

THE EFFECTS OF SERVICE-LEARNING COURSES AND TRADITIONAL LECTURE
COURSES ON STUDENTS' ACADEMIC ACHIEVEMENT AND
LEVEL OF COURSE ENGAGEMENT

by

Jamie Elizabeth Rife

Liberty University

A Dissertation Presented in Partial Fulfillment
of the Requirements for the Degree
Doctor of Education

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ABSTRACT

The purpose of this ex-post facto research was to examine the theory of Experiential Learning in the context of service-learning and its relationship at a university to the academic achievement and student level of course engagement in service-learning courses as compared to traditional lecture courses. An ex post facto research design was utilized to examine the relationship between participation in a service-learning or traditional lecture course on the course grade of the students and level of course engagement as measured by the Student Course Engagement Questionnaire (SCEQ). The study determined that participation in either a service-learning course or traditional lecture course had little effect on the students' academic outcome as measured by course grade. These findings support earlier research in the field, which finds little effect on course average or GPA when students participate in service-learning. Furthermore, the results showed a statistically significant difference in student course engagement when students were participating in service-learning courses versus traditional lecture courses. Students in service-learning courses reported higher levels of engagement than those in traditional lecture courses. Further research, preferably in the form of true experimental research, is needed to determine if students do achieve at higher levels in service-learning classes over traditional lecture classes in light of the results of this study, as higher levels of course engagement should result in higher course grades.

Keywords: Academic outcomes, Engagement theory, Experiential learning theory, Student Course Engagement Questionnaire, Service-learning, Student engagement

Dedication

This manuscript is dedicated first and foremost to our Lord and Savior Jesus Christ. Without the strength and love of our heavenly Father, none of this could have been possible. He has been my guiding light and has lifted me up during this process, giving me the strength to endure and succeed, teaching me that anything is possible in His name. This manuscript is also dedicated to my mother, who taught me the value of education from the very start, instilling in me a love and passion for learning. Without this drive from her, I would have never had the strength to make it this far.

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List of Abbreviations

Abstract Conceptualisation (AC)

Active Experimentation (AE)

Association of American Colleges and Universities (AAC&U)

Concrete Experience (CE)

Experiential Learning Theory (ELT)

Liberal Education and America's Promise (LEAP)

National Society for Experiential Education (NSEE)

Reflective Observation (RE)

Student Course Engagement Questionnaire (SCEQ)

CHAPTER ONE: INTRODUCTION

Background

Meaningful educational experiences have indicated increased student engagement and understanding. Educators have sought heightened levels of engagement and achievement through various practices and teaching models. Recently, service-learning, or “an experiential education” (Lu & Lambright, 2010, p. 118), has become a popular form of educational practice in the postsecondary environment (Lu, & Lambright, 2010). The Higher Education Research Institute reports that the number of college freshmen with access to either service-learning or community service during their first year of college is 65% (Butin & Sieder, 2012). Campus Compact, a coalition of over 1,100 college campuses nationwide, found that 31% of the students from its participating institutions engaged in some form of service-learning or other civic engagement activity during the 2007-2008 school year (Campus Compact, 2008). The coalition’s 2012 annual report demonstrated even further growth of service-learning initiatives among member institutions. Of those surveyed in 2012, 95% offered service-learning classes, averaging 66 courses each. This is an increase from the previous 2010 amount of 64. Approximately 7% of faculty at the responding campuses are instructors of courses that incorporate service-learning (Campus Compact, 2012).

Studies examining the effects of service-learning show positive student outcomes, particularly for civic outcomes. However, reviews have been mixed on whether service-learning promotes higher academic course achievement, and little research exists on how it affects a student’s engagement in the course. With the continued spread of service-learning, it is increasingly important to gain a fuller understanding of how it might shape the educational experience of the post-secondary student. Chapter One will provide a summary regarding the problem statement as relevant to this study, and the purpose of the present study. Additionally, it

will provide the research questions, hypotheses, and any key definitions necessary for the understanding of the study.

Problem Statement

Service-learning has been touted as a form of experiential learning providing opportunity for students to interact with their communities and offering positive student outcomes in the areas of engagement, academic achievement, social development, citizenship, and emotional development (Roldan, Strage, & David, 2004). Jones (2002) and Rosenberger (2000) even go as far as claiming it has transformative potential for its students.

The service-learning movement has gained momentum, particularly with regards to higher education (Jacoby, 1996). Current researchers in the field proclaim its effectiveness, while acknowledging the studies lack the rigor and scientific underpinnings to clearly identify this pedagogy as a sound educational practice (Ziegert & McGoldrick, 2004). This lack of rigor has advocates of service-learning scrambling for more research supporting the practice.

Examination of the research surrounding service-learning was partially sparked by the release of the U.S. Department of Education's What Works Clearinghouse. This website established a new scientific standard of evidence for educational pedagogies and practices. With critics of the current body of literature, which is mainly descriptive in nature, already loudly protesting research on service-learning, the release of these standards called into further question the existing proof of service-learning's effectiveness (Ziegert & McGoldrick, 2004).

Previous studies remain mostly descriptive in nature; therefore, they have little applicability outside the realm of the current study. While some correlation studies have been conducted to measure the effects of service-learning on a dependent variable, further quantitative research is required to prove the effectiveness of service-learning as a valid instructional model. The majority of the existing research is qualitative in nature, and this adds to the understanding

of the effectiveness of service-learning within the realm of that course. However, few studies exist that are quantitative and examine the overarching pedagogy of service-learning across multiple content areas.

Purpose Statement

The purpose of this ex post facto study is to determine how participation in either a service-learning course or traditional lecture course affects student academic outcomes when measured with course grade and their level of course engagement at University A. This study is a comprehensive look across various contents and courses to further determine how this methodology influences the participants' educational experience. It specifically compares academic outcomes as measured by course grade and course engagement in service-learning classes with students participating in traditional lecture courses.

Significance of the Study

The current body of literature shows mixed results of the effects of service-learning on academic achievement when measured by either course grade or GPA (Eyler, Giles, Stenson, & Gray, 2001; Prentice & Robinson, 2010). More research is needed in this area to determine if there is an effect from participation in service-learning on course grade. Additionally, with the continued increase of students participating in service-learning nationwide, and even worldwide, it is important to understand its implications with course engagement as course engagement has been found to be a predictive indicator of attrition and achievement (Handelsman, Briggs, Sullivan & Towler, 2005).

For the purposes of this study, there were two basic research assumptions:

1. Personally connecting students to course content through service-learning activities will enhance course academic outcomes.

2. The use of service-learning as a pedagogy will enhance student course engagement as measured by the Student Course Engagement Questionnaire (SCEQ).

Research Questions

RQ1: Is there a statistically significant difference between the traditional lecture students and service-learning students on their course grade?

RQ2: Is there a statistically significant difference between the traditional lecture students and service-learning students on their course engagement?

Null Hypotheses

With regards to research question number one, the Null Hypothesis is as follows:

H₀1: There will not be a statistically significant difference between the traditional lecture students and service-learning students on their course grade.

With regards to research question number two, the Null Hypothesis is as follows:

H₀2: There will not be a statistically significant difference between the traditional lecture students and service-learning students on their course engagement as measured by the Student Course Engagement Questionnaire.

Definitions

1. *Student engagement* - Student engagement is defined in numeric form by scaling the Student Course Engagement Questionnaire (SCEQ), a 27-item self-reporting questionnaire developed by Handelsman et al. (2005). This tool measures four areas of student engagement, including the responders' skills, along with emotional, participation, and performance engagements. Reliability of this scale rates between .76 and .83 (Handelsman, et al., 2005). Permission was obtained by the researcher for use of this instrument.

2. *Student course grade* - To precisely measure the independent variables' effect on student achievement, the researcher utilizes the course grade in numerical form as the measure of student achievement. Course grade has been used in a number of previous studies as a determinant of student success (Dutton & Dutton, 2005; Sonner, 1999)
3. *Experiential Learning Theory* - The process whereby knowledge is created through the transformation of experience. Knowledge results from the combination of grasping and transforming experience (Kolb, 1984).
4. *Service-learning classes* - For the purposes of this study, service-learning classes are operationally defined as Bringle and Hatcher (1995) define them as:
“a course-based, credit-bearing educational experience in which students (a) participate in an organized service activity that meets identified community needs and (b) reflect on the service activity in such a way as to gain further understanding of the course content, a broader appreciation of the discipline, and an enhanced sense of civic responsibility”
(112).
5. *Traditional lecture classes* - For the purposes of this study, traditional lecture classes, often referred to as a type of passive learning, are classes in which a traditional didactic lecture is employed as the main component for the delivery method of material (Haidet, Morgan, O'Malley, Moran, & Richards, 2004).

CHAPTER TWO: LITERATURE REVIEW

Introduction

As college and university student attrition maintains a steady rate of nearly 50% (ACT, 2014), it is increasingly important to identify pedagogies that engage students, leading to academic success. Researchers in the field of education are examining different ways in which to identify teaching and learning strategies that lead to higher academic achievement and engagement, with the hopes of decreasing college attrition rates nationwide. Service-learning is one of the pedagogies that has been studied as a means to accomplishing these effects. As a result, there has been a steady increase in the number of students participating in service-learning at the post-secondary level. Campus Compact (2012), an organization dedicated to service-learning research at the university level, reports that the inclusion of service-learning courses continues to rise. Of their member campuses, an average of 66 courses with service-learning components was offered in 2012. They also cite an increase in the amount of institutional support offered to service-learning by the institutions. Nearly 7% of the instructor respondents to their annual survey indicate they incorporate service-learning into at least one of their courses.

With the rise in service-learning course offerings, it is important to continually evaluate its efficacy in student development and engagement. While much long-standing research has been conducted and proven service-learning's positive effects on student perception and civic engagement (Felten & Clayton, 2011), the reviews on how it impacts student learning when measured by course average remain mixed, with some studies finding significant impact (Astin, Vogelgesang, Ikeda & Yee, 2000) and others finding no impact (Boss, 1994). More recent research utilizes student self-reporting measures, such as surveys, to indicate the amount of learning the students feel they gained when participating in service-learning (Kuh, 2008; Lopez, 2009).

Regarding engagement, Prentice (2007) states there has been significant research investigating the effects of service-learning on civic engagement; however, further investigation is needed regarding the direct impact of service-learning on course engagement. Since course engagement is closely linked to course success, it is important for institutions of higher learning to identify how to achieve it.

Theoretical Framework

Experiential Learning Theory (ELT) is the underpinning of service-learning research and provides the theoretical framework for this study. The theory is based on the idea that students learn better by doing and examines the link between experience and education. It became popularized with the work of David Kolb (1984), who based his theory of Experiential Learning on the works of Lewin, Dewey, and Piaget, each of whom contributed to the definition of experiential learning, which Kolb (1984) states is “the process whereby knowledge is created through the transformation of experience. Knowledge results from the combination of grasping and transforming experience” (p. 41).

To create his model of Experiential Learning, Kolb (1984) pulled from Lewin’s work in the 1940s regarding action research within the laboratory method. Lewin’s laboratory method begins with an existing experience and is followed by the data collection and examination about the experience. A data analysis then occurs, and the process concludes with the sharing of this analysis with the participants so they may adjust behavior as necessary and choose a new experience. Kolb (1984) uses the following graphical representation to demonstrate the process of Lewin.

Kolb (1984) notes two important aspects of Lewin’s theory, the first being the inclusion of an experience that is currently taking place as a means of validation and testing of abstract concepts. He feels that the “immediate personal experience is the focal point for learning, giving

life, texture, and subjective personal meaning to abstract concepts and at the same time providing a concrete, publicly shared reference point for testing the implications and validity of ideas” (p. 21).

The second noteworthy characteristic of Lewin’s (1984) model is the attention to feedback, which allows researchers to assess valid information as it relates to a desired goal. This feedback and evaluation process allows for the researchers to continually evaluate how their work deviates from a desired outcome, permitting them to adjust as necessary. Lewin placed equal emphasis on both the data collected and the decision-making process, stating that the organization should neither be saturated and paralyzed by data, nor should it make hasty actions in the absence of valid data.

