'm interested in something.	1	2	3	4	5
15. No one but me is truly responsible for what I learn.	1	2	3	4	5
16. I can tell whether I'm learning something well or not.	1	2	3	4	5
17. There are so many things I want to learn that I wish that there were more hours in a day.	1	2	3	4	5
If there is something I have decided to learn, I can find time for it, no matter how busy I am.	1	2	3	4	5
Understanding what I read is a problem for me.	1	2	3	4	5
20. If I don't learn, it's not my fault.	1	2	3	4	5
21. I know when I need to learn more about something.	1	2	3	4	5
22. If I can understand something well enough to get a good grade on a test, it doesn't bother me if I still have questions about it.	1	2	3	4	5
I think libraries are boring places.	1	2	3	4	5
The people I admire most are always learning new things.	1	2	3	4	5

	Almost never true of me; I hardly ever feel this way.	Not often true of me; I feel this way less than half the time.	Sometimes true of me; I feel this way about half the time.	Usualy true of me; I feel this way more than half the time.	Almost always true of me; there are very few times when I don't feel this way
25. I can think of many different wavs to learn about a new topic.	1	2	3	4	5
26. I try to relate what I am learning to my long-term goals.	1	2	3	4	5
27. I am capable of learning for myself almost anything I might need to know.	1	2	3	4	5
28. I really enjoy tracking down the answer to a question.	1	2	3	4	5
29. I don't like dealing with questions where there is not one right answer.	1	2	3	4	5
30. I have a lot of curiosity about things.	1	2	3	4	5
I'll be glad when I'm finished learning.	1	2	3	4	5
32. I'm not as interested in learning as some other people seem to be.	1	2	3	4	5
33. I don't have any problem with basic study skills.	1	2	3	4	5
34. I like to try new things, even if I'm not sure how they will turn out.	1	2	3	4	5
35. I don't like it when people who really know what they're doing point out mistakes that I am making.	1	2	3	4	5
36. I'm good at thinking of unusual ways to do things.	1	2	3	4	5
37. like to think about the future.	1	2	3	4	5
I'm better than most people are at trying to find out the things I need to know.	1	2	3	4	5
39. I think of problems as challenges, not stopsigns.	1	2	3	4	5
40. I can make myself do what I think I should.	1	2	3	4	5

		Almost never true of me: I hardly ever feel this way.	Not often true of me: I feel this way less than half the time.	Sometimes true of me: I feel this way about half the time.	Usually true of me: I feel this way more than half the time.	Almost always true of me: there are very few times when I don't feel this way.
41.	I'm happy with the way I investigate problems.	1	2	3	4	5
42.	I become a leader in group learning situations.	1	2	3	4	5
43.	enjoy discussing ideas.	1	2	3	4	5
44.	I don't like challenging learning situations.	1	2	3	4	5
45.	have a strong desire to learn new things.	1	2	3	4	5
	The more I learn, the more exciting the world becomes.	1	2	3	4	5
47.	Learning is fun.	1	2	3	4	5
48.	It's better to stick with the learning methods that we know will work instead of always trying new ones.	1	2	3	4	5
49.	I want to learn more so that I can keep growing as a person.	1	2	3	4	5
	I am responsible for my learning — no one else is.	1	2	3	4	5
51.	Learning how to learn is important to me.	1	2	3	4	5
52.	will never be too old to learn new things.	1	2	3	4	5
53.	Constant learning is a bore.	1	2	3	4	5
54.	Learning is a tool for life.	1	2	3	4	5
55.	I learn several new things on my own each year.	1	2	3	4	5
56.	Learning doesn't make any difference in my life.	1	2	3	4	5
	I am an effective learner in the classroom and on my own.	1	2	3	4	5
58.	Learners are leaders.	1	2	3	4	5

Appendix C
Standardized University Course Evaluation Form

STUDENT EVALUATION OF INSTRUCTION AND COURSE

FORM A-3

Instructor_____ Course _____ Section _____

Optional: Comment Sheet # _____

Thank you for taking the time to consider these items carefully. **Please use a number 2 pencil to blacken the circle** that most closely corresponds to your observation. Read the title and the descriptions before you decide on your response. Please evaluate each item separately. Choose "NC" for no comment and "NA" for not applicable.

SECTION I: TO PROVIDE CONSUMER INFORMATION

The campus collects evaluations of faculty responsible for delivery of all or parts of each course. Instructor ratings will be tabulated using the information provided in response to the following three questions. This information will be posted as part of the schedule of courses the next time this instructor is scheduled to teach this course. The information will be available for review by all students enrolled at Thank you for providing this input.