The process of learning, as described by John Dewey (1938), shares commonalities with Lewin’s model; however, while they occur along the same lines, Dewey’s theory provides a more comprehensive look at “how learning transforms the impulses, feelings and desires of concrete experience into higher-order purposeful action” (Kolb, 1984, p. 22). Dewey (1938) expresses the learning process as a “complex intellectual operation” (p. 69) which includes the development of purpose by: (1) the examination of the conditions surrounding the experience; (2) information regarding past experiences in comparable circumstances which comes partly from those having a more comprehensive knowledgebase surrounding the subject area; (3) conclusions based on the examination and previous knowledge. Dewey felt that this process of examination and information gathering to create action was lacking from the educational philosophies of the time.

Piaget was the last theorist from whom Kolb (1984) drew to create his theory of Experiential Learning. As people mature and reach adulthood, they develop the worldview of abstract constructionists, which is in sharp contrast to the concrete phenomenism of childhood.

During this time, they also shift from “an active egocentric view to a reflective internalized mode of knowing” (Kolb, 1984, p. 23). Piaget also believed in the formation of knowledge-based interaction between an individual and his/her environments.

Unlike Lewin and Kolb, Piaget broke cognitive growth into four distinct stages, the first being birth to age two named the sensory-motor stage. During this time, individuals are “predominantly concrete and active” (Kolb, 1984, p. 23) regarding their learning and begin forming goals for their behavior, reacting to stimuli and forming responses. The next stage, representational, occurs between the ages of two and six. In this stage, the individuals maintain some of the previous sensory-motor stage but begin to manipulate what they observe and the images they see. The ability to begin forming “abstract symbolic powers” (Kolb, 1984, p. 24) occurs between ages seven and eleven, the stage of concrete operations, and is characterized by shaping experiences around perceptions and concepts. The last, formal operations, has an onset of approximately age 12 and lasts until age 15. The stage of formal operations allows the individuals to possess reasoning, examine and deduct theoretical implications, and then subsequently test the validity of their deductions.

These three theories led to the formation of Kolb’s Experiential Learning Theory (ELT), which includes four basic stages: (a) Concrete Experience (CE); (b) Reflective Observation (RO); (c) Abstract Conceptualisation (AC); and (d) Active Experimentation (AE) (Akella, 2010).

Akella (2010) summarizes Kolb’s learning process by stating it “begins by having an experience (CE), she reflects on the experience from several prospective (RO),” and this is then followed by “the student draws conclusions and relates them to theories and concepts (AC)” and this leads “to experimentation and action (AE)” (p. 102). This theory provides the theoretical framework for such educational experiences as practicums, internships, cooperative education, immersion studies, and a myriad of others which includes service-learning.

Service-Learning

Service-learning boasts a long history, which can be traced directly back to the writings of John Dewey and William James (Cashman & Seifer, 2008). The relatively recent inclusion of service-learning in a growing number of post-secondary courses warrants further examination. Butin (2006) cites the growth of its incorporation into colleges and universities as a movement towards institutions embracing the “scholarship of engagement” (p. 473).

History and Major Theorists

Universities have a long history of forming relationships that are beneficial to the surrounding community. In Europe, after the decentralization of medieval society, universities formed a strong bond with nearby villages as they worked towards disseminating knowledge, a very useful pursuit given the historical context (Umpleby & Rakicevik, 2008). In the United States, Thomas Jefferson believed higher education was the road to self-governance in the colonies. Benjamin Franklin furthered Jefferson’s ideology by imagining Penn, which later became the University of Pennsylvania, as an educational institution dedicated to the civic education of its students. He went on to publish a pamphlet on his vision for Penn, stating that the aim should be the coupling of “inclination” and “ability” (Harkavy & Hartley, 2010, p. 419).

In an effort to create more accessibility to higher education and expand educational opportunities for the surrounding communities, the Morrill Act of 1862 granted land to colleges with the intent of making the United States an economic, technologic, and civic powerhouse (Felten & Clayton, 2011). Universities such as Penn State, Cornell, and University of California at Berkeley received land as part of the government’s belief in furthering scientific advances, particularly in the field of agriculture and mechanics. The grant also included the vision of expanding the number of people receiving the benefits of higher education. Another goal of the grant was promoting citizenship. This idea of learning as more than just academic ability soon

expanded to many of the major universities of the time, including Ohio State, which stated its purpose was no longer to simply educate men in the mechanical and agricultural workings of the world, but also to equip them with a greater purpose and understanding of their duties as citizens of the United States (Harkavy & Hartley, 2010).

John Dewey's work provided the backbone in education on which service-learning would eventually form. He believed that educational institutions should focus on the application of knowledge and on the "intimate and necessary relations between the processes of actual experience and education" (Dewey, 1938, p. 20). He touted the relationship between the subject-matter taught in schools and its function in the world around us; he emphasized how linking these two will result in a deeper understanding and learning of content. Democracy, he believed, began in the local communities (Dewey, 1954). Dewey's work was furthered by Kolb's (1984) theory on experiential learning, in which he theorized that experience is central in the learning process.

These theories are generally accepted as the theoretical groundwork for service-learning, which later became a form of experiential learning that equally weighs the students' learning experiences with the identified needs of the community. According to Ehrlich (1996), each of these goals in service-learning supports the other. It serves to extend the classroom and allow students the opportunity to strengthen their community while engaging in learning the content with a deeper understanding. This was the underlying premise of Dewey's theory on education (Ehrlich, 1996). Ehrlich further contends that service-learning is another tool in the pedagogical from emphasizing teaching to those teaching strategies that reinforce student learning. Though definitions on service-learning tend to vary, these ideals remain constant.

In 1966 Oak Ridge Associated Universities first cited the term *service-learning*, not originally hyphenated, when describing a recent project for developing tributaries, which promoted collaboration between companies, government organizations, and researchers. This was followed by the beginning stages of formalization during the 1970s to the pedagogy of service-learning as universities began to structure coursework with community action. The goal of this type of coursework was to provide a “stronger, deeper, and more relevant educational experiences for students” (Guthrie & McCracken, 2010, p. 153). For approximately two decades the practitioners of service-learning worked in isolation from one another; they were the minority among their peers. Much of the faculty was resistant to the idea that they had an obligation to develop their students beyond simply teaching them subject matter. Many were confused by how service might enhance learning in their classrooms; therefore, they refused to incorporate these types of experiences into their curricula (Harkavy & Hartley, 2010).

Service-learning experienced a slow beginning in becoming part of mainstream education. It was not until 1987, when the National Society for Internships and Experiential Education, which is now known as the National Society for Experiential Education (NSEE), placed an emphasis on service-learning that it finally began to gain traction. In 1989, the NSEE hosted a meeting for which it consulted more than 70 organizations regarding the practice of service-learning. This collaboration generated the “Principle of Good Practice in Service-learning” further defining the pedagogy. The NSEE then published an influential text in 1990, which, when coupled with the National and Community Service Act of 1990, began supplying service-learning grants and laid the foundation for its early adoption (Harkavy & Hartley, 2010).

Associations then began exploring service-learning. Among the early adopters was Campus Compact, an organization founded in 1985 on the campuses of Brown, Georgetown, and Stanford to combat the perception that students were self-absorbed. Campus Compact leaders

sought to facilitate community engagement opportunities, partnerships, and civic engagement, resulting in “the next generation of responsible citizens” (Campus Compact National Office, 1999, para. 6). Perhaps the most influential organization to help spread the pedagogy was The American Association for Higher Education, which hosted a series of conferences and further committed to supporting it through publishing a series of essays on the subject within a variety of academic constructs, thereby highlighting how it might look across different content areas. That very year, 1994, the founding of the *Michigan Journal of Community Service and Learning* provided a channel for further research in the field (Harkavy & Hartley, 2010).

Growth of Service-Learning

There has been a historically significant growth in the number of service-learning courses offered nationwide. Kenworthy-U-Ren (2008) states “the past decade has seen the wide-spread emergence of service-learning as a teaching tool used across a variety of disciplines, educational levels, and universities around the world” (p. 812). The most widely cited data are that of Campus Compact, a national alliance of over 1,100 presidents from various colleges and universities who represent approximately six million students. This coalition cites its mission in its 2012 report as making “civic and community engagement an institutional priority” (p. 12). The 2008 report issued by Campus Compact specifically highlighted the expansion of service-learning in its member institutions. Among its members, 93% incorporate courses with service-learning components, representing a total of 24,271 courses or approximately 43 at each campus. Many of these institutions, approximately 42%, were also including faculty involvement in service-learning as part of their tenure or promotion consideration process. The majority of campuses had at least one staff member whose full-time responsibility revolved around programs related to service-learning.

Butin and Seider (2012) state that 65% of college freshmen report having the opportunity to participate in some sort of community activities, be they service or service-learning, according to the Higher Education Research Institute. Studies and data provided by the National Service-Learning Clearinghouse to the Center for Community and Service-learning at the University of Texas Arlington suggest a rapid growth of service-learning. The peer-reviewed journal the *Michigan Journal for Community Service-Learning* remains a strong publication for furthering research in the field (Felton & Clayton, 2011). Among community colleges, the American Association of Community Colleges reports that nearly 60% offer their students the opportunity to participate in service-learning (Gilroy, 2012).

The K-12 educational climate has also shifted towards learning and away from simply teaching. In doing so, there has been a boost in the number of students participating in service-learning. Approximately 38% of K-12 students, or around 10.6 million, report conducting community service as part of their education. Among these students, 74% report being enrolled during the current or previous year in a service-learning course. The most likely students to participate are high school students. Private school attendees also report a higher level of service-learning course participation (Spring, Dietz, & Grimm, 2006).

Several pedagogies have embraced service-learning nationwide. For example, Banks, Hudson, Kundt, Mehl, Post, and Stone (2009) state that service-learning has quickly expanded, particularly in such areas as medicine and social sciences. Several Health Commissions, including the Pew Health Professions Commission, the Liaison Committee on Medical Education, and the Institute of Medicine “have addressed the multiple advantages that can be gained from a service-learning curriculum,” and “these organizations exert tremendous influence on health care policy and medical education” (p. 18). These commissions claim that service-learning may help develop positive values in the profession and aid in improved community

health. Other studies in the field (Cashman & Seifer, 2008) have expressly stated that service-learning “is an appropriate and effective approach for teaching undergraduate public health,” (p. 273) and that it enhances confidence and content knowledge (Chavez, Schaffner, & Vogt, 2011).

Similar comments have been issued by those in the sociology community. The American Sociological Association suggested service-learning in its 2004 report. It made 16 recommendations, among which were the utilization of service-learning to engage students (McKinney, Howery, Strand, Kain, & White Berheide, 2004), particularly outside the walls of the classroom. Blouin and Perry (2009) state that “service-learning is an excellent way to introduce students to sociological concepts, such as the sociological imagination, and to encourage students to apply these concepts to real life situations” (p. 121). Some sociologists even go as far as stating that service-learning and sociology are “made for each other” (Fritz, 2002, p. 67).

With such a rapid expansion of service-learning, it remains vital to examine its effectiveness and determine the level of benefit, if any, to both participants and recipients.

Definitions of Service-Learning

The practice of service-learning has evolved since its inception, as has its definition. The first article formalizing the pedagogy was written in 1979 by Sigmond, entitled “Service-learning: Three Principles” (Felton & Clayton, 2011). A framework appeared in 1996 with the writings of Ehrlich in which he argues for John Dewey’s assertion that “the notion of fixed truths requires a seal of authenticity from some human authority, which leads away from democracy and toward fascism” (p. xi). He goes on to contend that service-learning marks the beginning of a pedagogical shift from teaching, to that of learning, and that it should “link community service and academic study so that each strengthens the other.” He further credits Dewey’s theory of

“the interaction of knowledge and skills with experience is key to learning” (p. xi) as the underlying principle of service-learning.

Following Ehrlich’s (1996) writings, a more formalized definition of service-learning surfaced. The most widely-cited is that of Bringle, Hatcher, and McIntosh (2006). They state the following operational definition:

Service-learning is a course-based, credit-bearing educational experience in which students (a) participate in an organized service activity that meets identified community needs and (b) reflect on the service activity in such a way as to gain further understanding of course content, a broader appreciation of the discipline, and an enhanced sense of personal values and civic responsibility. (p. 12)

While no one definition has been adopted by the entire service-learning community, which just recently agreed that the term should be hyphenated (Kenworthy-U’Ren, 2008), the general understanding dictates that it will include: (a) both civic and academic goals for learning; (b) collaboration between the participants, the community, the faculty, and the institution of education with the goal of fulfilling a set of common objectives and building enduring relationships; and (c) participants’ reflection upon the experience to create lasting understanding of the content (Felton & Clayton, 2011).

Additionally, many experts in the field agree on the use of meaningful reflection as part of the service-learning process. As Cashman and Seifer (2008) explain, the learners “apply what they are learning in the classroom to community issues, and at the same time reflect on their experiences as they strive to achieve specific objectives” (p. 274). Cashman and Seifer go on to state that meaningful service-learning experiences all possess certain underlying characteristics. They:

1. are positive, meaningful and real to the participants;
2. involve cooperative rather than competitive experiences and thus promote skills associated with teamwork and community involvement and citizenship;
3. address complex problems in complex settings rather than simplified problems in isolation;
4. include a reflection component that helps students synthesize their theoretical and practical learnings;
5. offer opportunities to engage in problem-solving by requiring participants to gain knowledge of the specific context of their service-learning activity and community challenges, rather than only draw upon generalized or abstract knowledge such as might come from a textbook (p. 275).

Cashman and Seifer further assert that service-learning should provide a deeper understanding of content, stating that it does not allow for right and wrong answers such as a traditional textbook might include. Lastly, they contend that the idea that service-learning should equally benefit the learner and the community in which the service is being provided.

Definition at the University A

Since no one definition can be consistently applied throughout the entire service-learning community, oftentimes institutions will adopt an adaptation of several definitions through a panel or committee, as is the case with the location of the current study. The operational definition adopted by the University A (2014) states:

Service-learning is a teaching and learning strategy that integrates meaningful community service with instruction and reflection to enhance learning outcomes, teach civic engagement, and strengthen communities. Service-learning courses utilize experiential learning activities that differ from traditional classroom pedagogies. Through service-

learning, scholarship moves beyond the classroom; students take information gained in the classroom and then apply it through meaningful, hands-on projects that benefit the local community. Not only do these partnerships and projects actively engage students, they also encourage students to be responsible for their own learning and to examine their role in the community (Service-Learning, para. 1).

Types of Service

Within the pedagogy of service-learning, Johnson and Notah (1999) further differentiated types by categorizing activities into three distinct areas: direct service, indirect service, and advocacy service.

Direct service refers to those activities that facilitate personal interaction between the participants and recipients. This may include tutoring services, creating and serving meals at a shelter, or regular visits to assisted living facilities. As the name might indicate, indirect service includes opportunities in which participants do not have face-to-face interaction with the recipients. Examples include providing monetary assistance or items to recipients. These may come in the form of canned goods from a drive, or toys or cards during the holiday season.

Advocacy service refers to service in which neither face-to-face interaction occurs, nor is there an exchange of money or goods. Rather, participants raise awareness for a cause with the goal of raising community support or action.

Distinctions from Other Types of Activities

Oftentimes, service-learning can be confused with other activities “such as volunteerism, internships, field education, clinical rotation, and community service” (Lauter & Miller, 2007, p. 65). Service-learning is a more specific form of experiential learning, which focuses on harnessing collaborative relationships and seeks to emphasize civil engagement and create a

“commitment to community engagement” (Cashman & Seifer, 2008, p. 273). Whereas experiential learning only seeks to enhance and apply course material, an additional purpose of service-learning is seeking “social change and social justice” (p. 273).

Service-learning is unique from experiential education. For example it is unique from internships, as they do not place equal focus on the service that is provided and student learning. Internships place more focus on the students’ takeaway and less on the service they are providing for the organization. In the case of internships, the student is receiving more benefit from the experience. Another distinction between service-learning and internships is that internships are often a course addition and not necessarily an integrated part of the coursework as it exists in service-learning (Cashman & Seifer, 2008).

Volunteerism should also not be confused with service-learning, as they differ in three distinct ways, according to Haski-Leventhal, Gronlund, Holmes, Meijis, Cnaan, Handy, Brundey and Ranade (2010), the first of which is the compulsory nature of service-learning. Unlike volunteerism, service-learning is generally a mandatory portion of coursework. Secondly, the institution in which service-learning occurs facilitates the connection of the participant and the organization. This differs from volunteerism in which generally the volunteer facilitates this relationship. Lastly, while neither of these types of experiences are normally associated with monetary payment, service-learning yields benefits such as course credit.

The Case Against Service-Learning

The 1990s brought a plethora of discourse regarding the pedagogy of service-learning, including resistance to adoption, questions surrounding its academic rigor, and an attack by value neutrality in higher education. This movement, heavily influenced by the German model of an individual’s right to freedom of values, believes that universities do not have a place in “shaping students’ moral values” (Harkavy & Hartley, 2010, p. 420).

While service-learning has enjoyed healthy infancy, there are dissenters who believe it undermines the purpose of a liberal post-secondary education and that the term “service” is poorly represented within this context. Eby (1998) was among the first to forge a case against service-learning. Its danger lies in arranging the organization of a service-learning project around the requirements of the student, educational institution sponsoring it, faculty member, or coursework instead of around the actual community or recipients. Egger (2008) deems service-learning as promoting “a communitarian, anti-individualistic social agenda, and the attempt and agenda are educationally harmful” (p. 183). One of service-learning’s main goals is forcing the realization of social responsibility upon the participant which, according to Egger, perpetuates a particular political agenda.

Allowing untrained students and faculty, who prioritize their own leaning, access to agencies and individuals is another danger of service-learning. Oftentimes the agencies must work around the schedules of the students, or even the mission of the project, which may distract them from their own mission and timeline. Recipients, for example children receiving tutoring, may grow attached to their tutor and not understand why he or she simply stopped showing up at the end of a semester (Eby, 1998). This lack of authentic relationships undermines the original purpose of service-learning. Each of these instances represents how student learning may trump service, thereby creating a discrepancy in the amount of benefits the participants and recipients receive.

Egger (2008) goes on to argue that service-learning’s distinction from internships is miniscule at best. He argues that internships mutually benefit both the student and the organization in which the internship takes place. This is one of the underlying principles of service-learning, with the only distinction being that a greater emphasis is placed on student benefits in an internship and more on recipient benefits in service-learning. That small of a

distinction, he contends, does not make it an entirely new, separate pedagogy. He also claims that while learning may occur during a service-learning, which is inherent in any application of knowledge to a real-world situation, there is an issue with calling the process “service” since it yields course credit, in his eyes the same as being paid.

Student Participation

As with any type of experience that requires time outside the classroom, student resistance to service-learning continues to be an issue, particularly in areas that are not social sciences. Sherman and MacDonald (2009) cite several issues with student participation in service-learning. The first is the perception that service-learning requires additional time and effort for the students. This is particularly difficult for students who have additional academic responsibilities, for example courses that require extensive laboratory hours in the area of science. Balancing the time spent outside of class engaged in service-learning activities may inhibit students in other areas of their lives or their ability to focus on other courses. This is the case even when service-learning is integrated into the course itself and is not an additional commitment. Student perception data still indicate that students find it difficult to balance this type of commitment and become fully involved in the experience when they were uncertain about the amount of time the service-learning would entail.

A second barrier to student participation in service-learning is the nature of the service-learning project. Sherman and MacDonald (2009) found that some students were reluctant to participate in service-learning opportunities when they involved a community context in which they were placed in what they perceived as an uncomfortable position. For example, many of the math students in their study did not feel comfortable working with young children and therefore refused to participate in the optional service-learning component of the course. This is often the

case with this type of educational experience. It places participants in unfamiliar territory, making them feel uncomfortable, and subsequently leading to a barrier for participation.

Some content areas are also resistant to service-learning, as neither students nor instructors view it as rigorous. Again, this is particularly the case in the science and mathematics fields. Sherman and MacDonald (2009) cite several instructor and student comments in their study that point to the perception that service-learning is not a rigorous enough pedagogy for their fields. Often the professors do not value reflection as a demanding enough practice to increase student learning.

Lastly, sometimes participation in service-learning can be seen as a barrier to future career aspirations. Sherman and MacDonald's (2009) study showed that students are hesitant to participate if they do not perceive the service-learning to be directly related to their future career goals. In many cases, particularly in the sciences, students would rather be conducting research in a laboratory than out performing service-learning in the community. They feel that time taken away from any activity that is not related directly to their post-graduate goals is a waste of their time.

The Case for Service-Learning

Bushouse (2005) best summarizes the current supporters' views on service-learning when she champions it as a "win-win-win situation for the university, students, and community" (p. 32). Studies are extensive on the benefits of service-learning (Eyler et. al, 2001). Eyler et al. list hundreds of studies in their book which examines the effects of service-learning on everything from personal outcomes, civic engagement, interpersonal skills, cultural and racial understanding, to social responsibility, and a litany of other variables.

Student Outcomes

The positive effects of service-learning on student outcomes have been observed in the following areas: (a) the student's social responsibility and general concern for the welfare of others, (b) development of a sense of duty to others, (c) involvement in civic affairs, (d) development of an attitude of responsibility, (e) heightened duty to the educational institution and surrounding community, (f) increased educational engagement, (g) heightened test scores and grade point averages, and (h) a decreases in disruptive behaviors (Scales, Blyth, Berkas, & Kielsmeier, 2000).

As more universities incorporate service-learning as a component of their programs, it will become even more vital for the research community to fully understand the implications, benefits, and possible negative consequences of this experiential learning process. Many of the current studies focus on student outcomes, particularly in the areas of civic, social, and academic enhancements.

Civic Outcomes

Higher education recently experienced a push for the inclusion of civic engagement as part of the learning process from such initiatives as the Liberal Education and America's Promise (LEAP), which asserts that civic education is a crucial outcome of undergraduate education (DePaola, 2014). Publications from the Association of American Colleges and Universities (AAC&U) call upon higher education to create not only individuals to enter the workforce; they also implore a return to the traditions of higher education to create citizens who are engaged in the democratic process (AAC&U, 2012).

Service-learning has a long history of promoting positive student civic engagement. Students participating in service-learning during their undergraduate education are more likely to maintain involvement in civic or community activities after graduation (O'Brien Wilder, Berle,

Knauft, & Brackmann, 2013). Longitudinal alumni data collected by Newman and Hernandez (2011) also suggested a positive correlation between post-graduate community service and undergraduate participation in service-learning. Their study found that 91.8% of participants who responded to their survey believed their service-learning experience aided either “some” or “a lot” with regards to becoming “more caring about the poor and needy” (p. 43).

Even with course delivery via an online model, service-learning has still proven an effective tool for civic education. Guthrie and McCracken (2010) found that online courses with service-learning components facilitated community impact at an even broader level than traditional campus location courses. These service-learning courses allowed students, even those taking courses internationally, to facilitate long-term community commitment, enhance individual evolution, and further the mission of institutions within their neighborhoods. McGorry (2012) also found service-learning equally beneficial to students in both a traditional and online course setting.

Social Outcomes

Studies done at the university level have revealed a shift in students’ attitudes towards their course when service-learning is involved. For example, Butler (2013) found an improvement in students’ attitudes regarding their mathematics class through post service-learning reflection assignments in those students participating in service-learning versus a control group. She also noted “unexpected effects of the project such as improvements to the students’ leadership, public speaking, and organizational skills” (p. 891). Service-learning has also been shown to produce positive effects on self-efficacy (Stewart, Allen, & Bai, 2011), participant professionalism (Wise & Yuen, 2013), personal moral growth (Scott, 2012), business morality development (Sabbaghi, Cavanagh, & Hipkind, 2013), and career choice and development (Newman & Hernandez, 2011). A study by Eppler, Ironsmith, Dingle, and

Errickson (2011) suggested college students participating in a service-learning experience gained self-esteem and enhanced their personal coping skills. Teymuroglu (2013) also found service-learning for college freshman produced a sense of friendship and increased collaboration among participants, creating a sense of support for students new to the academic institution. It essentially expanded and strengthened their social skills.