	Strongly agree	Agree	Disagree	Strongly disagree	No opinion
1. The course content, including the lectures, syllabus, grading standards, and student responsibilities, was presented clearly.	○	○	○	○	○
2. The instructor was interested in student learning.	○	○	○	○	○
3. Considering both the possibilities and limitations of the subject matter and the course (including class size and facilities), the instructor taught effectively.	○	○	○	○	○

SECTION II: TO PROVIDE DIAGNOSTIC FEEDBACK TO THE INSTRUCTOR

1. INSTRUCTOR'S ORGANIZATION OF THE COURSE	Noticeable lack of organization	○	○	○	Exceptionally well-organized	No comment (NC)
2. INSTRUCTOR'S VOICE	Very clear and understandable	○	○	○	Difficult to understand	(NC)
3. INSTRUCTOR'S EXPLANATIONS	Very easy to follow	○	○	○	Difficult to follow	(NC)
4. ABILITY TO PRESENT ALTERNATIVE EXPLANATIONS	Not effective	○	○	○	Very effective	(NC)
5. USE OF EXAMPLES AND ILLUSTRATIONS	Very helpful examples	○	○	○	Examples not helpful	(NC)
6. QUALITY OF QUESTIONS OR PROBLEMS RAISED BY INSTRUCTOR	Low quality	○	○	○	High quality	(NC)
7. STUDENTS' CONFIDENCE IN INSTRUCTOR'S KNOWLEDGE	Appears to lack knowledge of subject	○	○	○	Appears to have exceptional knowledge	(NC)
8. INSTRUCTOR'S ENTHUSIASM	Very enthusiastic	○	○	○	Lacks enthusiasm	(NC)
9. ENCOURAGEMENT GIVEN STUDENTS TO EXPRESS THEMSELVES	Students not encouraged	○	○	○	Students strongly encouraged	(NC)
10. ANSWERS TO STUDENTS' QUESTIONS	Answers are very satisfactory	○	○	○	Answers are usually not satisfactory	(NC)
11. AVAILABILITY OF EXTRA HELP WHEN NEEDED	Easily available	○	○	○	Generally not available	(NC)
12. INSTRUCTOR'S LANGUAGE PROFICIENCY	Easy to understand	○	○	○	Difficult to understand	Not applicable (NA)
13. INSTRUCTOR'S USE OF TECHNOLOGY (i.e., email, Web pages, computer assignments, etc.) ENHANCED MY LEARNING IN THIS COURSE	Not at all	○	○	○	Very much	Not applicable (NA)

Please use a #2 pencil to blacken the circle that most closely corresponds to your observation.

E = Excellent	Use descriptions at left when answering sections III and IV.
QG = Quite Good	
S = Satisfactory	
F = Fair	
P = Poor	
NC = No Comment	