Students participating in service-learning during their high school experience have also been found to be more apt to volunteer as university students. For example, Haski-Leventhal et al. (2010) conducted an international study of 14 different nations which showed that 77.3% of students who participated in compulsory service-learning in high school were presently volunteering during their university education. This is significantly higher than the 65.2% of students who volunteered that had no previous service-learning experience.

Academic Outcomes

Furco and Root (2010) cite numerous studies conducted at the K-12 levels that demonstrate the effectiveness of service-learning as a pedagogy. These include the study by Weiler, LaGoy, Crane, and Rovner (1998), which showed a statistically significant difference in student achievement on the California Test of Basic Skills between those students with service-learning as part of their curricula and those without it. A 2007 study by Davila and Mora suggested a positive correlation “but limited effects in subject-matter achievement from participating in service-learning” (Furco & Root, 2010, p. 17).

In the field of nursing, according to Amerson (2010), there has been a movement to incorporate service-learning into programs nationwide. The current literature shows little formal assessment of this incorporation of service-learning into nursing curricula. However, one study conducted by Bentley and Ellison (2005) demonstrated positive student achievement on both course and specialty exams in the nursing field. These increases in test scores were minimal and

were not considered statistically significant. In the area of pharmacology, Kearney (2012) found a positive correlation between service-learning and learning objectives. This is one of the few studies that include a control group for comparison purposes to those students in the treatment group.

Instructors also report a perceived increase in student learning when classes participate in service-learning. Davis, Cronley, Madden, and Kim (2014) found instructors believed the use of service-learning reduced stereotypes, created heightened social responsibility and improved the application of knowledge among students. Maynes, Hatt, and Wideman (2013) also found high levels of supervisors' satisfaction in pre-service education programs when students participated in service-learning. The belief among college instructors that service-learning provides these enhancements is important for the increasing adoption of the practice.

Overall, the results of studies of the effect of service-learning on achievement are mixed. Students will often self-report having the perception that a more significant learning experience occurred during a service-learning course than they report in classes without service-learning; however, the quantitative data do not exist to fully support these assertions. Qualitative studies support evidence of student learning because they are generally based on self-reporting, yet research is mixed on the actual data that maintain these statements.

Community Connections

Blouin and Perry (2009) state that it is increasingly important, particularly in the face of such rapid expansion of service-learning opportunities, "to ensure that they are mutually beneficial to both universities and communities" (p. 121). In an era of ever-decreasing budgets for agencies, service-learning opportunities at these organizations can provide the much needed manpower necessary for the success of the organization. Though the majority of the research focuses on student outcomes, several studies have documented the benefits for organizations and

how it can also be beneficial in improving the local community through such activities as health services (Dunlap, Marber, Morrow, Green, & Elam, 2011) and social work (Nandan & Scott, 2011).

Successful Service-Learning Environments

There are several factors that influence the effectiveness of service-learning. A component of this model of service-learning, enhanced academic learning, is widely thought to include reflection within the constructs of this pedagogy (Bringle & Hatcher, 1999; Lu & Lambright, 2010). This is one of the aspects that separates service-learning from other methods of experiential learning. Reflection is deemed so important within the service-learning community that researchers have even sought the development of tools to assess the benefits of service-learning through reflection and further determine participants' depth of knowledge and ability to apply academic content (Molee, Henry, Sessa, & McKinney-Prupis, 2010).

Allowing student ownership is another factor that impacts the effectiveness of service-learning. By permitting participants' influence in the project, there is heightened personal significance. Collaboration is another key component of a successful service-learning experience. Students working in groups, though there is a risk of group dynamics jeopardizing the project, may receive a higher level of benefits than those working individually, as well as those who have face-to-face interaction are more beneficial. Lastly, those projects, which involve extended time, tend to result in added benefits for students (Lu & Lambright, 2010).

Positive Academic Achievement

There is a direct correlation between academic achievement and post-secondary attrition. Students who are successful in an academic environment are more likely to continue their studies and graduate. This is increasingly important as college attrition rates have remained constant for the past 100 years with approximately 25% of attrition in freshman, 12% in sophomores, 8% in

juniors, and 4% in seniors (Bank, 2007). These students are robbed of lifetime potential earnings, subsequently impacting the overall economic state of the nation. In fact, a report by McKinsey & Company (2009) estimated that the Gross Domestic Product of the United States would have been \$2.3 trillion by the year 2008 if the achievement gap had been closed in the 15 years following the publication of *A Nation at Risk* in 1983.

Studies indicate a direct correlation between student achievement and university attrition or retention. Peterson (2009) studied the effects of academic achievement on undergraduate nursing. The study revealed that nearly 44% of the students were unable to continue full-time in the program as a result of their low academic performance after only the first semester. With steady levels of attrition and the lasting consequences of not obtaining a post-secondary education, it is important to identify how student achievement can be increased.

Student Engagement

Student engagement is important in increasing academic achievement and attendance rates, and is an important component of dropout prevention. Engaged students do well, come to school, and want to continue their education. A meta-analysis by Lippman and Rivers (2008) of research in the area of school engagement includes three distinct areas, “behavioral, emotional, and cognitive” (p. 1). Specifically, they encompass the following:

1. Behavioral engagement includes participation in school-related activities, involvement in academic and learning tasks, positive conduct, and the absence of disruptive behaviors.
2. Emotional engagement consists of relationships with teachers, peers, and academics.
3. Cognitive engagement consists of an investment in learning and a willingness to go beyond the basic requirements to master difficult skills. (p. 1)

Spring et al. (2006) found that only 39% of females and an even lower 20% of males surveyed stated they were engaged in their K-12 education. This is dangerously low. Ironically, in the era of engagement, these numbers are actually lower than their 1999 levels in which 50% of females and 25% of males reported being engaged in their K-12 classrooms.

Importance of Student Engagement

Several studies have explored the link between positive student engagement and academic performance (Chase, Hilliard, Geldhof, Warren, & Lerner, 2014; Claessens, Duncan, Engel, 2009; Kuh et al. 2008). Engagement has also been linked with the dropout rate, confirming that students who are not engaged are more likely to drop out (Archambault, Janosz, Fallu, & Pagani, 2009; Christenson & Stout, 2009). Kuh, Cruce, Shoup, Kinzie, and Gonyea (2008) found “a positively, statistically significant effect on persistence” (p. 551) among engaged students even when they controlled for multiple other characteristics including achievement, amount of financial aid, and previous university experiences. Svanum and Bigatti (2009) found a direct relationship between student engagement and college success, including the rate at which students obtain degrees and the amount of time taken to do so. As engagement increased, so did the quantity of students earning a degree, while the amount of time needed to obtain the degree decreased. This has far reaching implications for today’s college student. Salanova, Schaufeli, Martinez, and Bresó (2010) also found a direct link between student engagement and academic performance which can be important in decreasing student attrition. If higher education can more successfully engage its students, this has the potential to raise student success and college completion rates.

Summary

Service-learning has become increasingly common among colleges and universities, with nearly 65% of all freshmen participating in some sort of community service or service-learning

their first year according to The Higher Education Research Institute (Butin & Sieder, 2012). With such an expansive inclusion in undergraduate education, further research is required. As this pedagogy expands, further examination and explanation of its efficacy becomes increasingly important. Current educational literature is rich in its description of service-learning and investigation into the effects on educational, social, and individual outcomes. This study is the author's attempt to further this body of knowledge and develop a theoretical foundation.

Research on how service-learning affects student academic achievement is mixed and sporadic at best (Eyler, et al. 2001; Prentice & Robinson, 2010). The community needs a closer examination of how service-learning as a pedagogy systematically influences student accomplishment to define it as a positive pedagogy worthy of the next generation of learners. To date, studies conducted at the post-secondary level have not been comprehensive enough to generalize them across content areas. Quantitative studies (Bentley & Ellison, 2005; Kearney, 2012) have been conducted within one content area or course and therefore leave room for further examination of how service-learning may impact academic achievement. Further, many of these studies rely on self-reporting instruments when examining student learning.

Little work has been completed, particularly quantitatively, on the relationship between service-learning and student engagement. Previous studies have been qualitative in nature and only provide the field with half the story. This warrants further investigation into this relationship of how service-learning may prove beneficial at universities by possibly improving engagement and subsequently decrease attrition rates.

Andrew Furco (2003), a leader in the area of service-learning research, contends that more comprehensive data should be collected that accurately articulates the impact of this methodology. He advocates for studies that examine impact across content areas, programs, and a variety of sites, specifically stating, "By gathering the same or similar information from various

sites, researchers may be better able to observe and analyze impact” (p. 24). Recent pushes have also been made to “ensuring its institutional longevity” (Butin, 2006, p. 474) due to what many researchers believe are its transformational properties. Without further examination, service-learning and its potential benefits may become the victim of short-lived institutional whims.

CHAPTER THREE: METHODS

The intent of the current study was an examination of student engagement and course achievement for participants in either a service-learning class or traditional lecture course at a public college in Georgia. This chapter will consist of an explanation of the design of the study, a description of where the research took place, the instruments utilized in the study, and the sampling process. The last portion will describe the data analysis procedures.

Design

For the purposes of this study, an ex-post facto was utilized to determine a causal relationship between the dependent and independent variables. This design was chosen after careful consideration of which variables could be controlled. The researcher was unable to create an environment in which either experimental or quasi-experimental research designs would be plausible. The same or similar courses with either a traditional lecture delivery model or a service-learning component could not be established. This is an inherent flaw of the study, but one the researcher recognizes. Participants in the study self-selected their courses and agreed to become part of the study. Random assignment to courses was not plausible, as is often the case with this type of research. Therefore, ex-post facto, or measuring the dependent variables of both groups after participation in coursework, was the most credible design.

In the present study, the independent variable was student participation in either a service-learning course or a traditional lecture course. Approximately half the participants were enrolled in courses that included service-learning as the main pedagogy. The other half of the participants enrolled in courses that utilized a traditional lecture model as their main course delivery model. The dependent variables consisted of their course grade and their course engagement as measured by the Student Course Engagement Questionnaire SCEQ.

Research Questions

RQ1: Is there a statistically significant difference between the traditional lecture students and service-learning students on their course grade?

RQ2: Is there a statistically significant difference between the traditional lecture students and service-learning students on their course engagement?

Null Hypotheses

With regards to research question number one, the Null Hypothesis is as follows:

H₀1: There will not be a statistically significant difference between the traditional lecture students and service-learning students on their course grade.

With regards to research question number two, the Null Hypothesis is as follows:

H₀2: There will not be a statistically significant difference between the traditional lecture students and service-learning students on their course engagement as measured by the Student Course Engagement Questionnaire.

Participants and Setting

University A consists of approximately 15,072 students of which 14,510 are undergraduate students. Fifty-six percent of the enrolled students are female and 44% male. The race and ethnicity information shows 81% White, 8%, Hispanic/Latino, 3% Asian, 4% African American, 2% two or more races, and 2% unknown (University A, 2014).

For the purposes of this study, participants consisted of undergraduate students enrolled in classes with service-learning components and students participating in traditional lecture classes. The population consists of a convenience sample of undergraduate students enrolled in coursework across various majors. Convenience sampling is utilized as sampling of the entire university population is not appropriate for the purposes of this study. To minimize internal

validity, issues such as groups that are not equivalent and participant diversity, students enrolled in similar disciplines and courses were used when possible. However, the majority of the courses utilized consisted of nursing, sociology, and psychology courses.

Each sample, those students in service-learning courses and those participating in traditional lecture courses, consisted of more than 100 participants. This number was determined from the general rule established by McMillan and Schumacher (2001). They state in “survey research studies there should be about one hundred subjects for each major subgroup” (p. 177). The service-learning subgroup consisted of 128 participants, and the traditional lecture course participants comprised 127 of the total 255 students. Only those participants for whom all data were collected were included in the statistical analysis.

For the purposes of this study, an accredited university was utilized for its geographical proximity to the researcher for the setting. The university is located in rural Northern Georgia and has a student body of approximately 15,000 students. This university is a liberal arts college with limited pre-professional and graduate programs. In 2013, the pre-existing four-year undergraduate university merged with a nearby two-year college, forming a larger university. The newly formed university became the seventh-largest in the state of Georgia; it offers in excess of 100 various programs. One of its unique characteristics is its status as one of the state’s few military colleges, with an Army ROTC Corps of Cadets. It has also been designated as a Georgia Leadership school by the Georgia State Board of Regents (“About University A,” 2014).

The university is home to a Service-Learning unit of their Center for Teaching, Learning, and Leadership (CTLL). One of the major objectives of the CTLL is the integration of service-learning into college courses at University A (“Service-Learning at University,” 2014). The CTLL identifies multiple benefits of service-learning for students, faculty, and the community as

part of its mission to expand course offerings with service-learning (“Benefits of Service-Learning,” 2014).

The courses utilized in this study took place during the spring of 2013, full summer session of 2013, and the fall semester of 2013. Students participating all received three undergraduate credits for completing the course. None of the courses utilized online instructional models. They instead met face-to-face for the required amount of hours. The service-learning performed in each course varied, depending on the department in which the course was taught, the instructor, and the level of the course, whether introductory or advanced.

Instrumentation

After careful consideration of the available instruments for data collection on student course engagement, the Student Course Engagement Questionnaire (SCEQ) was selected for the study. The SCEQ is a self-reporting questionnaire developed by the University of Sydney; it provides a numeric value for engagement. Each of the 23 items asks respondents to rate the statement on a scale of one to five. These numbers represent (5) very characteristic of me, (4) characteristic of me (3) moderately characteristic of me (2) not really characteristic of me (1) not at all characteristic of me.

In various studies (Ginnes et al., 2007; Handelsman et al., 2005) the validity of this tool has been studied and verified. Using Cronbach’s alpha (α), Handelsman, Briggs, Sullivan, and Towler (2005) concluded “all student engagement factors showed reasonable reliability that ranged from .76 to .82” (p. 187). Ginns, Prosser, and Barrie (2007) conducted research resulting in similar results of α ranging between .72 and .83 with a Confidence Interval (CI) of 95%. This Likert scale provides a sum of each engagement type by adding students’ total responses between 1= *not at all characteristics of me* and 5 = *very characteristic of me* (Handelsman, Briggs, Sullivan, & Towler, 2005) and breaks it into four distinct factors of course engagement.

These factors measure the skills acquired, emotional involvement in the course, participation and interaction within the class, and performance in the course.

For this study, in order to increase participation, the following strategies were utilized. The study began by contacting course instructors listed on the university's list of courses, which include service-learning provided to the researcher once IRB had been approved by Dr. Irene Kokkala, an active member of the university's committee to evaluate the state of service-learning at the school. See Appendix C for the initial email. Instructors responded to the initial email with consent to access their students for the study, and many of the instructors had courses that were either traditional lecture or service-learning, as they teach multiple courses. Course instructors aided in the gathering of participants. A script was provided to the instructors to use on the day on which they administered the SCEQ in class. (see Appendix E).

Procedures

Before the data gathering process began, the Institutional Review Board of both University A and Liberty University reviewed the procedures of the study due to the inclusion of human participants. The three levels of review include exempt, expedited, and full review. Due to the minimal risk to participants, the study was deemed eligible for expedited review. Data utilized for this study were gathered utilizing valid instruments, and procedures were in place to protect the confidentiality of each of the participants. Participants were coded with numbers for which only the researcher had the code. The results of the SCEQ were not viewed by the instructors, and course averages were sent via secure email directly from the instructors to the researcher. In one instance, the researcher was asked by one course instructor to gain permission from the Registrar's Office to release the course grades. The researcher directly contacted the Registrar's Office, presented the IRB approval from University A, and was able to ease the worries of the instructor regarding confidentiality issues surrounding the release of this information.

The first step in the procedure was the successful defense of the dissertation proposal, thereby gaining the permission of the Chair, dissertation committee, and research consultant to move forward in the process. Upon approval by these individuals, an application for exempt approval was submitted to Liberty University. However, the IRB board requested an approved application from University A before final approval of the application, and thus gave a conditional approval. An application for exempt research was then submitted to University A and was subsequently approved (see Appendix A) The IRB committee and Liberty University then provided a final approval for the research to begin (see Appendix B).

While in the midst of IRB applications and approval, course instructors were identified through the comprehensive list of courses on file with University A in which instructors and courses include service-learning. Upon receiving IRB and committee approval, with the help of the university's Center for Teaching and Learning Excellence, instructors were contacted with a request to participate in the study, stating that they were willing to allow access to their students for voluntary participation in the study. An email was sent to identified instructors asking for their participation (see Appendix C). They were given instructions that no extra credit or incentive could be provided for participation in the study.

Students in the courses were then asked to participate in the study. Those who consented to participate were asked to sign the Informed Consent (see Appendix D). Instructors returned the Informed Consent to the researcher directly. The researcher then sent each participant a personalized email with a copy of the consent and brief message of thanks for their time and description of what to expect as the semester progressed. As the study originally proposed including a measurement of their Multiple Intelligences, students were sent reminder emails throughout the semester to complete the online survey. These messages were personalized and included the link, along with short directions on how to complete the online MIDAS assessment

to determine their primary multiple intelligence. Each participant, upon completion of the MIDAS, was emailed a copy of their MIDAS report, which outlined each of their intelligences, the strength of each, and how this might affect their career selection.

While the SCEQ was administered during the last week of class to ensure participation, the instructors were given the following instructions in an effort not to affect survey response. A script was provided to the personnel who administered the survey on campus. The instructions included information read aloud to the participants that surveys would be placed in the envelope, sealed in the envelope provided, and not viewed by the course instructor. Course instructors then returned the sealed envelopes to a neutral party on campus that protected the surveys in a locked filing cabinet. The researcher then retrieved the envelopes, assuring that the seal had not been broken, and locked them in a secure filing cabinet in the home.

Course grades were requested from the instructors upon the posting of final grades at the end of each semester.

Data Analysis

The participants for this study involved an original amount of 331 students and 11 course instructors. After allowing for attrition and non-response to the surveys, 255 students remained as student participants. All students self-selected their courses. An experimental or quasi-experimental design could not be utilized for the purposes of this study, as a control and treatment group could not be established. In no instances at this university are the same or similar courses offered in which one section includes service-learning and the other section is a traditional lecture course delivery method. Therefore, this study is ex-post facto research, as it seeks to examine how an independent variable affects the dependent variables. Since in the course of this study it was impossible to manipulate the independent variable, course type, by either randomly assigning students to one type or the other, or conversely, compelling instructors

to utilize one or the other method in similar or same course sections, ex-post facto was the appropriate design for the study, allowing the researcher to examine the relationship between the variables and seek an explanation which is the purpose of this type of research (McMillan & Schumacher, 2001).

The purpose of the study is to determine if a relationship existed between the variables and an analysis of the cause and effect of the proposed relationship utilizing a quantitative research method. A quantitative research approach was necessary due to the numeric nature of the dependent variables, course grade and course engagement. Both of these measures yielded numeric data, which can only be correctly analyzed through a quantitative design.

An independent samples *t* test was conducted to determine if there was a statistically significant difference between the service-learning class students and the traditional lecture students on their course grade. A *t* test allows the researcher to determine if there is a significant difference between the mean in two different groups. Since this research included a comparison between two group's means on one dependent variable, a *t* test was the most appropriate test. The independent samples *t* test is appropriate when assessing the difference between two groups on a continuous dependent variable, such as course grade with sample sizes greater than 30 (Szapkiw, n.d.).

For the independent *t* test in this case, the Null Hypothesis included the difference in mean scores of zero between the group participating in service-learning courses and those participating in traditional lecture courses. The alternative hypothesis stated that the mean difference between the two groups would not be zero. Using the course grade from both samples, including the standard deviation and number of students in each sample, the *t* statistic was calculated. If the resulting *p*-value is less than 0.05, the Null Hypothesis is rejected. When

and if the Null Hypothesis is rejected, the remaining conclusion is that there is a statistically significant difference between the means of the two groups.

Similar to the first research question on participants' course grade, when analyzing student course engagement an independent t test was also appropriate. The Likert scale utilized defined the level of agreement, with each statement and resulted in a numeric outcome defining the participants' level of engagement in the course. The means of the two groups were then compared and analyzed with an independent t test similar to the first research question. The purpose of this study and in utilizing this type of statistical analysis is to formulate a predictive understanding of course engagement and achievement.

All of the data gathered were coded, input, and preserved in a digital spreadsheet to which only the researcher had access. This aided in protecting the anonymity of the participants as data were secured in a password-protected computer and stored on a password-protected drive. SPSS statistical software was utilized to analyze the data, and the same strict measures ensured that all participant identities were safeguarded. All hard copies of the information, including the surveys, were kept in a secured location to which only the researcher had access.

CHAPTER FOUR: FINDINGS

Research Questions

RQ1: Is there a statistically significant difference between the traditional lecture students and service-learning students on their course grade?

RQ2: Is there a statistically significant difference between the traditional lecture students and service-learning students on their course engagement?

Null Hypotheses

With regards to research question number one, the Null Hypothesis is as follows:

H₀1: There will not be a statistically significant difference between the traditional lecture students and service-learning students on their course grade.

With regards to research question number two, the Null Hypothesis is as follows:

H₀2: There will not be a statistically significant difference between the traditional lecture students and service-learning students on their course engagement as measured by the Student Course Engagement Questionnaire.

Descriptive Statistics

A total of 255 students participated in the study. The descriptive statistics for the study's continuous and discrete variables are listed respectively in Tables 1 and 2. One-hundred twenty-eight (50.2%) students participated in a service-learning class, and 127 (49.8%) students were in a traditional lecture class. The average student had a course grade of 89.35 ($SD = 6.36$) and a student course engagement score of 90.95 ($SD = 23.75$).

Table 1. *Descriptive Statistics for Continuous Study Variables*

Variable	<i>N</i>	<i>Min.</i>	<i>Max.</i>	<i>M</i>	<i>SD</i>
Course grade	254	50.00	97.00	89.35	6.36
Course engagement	238	42.00	298.00	90.95	23.75

Table 2. *Descriptive Statistics for Discrete Study Variables*

Variable	<i>n</i>	<i>%</i>
Class group		
Service-learning class	128	50.2
Traditional lecture class	127	49.8

Results

An independent samples *t* test was conducted to determine if there was a statistically significant difference between the service-learning class students and the traditional lecture students on their course grade. The independent sample *t* test is appropriate when assessing the difference between two groups on a continuous dependent variable. Class type (service-learning vs. traditional lecture) was the between-subjects independent variable, and students' course grade was the dependent variable.

The data were screened for outliers prior to assessing the statistical assumptions. The participants' dependent variable scores were standardized by group, and the resulting scores were utilized to identify outliers in the data. A participant was considered an outlier if the

standardized score was greater than three. This process revealed three outliers in the data. These participants were removed prior to assessing the statistical assumptions.

The next step involved assessing the assumptions of the independent samples t tests. Histograms were created for each group to assess the normality assumption. The distributions of students' course grade for the service-learning class and traditional lecture class are presented in Figures 6 and 7, respectively. The histogram for the service-learning group revealed a non-normal distribution. The histogram for the traditional group revealed a slight negative skew. However, normality of the sampling distribution of means is assumed normal given the Central Limit Theorem because the sample size was larger than 50 in each group. Levene's test was not significant, indicating the groups had equal error variances on the dependent variable, $F = 3.88$, $p = .050$ (see Table 3).

Table 3. *Test Statistics for Research Question 1*

Levene's test	F	$Sig.$
	3.88	.050

Research Question 1. Is there a statistically significant difference between the traditional lecture students and service-learning students on their course grade?

H₀1: There will not be a statistically significant difference between the traditional lecture students and service-learning students on their course grade.