SECTION III.
TO PROVIDE A GENERAL EVALUATION

1. THE COURSE AS A WHOLE WAS:
   (E) (QG) (S) (F) (P) (NC)

2. THE CONTENT OF THE COURSE WAS:
   (E) (QG) (S) (F) (P) (NC)

SECTION IV.
TO PROVIDE INFORMATION ABOUT THE COURSE TO OTHER STUDENTS

1. USE OF CLASS TIME WAS:
   (E) (QG) (S) (F) (P) (NC)

2. AMOUNT YOU LEARNED IN THE COURSE WAS:
   (E) (QG) (S) (F) (P) (NC)

3. RELEVANCE AND USEFULNESS OF COURSE CONTENT WERE:
   (E) (QG) (S) (F) (P) (NC)

4. EVALUATIVE AND GRADING TECHNIQUES (TESTS, PAPERS, PROJECTS, ETC.) WERE:
   (E) (QG) (S) (F) (P) (NC)

5. REASONABLENESS OF ASSIGNED WORK WAS:
   (E) (QG) (S) (F) (P) (NC)

6. CLARITY OF STUDENT RESPONSIBILITIES AND REQUIREMENTS WAS:
   (E) (QG) (S) (F) (P) (NC)

SECTION V.
TO PROVIDE GENERAL INFORMATION ABOUT YOURSELF

1. WHEN REGISTERING WAS THIS A COURSE YOU WANTED TO TAKE?
   ○ Yes ○ No ○ Neutral

2. THIS COURSE IS:
   ○ In my major ○ A general education requirement
   ○ In my minor ○ Other
   ○ An elective

3. MY CLASS IS:
   ○ Freshman ○ Senior
   ○ Sophomore ○ Graduate
   ○ Junior ○ Other

4. GRADE I EXPECT TO RECEIVE:
   ○ A ○ B ○ C ○ D ○ F ○ S ○ U

5. PERCENTAGE OF CLASSES I ATTENDED:
   ○ 0 - 25% ○ 51 - 75% ○ 91 - 100%
   ○ 26 - 50% ○ 76 - 90% ○ Not applicable

6. PERCENTAGE OF CLASSES FOR WHICH I COMPLETED THE ASSIGNED WORK OR READING BEFORE CLASS:
   ○ 0 - 25% ○ 51 - 75% ○ 91 - 100%
   ○ 26 - 50% ○ 76 - 90% ○ Not applicable

SECTION VI.
OPTIONAL ITEMS (USE ONLY AS DIRECTED BY INSTRUCTOR)

1. (E) (QG) (S) (F) (P)
2. (E) (QG) (S) (F) (P)
3. (E) (QG) (S) (F) (P)
4. (E) (QG) (S) (F) (P)
5. (1) (2) (3) (4) (5) (6) (7) (8) (9)
6. (1) (2) (3) (4) (5) (6) (7) (8) (9)
7. (1) (2) (3) (4) (5) (6) (7) (8) (9)
8. (1) (2) (3) (4) (5) (6) (7) (8) (9)

PLEASE USE SEPARATE SHEET FOR WRITTEN COMMENTS

Adapted with major revisions from the Instructional Assessment System, University of Washington, Seattle

sm 9/08

Appendix D
Post-Course Semi-Structured Interview Questions

I. Explanation of the SDLRS
   a. What is your understanding of the purpose of this tool?
   b. You scored significantly higher on the post-course assessment compared to the pre-course assessment. How would you interpret this change?
      Rationale: determining the meaning of the tool for the participant

II. How do you approach each new course toward your professional path?
      Rationale: determine how the participant views the pre-requisite courses (i.e. figure out what the course instructor expects, new opportunity for learning, opportunity to achieve a good grade, opportunity to impress their teacher/program advisor, etc)

III. What is your understanding of "self-directed learning?"
   a. How would you define "self-directed learning?"
   b. Have you ever experienced this? If so, how?
   c. How would you determine whether or not you are ready to be self-directed?
      Rationale: determine the participant's knowledge/experience with self-directed learning

IV. From your perspective, what is the role of the course instructor in self-directed learning?
   a. How much encouragement from the instructor is necessary?
   b. How much involvement should the course instructor have in self-directed learning?
   c. In a self-directed learning environment, what do you need from the course instructor?
      Rationale: determine the needs of the participant for instructor intervention

V. What is your experience with group projects?
   a. How well do you work within groups?
   b. What is the best way to construct a group, from your experience?
   c. What is the most difficult aspect of working in groups?
   d. What is the most rewarding aspect of working in groups?
      Rationale: determine the experience of working in groups from the participant's perspective

VI. What did you expect to learn from this course?
   a. How did you develop your own course goal?
   b. What helped you achieve your course goal?
   c. What prevented you from achieving your goal?
   d. How did the course affect your ability to be self-directed?
      Rationale: determine the self-directedness of the initial approach to the course in question and how that course impacted achievement and the evolution of self-directedness

VII. Questions/comments from the participant

Appendix E
IRB Approved Pre-Course Cover Letter

Name: _____

Survey Information

Learning Preference Assessment

This survey, the Learning Preference Assessment, is a 58-question survey that asks you questions related to how you like to learn. This survey is being conducted as part of dissertation research and will be valuable to understanding how students are motivated to learn. The survey is a tool that has been used for many years in research efforts as well as in college courses to provide professors with information that can help them teach more effectively. You are asked to complete the survey at this time and then once more just before final examinations.

The researcher will not see your responses to this survey or the second survey until after your course has ended and the course grades have been submitted. Until the course completion, the completed surveys will be stored in a locked filing cabinet. The surveys will be destroyed upon completion of data compilation. No one other than the researcher will ever see these surveys. You have the right to not answer a question or questions you do not wish to answer. You may withdraw yourself from participation at any time.

If you have any questions, you may contact me at any time. My contact information is below.

Shawna Strickland (primary investigator)
617 Lewis Hall
Columbia, MO 65211
573-882-9722

UMSL Institutional Review Board
Office of Research Administration
341 Woods Hall
St. Louis, MO 63121