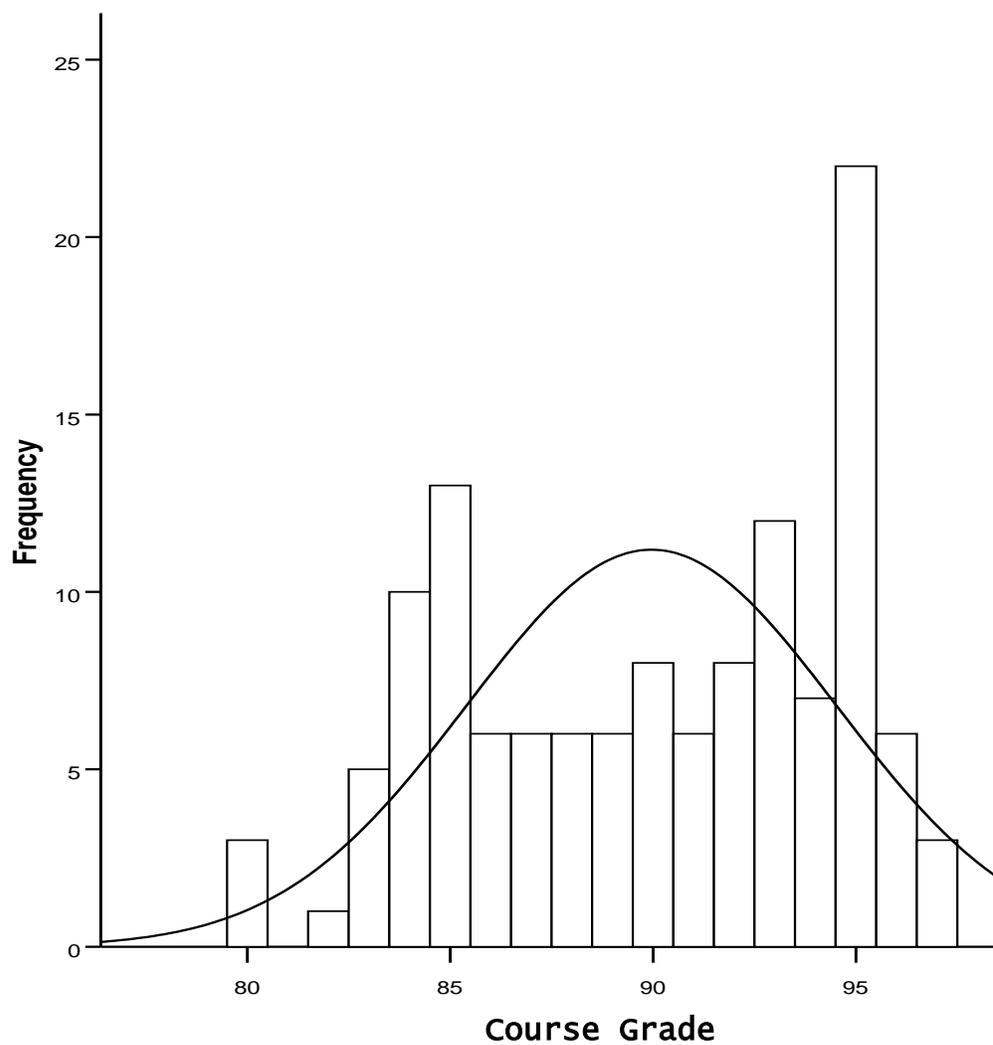


Figure 1. Distribution of Course Grade for Service-learning Group.

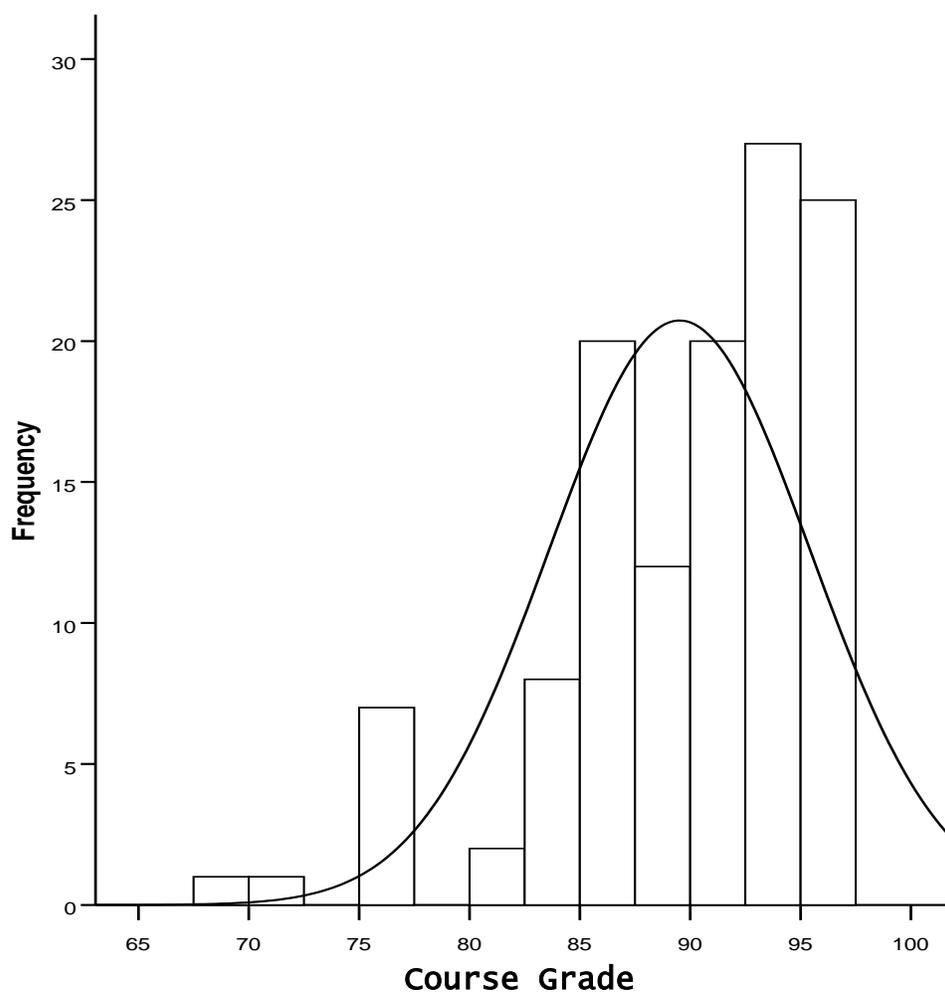


Figure 2. Distribution of Course Grade for Traditional Group.

The means and standard deviations for Research Question 1 are listed in Table 4. The t test (see Table 4) failed to reveal a significant difference between the service-learning students ($M = 89.96$, $SD = 4.56$) and traditional lecture students ($M = 89.52$, $SD = 5.92$) on their course grade, $t(249) = 0.66$, $p = .509$. Thus, the researcher fails to reject Null Hypothesis 1 since there was not a significant difference uncovered between the students' overall course grade between those participating in service-learning courses and those participating in traditional lecture courses. Therefore, the researcher cannot reject Null Hypothesis 1 since there was not a

significant difference between the course grades of those students in service-learning classes versus those students in traditional lecture classes.

Table 4. *Mean & Standard Deviations for Research Question 1*

Class Group	<i>n</i>	<i>M</i>	<i>SD</i>
Service-learning	128	89.96	4.56
Traditional Lecture	123	89.52	5.92

Table 5. *Test Statistics for Research Question 1*

<i>t</i>	<i>df</i>	<i>Sig.</i>	<i>Mean</i> <i>Difference</i>	<i>SE</i> <i>difference</i>	<i>95% CI of the Difference</i>	
					<i>Lower Bound</i>	<i>Upper Bound</i>
0.66	249	.509	0.44	0.67	-0.87	1.75

Research Question 2. Is there a statistically significant difference between the traditional lecture students and service-learning students on their course engagement?

H₀2: There will not be a statistically significant difference between the traditional lecture students and service-learning students on their course engagement.

An independent samples *t* test was conducted to determine if there was a statistically significant difference between the service-learning class students and the traditional lecture students on their course engagement. Class type (service-learning vs. traditional lecture) was the between-subjects independent variable, and students' course engagement was the dependent variable.

The data processing steps described previously were used for this analysis. First, the data were screened for outliers prior to assessing the statistical assumptions. The data screening process revealed four outliers in the data. These participants were removed prior to assessing the statistical assumptions.

Histograms were again created for each group to assess the normality assumption. The distributions of students' course engagement for the service-learning class and traditional lecture class are presented in Figures 8 and 9, respectively. The histograms for the service-learning group and traditional learning group revealed approximately normal distributions. Also, normality of the sampling distribution of means is assumed normal given the central limit theorem. Levene's test was significant, indicating the groups had unequal error variances on the dependent variable, $F = 4.62$, $p = .033$. The degrees of freedom were adjusted to compensate for the heterogeneity of variances (see Table 6).

Table 6. *Test Statistics for Research Question 2*

Levene's test	<i>F</i>	<i>Sig.</i>
	4.62	.033

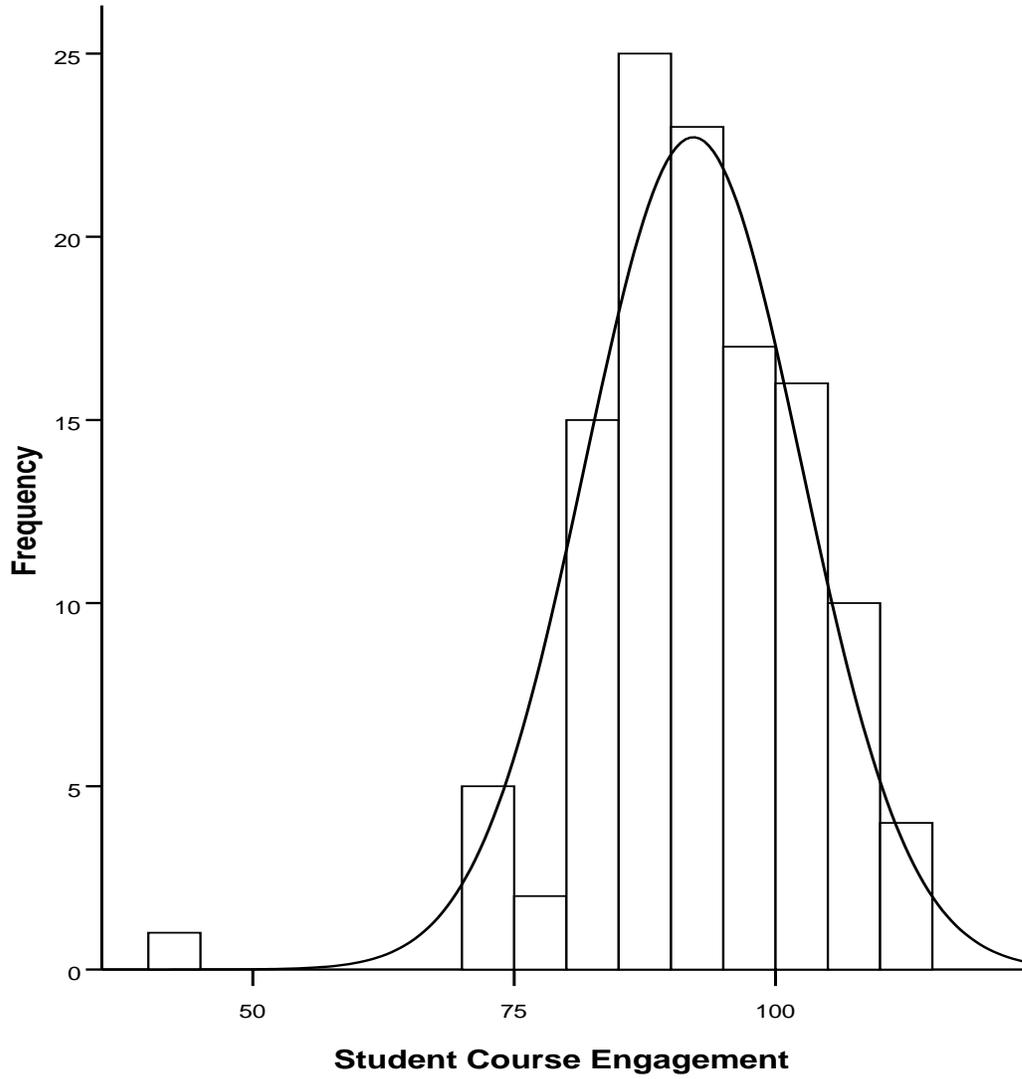


Figure 3. Distribution of Course Engagement for Service-learning Group.

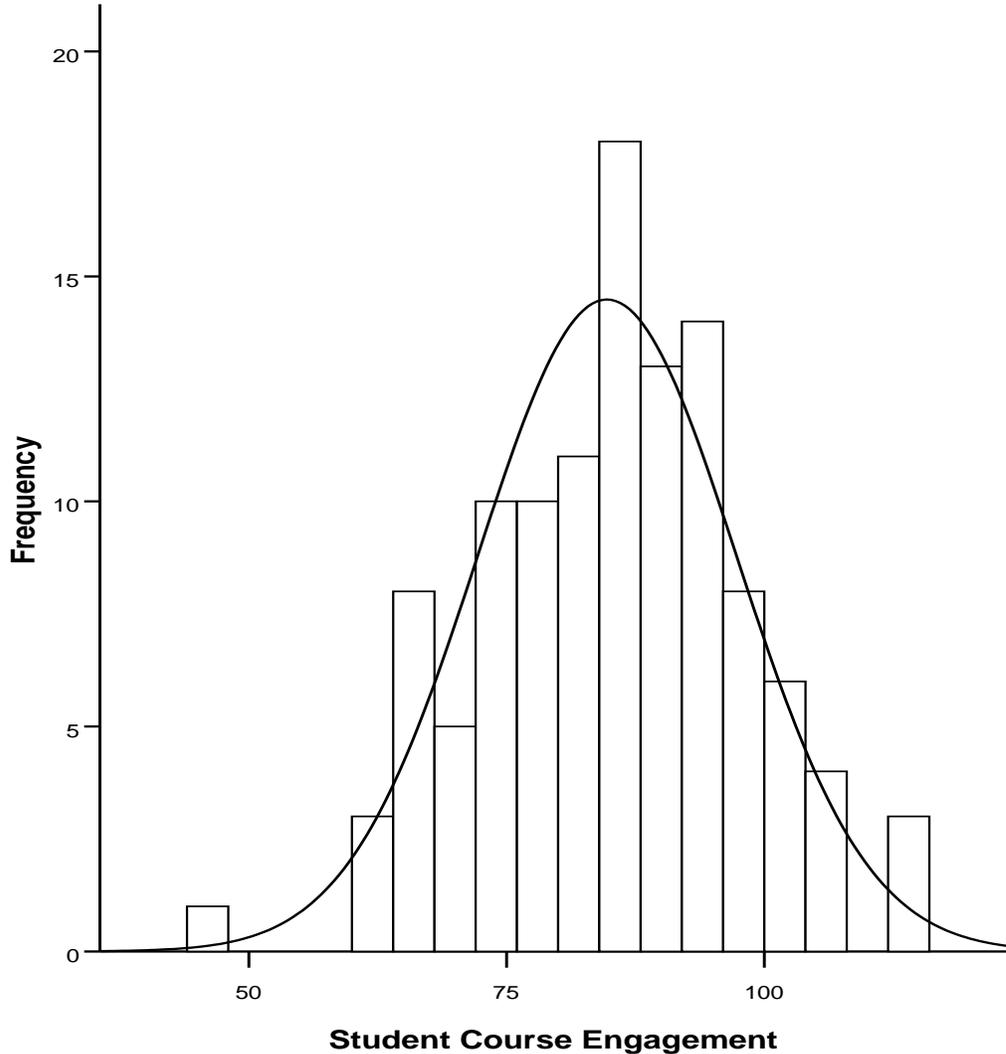


Figure 4. Distribution of Course Engagement for Traditional Group.

The means and standard deviations for Research Question 2 are listed in Table 7. The t test (see Table 8) revealed a significant difference between the service-learning students and traditional lecture students on their level of course engagement, $t(219.02) = 4.88, p = .000$. The service-learning students ($M = 92.13, SD = 10.36$) scored significantly higher than the traditional students ($M = 84.75, SD = 12.56$) on course engagement. Thus, the researcher rejects Null

Hypothesis 2 since there was a significant difference in the students' overall levels of course engagement as measured by the SCEQ in traditional lecture classes and service-learning courses. To further investigate the significant differences in student course engagement, a Mann-Whitney test (see Table 9) was conducted which revealed a significant difference in the two groups, $U = 4184$, $z = 4.977$, $p = .0001$. The Null Hypothesis was therefore rejected in the case of null hypotheses 2 due to the significant differences found in the students' overall level of course engagement between those students in service-learning courses versus those in traditional lecture classes.

Table 7. *Mean & Standard Deviations for Research Question 2*

Class Group	<i>n</i>	<i>M</i>	<i>SD</i>
Service-learning	118	92.13	10.36
Traditional Lecture	114	84.75	12.56

Table 8. *Test Statistics for Research Question 2*

<i>t</i>	<i>df</i>	<i>Sig.</i>	<i>Mean Difference</i>	<i>SE Difference</i>	<i>95% CI of the Difference</i>	
					<i>Lower Bound</i>	<i>Upper Bound</i>
4.88	219.02	.000	7.38	1.51	4.40	10.37

Table 9. *Test Statistics for Research Question 2*

<i>Mann-Whitney U</i>	<i>z</i>	<i>Sig.</i>
4184.00	-4.977	.0001

Results

This study examined the effects of course delivery, either service-learning or traditional lecture, at a university in North Georgia. For the purposes of this study, the independent variable consisted of course delivery method, service-learning versus traditional lecture courses. The two groups consisted of those students either participating in a course in which service-learning was an integral part of the course or a traditional lecture course. The dependent variables consisted of the students' course grade and their level of course engagement based on their skills engagement, emotional engagement, participation or interaction engagement, and performance engagement.

Research Question 1: Is there a statistically significant difference between the traditional lecture students and service-learning students on their course grade?

A *t* test was utilized due to the study's purpose, which is to compare the means of two groups with a continuous dependent variable and the between-subjects independent variable of class type, meaning either service-learning or traditional lecture courses. Once the mean was calculated for each group, those students whose scores fell outside three standard deviations were removed as they were outliers for the study and could potentially skew the results. Outlier calculation and removal was conducted separately for those students in service-learning courses and those in traditional lecture courses. The *z*-score, or the standardized score, was then calculated for each student, and any student with a *z*-score or 3- or 3+ was eliminated from the data.

For the first research question, three outliers were removed during this process. Outliers must be removed before checking for normality, which in this study was examined by the use of a histogram. The service-learning histogram revealed a non-normal skew as did the traditional

lecture group, which revealed a slightly negative skew. This being said, since the sample exceeded 50, the Central Limit Theorem applied to indicate normality.

Levene's test also proved not significant, indicating an equal variance of the course averages between the two groups. In this case the test revealed $p = .05$ and $F = 3.88$, indicating that equal variances can be assumed. Levene's test was utilized as it allows the researcher to compare the standard deviations of two groups to determine if equal variances exist between the two populations being tested (Szapkiw, n.d.).

While the statistics themselves are important, they also lead to certain conclusions. The difference in mean between the two groups was a mere .44. This is less than half of one-tenth of a letter grade. The confidence interval shows that if the research were conducted an infinite number of times, the researcher would be 95% confident that the difference would be between -0.87 and 1.75, the lower and upper boundaries of the confidence intervals, frequently referred to as the confidence limits (McMillan & Schumacher, 2001). Since the results include zero, they are not significant, resulting in the researcher failing to reject the Null Hypothesis for research question 1. There is not a significant difference in course grade between students participating in service-learning courses and those participating in traditional lecture courses.

Research Question 2: Is there a statistically significant difference between the traditional lecture students and service learning students on their course engagement? For the second research question, the two groups were again compared using the survey instrument. There were no reverse coded questions on the survey, and all items went in the same direction, indicating that a higher score resulted in higher course engagement. Again, an independent sample t test was conducted as a means to determine if there was a statistically significant difference between the service-learning class and traditional lecture class with regards to students' course engagement. The between-subject variable remained the two types of courses

(service-learning vs. traditional lecture), and for this question the dependent variable became students' level of course engagement.

As with the first research question, the data were screened for outliers. The screening revealed four outliers, who were removed prior to testing the statistical assumptions of normality and equal variance. To assess normality, a histogram was again created, which revealed approximately normal distributions. Again, given the Central Limit Theorem, the sampling distribution of means was assumed normal due to the large sample size. While normality was assumed, there was found to be an unequal variance between the two groups with $F = 4.62$, and $p = .033$ when using Levene's test. The degrees of freedom then had to be adjusted to offset the heterogeneous variances.

The t test in this case led to a rejected Null Hypothesis for research question 2. There was a significant difference between the service-learning students and the traditional lecture students when it came to their course engagement. The mean score for service-learning students was a resounding 92.13 with $SD = 10.36$. For traditional lecture students, a mean score was 84.58 with a $SD = 12.56$. If the study were conducted over and over, there is a 95% confidence that the difference between the two groups would fall between 4.40, the lower bound, and 10.37, the upper bound. Since the confidence limits do not include zero, the Null Hypothesis is rejected in this case, meaning that the course type, service-learning versus traditional lecture, does have a statistically significant effect on student course engagement.

The last part of the analysis was a look at Type 1 and Type 2 errors in each of the questions. For research question 1, $p = .662$, Type 1 error does not apply as it is greater than .05. However, Type 2 error does apply, as the Null Hypothesis was not rejected. In the second question, the Null Hypothesis was rejected and could lead to Type 1 error. However, in this case, $p = .000$, leading to the statistical absence of Type 1 error.

CHAPTER FIVE: DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

Discussion

This study examined the effects of either service-learning course delivery or traditional lecture delivery models at a university in North Georgia. For the purposes of this study, the independent variables consisted of the course delivery method utilized by the course instructor, either service-learning or traditional lecture. The dependent variable for research question 1 was the students' level of achievement as measured by the course grade. For the second research question, the dependent variable was the students' course engagement as measured by the Student Course Engagement Questionnaire.

Results from the study indicate that there is no significant statistical difference between student course grades in service-learning courses versus traditional lecture courses. Students in service-learning classes only performed marginally higher than those students in traditional lecture courses with regards to mean course grades. However, once statistical analysis was conducted, the Null Hypothesis was not rejected, leading the researcher to conclude that course delivery method, either service-learning or traditional lecture, does not have an effect on student academic outcomes when measured by student course grade.

The results of research question 1, which show that course delivery type does not have an effect on course average, were contrary to the expected outcomes. The expected outcomes were that students would achieve at higher levels in service-learning courses than traditional lecture courses, presumably due to higher levels of engagement. Though research question 2 revealed a higher level of course engagement in service-learning courses, the results of this study did not indicate an effect on course grade. This lack of a difference in course grade may be due to other variables as examined in related studies.

The study by Astin, Vogelgesang, Ikeda, and Yee (2000) included longitudinal data for over 22,000 students at four-year universities who participated in service-learning. It is one of the most extensive studies in service-learning and provided a means for uncovering certain patterns regarding the effects of this type of learning experience on multiple variables. For example, with regards to academic outcomes, the study determined that one of the most important factors in determining the effectiveness of service-learning's impact on achievement is whether or not the service-learning occurs in a course within the student's major. They found this to be the most vital connection between service-learning and academic outcomes. The study showed significant improvements in the areas of writing, GPA, and critical thinking skills when the student's experience occurred in a course within their major.

Another well conducted study on the impact of service-learning, which included a control and treatment group, is that of Kearney (2012). With similar curriculum, students' data on pre- and post-instruction survey data were examined in two similar courses; the one course difference being one included a service-learning component and one did not. The participants were first-year pharmacy students, and the data revealed statistically significant differences. Each of the five different portions of the survey revealed $p < 0.001$, demonstrating a higher level of course understanding among those in service-learning courses than those who did not participate in service-learning courses.

When examining the second research question, whether there was a positive effect on student course engagement in service-learning classes versus traditional lecture classes, the results indicated that there is in fact a statistically significant difference. In this case, the Null Hypothesis was rejected, leading the researcher to conclude that participation in service-learning courses leads to a higher level of student engagement than participation in a traditional lecture course.

The current study appears to support earlier research conducted in the field of service-learning. For example, according to Furco and Root (2010) studies date back as far as 1981 demonstrate the link between service-learning and engagement in learning. For example, Melchoir (1998) examined middle school students' academic data and found a statistically significant difference in both academic performance, particularly in math content, and engagement in school. Scales, Blyth, Berkas, and Kielsmeier (2000) found similar results, also among middle school students. Longitudinal data from both these studies show positive academic results over time as well.

The results of the current study further enhance the research in the field by providing a quantitative snapshot of service-learning's effect on course engagement at the university level. While several studies, such as those discussed in the previous paragraph, seek to link service-learning to academic engagement, little research on this particular outcome has been conducted at the post-secondary level.

Conclusions

Results from the study indicated that there is a lack of significant statistical difference between student course grades in service-learning courses and those delivered with a traditional lecture course model. This was contrary to the expected result for research question 1. The expected result was that students would perform academically higher with the service-learning component, as they would feel a higher personal connection to the content; however, as the expected result was not found, the recommendation is that further studies be conducted in an effort to determine if these results are isolated and not a result of the participation in a certain type of course. While several rigorous studies have sought to link service-learning and academic outcomes when measured by course grade or other academic learning outcomes, with most of them demonstrating a positive relationship (Markus, Howard, & King, 1993; Vogelgesang, &

Astin, 2000; Weiler et al., 1998), there are still several equally rigorous studies that show no effect of service-learning on academic learning, particularly when measured in the form of course average or GPA (Boss, 1994; Hudson, 1996; Parker-Gwin & Mabry, 1998).

Conversely, there was a positive correlation between participation in service-learning courses and course engagement as measured by the SCEQ. This was the expected result of the study and furthers the support for service-learning as a method of obtaining student engagement. However, this does call into question the effects of student engagement on academic achievement. If students are engaged at a higher level in service-learning courses, their course grade should have reflected this engagement if in fact course engagement has a positive impact on student achievement. This is another area worth exploration in future studies. What is the impact of course engagement on student academic outcomes at the post-secondary level?

Implications

Results from this study show that students participating in service-learning courses and those participating in traditional lecture courses have statistically equal course grades. While students self-report a higher level of understanding and content mastery when they are involved in courses that include service-learning, the research remained mixed as to the actual achievement benefits they receive. The implications of these findings are important to explore as these findings further muddy the waters concerning the academic benefits of service-learning.

This research may warrant a further look into post-secondary assessment practices. It raises the question: Are colleges and universities assessing actual learning? Or, do they continue to measure rote understanding of knowledge and not the application of such knowledge? Perhaps colleges and universities should consider a move towards performance-based assessments as a means to measure student learning, similarly to the recent shift in state assessments at the primary and secondary levels through the adoption of the Common Core Standards.

Performance-based assessments have been found to lead to teaching that provides a deeper, richer learning experience that links knowledge to skills. Unlike a traditional multiple choice test, a deeper understanding of the content is demonstrated, leading to students not solely displaying rote understanding (Miller & Linn, 2000). Should this form of assessment be adopted, it may more adequately represent the effects of service-learning on student learning.

Previous study results on the effects of service-learning on academic outcomes have been mixed, and further investigation is necessary in which more true experimental designs are employed. With the exception of a very few studies like those of Weiler, LaGoy, Crane, and Rovner (1998), most studies do not employ true experimental designs in examining the effects of service-learning. More research like that found in the Weiler et al. study is needed in the field to correctly and fully explore the direct effect of service-learning on student achievement. These types of studies bear repeating and replication. Prentice and Robinson (2010) exert that when the use of true experimental design is not possible, which is often the case with service-learning research, a quasi-experimental study design should be employed, allowing the researcher to match the two groups as closely as possible in an effort to control for other variables.

To generalize research outcomes regarding the term “service-learning” may also prove dangerous. With a constantly evolving definition of this term, it is impossible to believe that one standard defines service-learning and it is the standard to which all course instructors adhere. While the concept originated with John Dewey, several others have attempted to refine what constitutes a service-learning experience. Sigmond (1979) attempted to define service-learning as having three basic principles. This gave way to Ehrlich’s (1996) writings on the linking of community service with academics. Bringle, Hatcher, and McIntosh (1996) attempted to formalize the definition of this practice. However, researchers and learning institutions, as in the case with the current study, still find the need to determine what service-learning looks like for

their specific needs. Therefore, with such vast interpretations of the practice, it may prove difficult to make sweeping statements regarding its outcomes. This variance in definition may also prove useful in understanding the continued mixed, and sometimes confusing, results of the research findings in this field.

Limitations

Internal Validity

Due to the nature of this study, many of the usual threats to internal validity, such as history, maturation, testing, statistical regression, attrition, and experimenter effects are not a concern (Ary, Jacobs, & Sorensen, 2010). Because the study did not include a pre- and posttest, but rather one measurement at one point in time, history, maturation, testing, statistical regression, and attrition were not threats to internal validity.

The largest threat to internal validity was the use of intact groups. Selection bias, since the researcher was unable to randomly assign groups, is a threat. However, the researcher attempted to minimize this effect by comparing data in similar classes or similar academic content (McMillan & Schumacher, 2001). Many of the courses consisted of introductory courses, for both the service-learning and traditional lecture; however, more of the service-learning courses consisted of upper level coursework than in the traditional lecture courses. One mathematics course included in the study did have a course option of participating in service-learning. This section provided data for students in the same course, yet a portion completed service-learning, while the remainder of the participants did not. This inability to match courses exactly and control for variables related to the different course types, is often a weakness in research conducted on the effects of service-learning as noted by Hecht (2010). It is nearly impossible to match students or randomly assign them when examining the use of service-learning versus another teaching pedagogy. It may prove more effective, when studying the

academic outcomes of service-learning students, to examine their achievement on nationally-normed tests. This would allow the researcher to determine if service-learning students achieve higher than the national average and may prove more powerful a statement than merely examining their overall course grades.

External Validity

A major concern for external validity is the threat of nonrepresentativeness (Ary et al., 2010). This study was conducted at one southeastern, rural, midsize university; therefore, the results of this study may not be generalizable across all postsecondary educational settings. Perhaps an even larger threat is the great variation that occurs between service-learning experiences not only at the current research site, but also across the nation. As Hecht (2010) notes, service-learning “can include a wide range of activities, and even within a given activity, a wide variety of tasks can be performed” (p. 107). The frequency of the service-learning, the preparation for the experience, the reflection required, and even the definitions vary widely between course instructors, course sections, and post-secondary schools.

This wide variance in program type proves a stumbling block in making blanket statements regarding service-learning as a whole. It is perhaps more significant to examine specific service-learning experiences that meet a predetermined set of criteria for inclusion, such as the frequency of the service, type and amount of reflection required, and a specific academic outcome. This type of examination is often referred to as *information rich sampling* (Schunk, 2000). Examples of this type of study can be found in Silcox’s (1993) research, in which service-learning conducted at one site in Russia showed significant gains in scientific understanding for both American and Russian students. Wurr (2002) also found an increase in the quality of writing for first-year college students in composition classes after having participated in service-learning. Furco and Root (2010), in their argument for the validity of

service-learning, cite a study conducted by Weilee et al. (1998) in which 12 classrooms in both primary and secondary levels that participated in service-learning and eight classrooms that did not were compared. Those classes participating in service-learning scored higher on the California Test of Basic Skills, specifically in the areas of language arts and reading. Their study controlled for variances in service-learning experiences by establishing a set of quality indicators that the experience had to meet in order to be included in the study. However, studies with this lack of control over the service-learning experience for the students are rare. Most either include a variety of service-learning types, as is the case for the current study, or they are very limited and cannot be generalized due to the specificity within an educational context. As Furco and Root (2010) contend, only high quality service-learning impacts student achievement. Therefore, it is extremely important to identify and study those experiences that include such elements as those defined by the K-12 Service Learning Standards for Quality Practice.

Another concern for the current study was the presence of observers during the administration of the Student Course Engagement Questionnaire (SCEQ) when the observer was ultimately the course instructor. The presence of the course instructor may have caused students' attitudes on the questionnaire to vary from their true attitudes towards the course, either positively or negatively. This was minimized by the observer reading a blanket statement before the administration of the SCEQ in which she stated that the SCEQ would be placed in the sealed envelope and returned to the researcher without the instructor having reviewed the results. The SCEQ was accompanied by an envelope with a seal in which to return the questionnaires.

Recommendations for Future Research

Perhaps most important in future research in the field is the importance of defining what constitutes service-learning and assuring that studies control for only those experiences that meet a predetermined set of criteria. Researchers should not confuse the other types of volunteerism

or community-based experiences with service-learning; instead, they should adhere to investigating only the courses in which high quality service-learning is ensured. It would be beneficial for the research community to adopt a unified definition of the practice in an effort to eliminate research variance due to differences in understandings of what constitutes service-learning.

Even with true experimental design studies, it is difficult to directly link service-learning as causation for increased test scores. Prentice and Robinson (2010) argue that more benefit lies in the further examination of the causation in other outcomes, such as increased levels of academic engagement. It may prove easier to create a body of research in which higher levels of academic engagement can be directly linked to participation in service-learning under more controlled types of studies. Once causation of higher academic engagement is established, it is much easier to link higher engagement to higher academic achievement, thereby indirectly linking service-learning to heightened achievement.

To that end, this study examined the effects of participation in service-learning courses on student course engagement and found significantly higher levels of course engagement in service-learning courses than in traditional lecture courses. The results of this study were congruent with past studies on service-learning and engagement, particularly academic engagement. This study provides yet further proof that service-learning engages students in the content, which is particularly important as participation in this type of experience continues to grow, as does institutional support. With the Higher Education Research Institute reporting that 65% of freshmen have access to either service-learning or community service during their first year of college (Butin & Sieder, 2012), it becomes increasingly important to examine the effects of this type of experience and further determine how it may lead to student success and graduation.

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APPENDIX A
IRB Approval Email: University A

DATE: November 19, 2012

TO: Jamie Rife-Prentice
Physical Therapy

FROM: Teresa Fletcher
Chair, Institutional Review Board

RE: IRB Application 201260

Your IRB application (201260) entitled, "Gardner's Multiple Intelligences and Couse Type: A Causal-Comparative Look at the Effects on Student Engagement and Achievement" has been considered **EXEMPT** and therefore approved. Please notify the IRB Chair, Dr. Teresa Fletcher at tbletcher@universityA.edu for changes to the study.

Good luck with data collection!

APPENDIX B

IRB Approval email: Liberty University
From: IRB, IRB [IRB@liberty.edu]
Sent: 11/27/2012
To: Prentice, Jamie Elizabeth
Cc: IRB, IRB; Garzon, Fernando, Duryea, John R
Subject: IRB Exemption 1421.112712: Gardner's Multiple Intelligences and Course Type: A Causal-Comparative Look at the Effects on Student Engagement and Achievement

Dear Jamie,

The Liberty University Institutional Review Board has reviewed your application in accordance with the Office for Human Research Protections (OHRP) and Food and Drug Administration (FDA) regulations and finds your study to be exempt from further IRB review. This means you may begin your research with the data safeguarding methods mentioned in your approved application, and that no further IRB oversight is required.

Your study falls under exemption category 46.101 (b)(2), which identifies specific situations in which human participants research is exempt from the policy set forth in 45 CFR 46:

(2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless:

(i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

Please note that this exemption only applies to your current research application, and that any changes to your protocol must be reported to the Liberty IRB for verification of continued exemption status. You may report these changes by submitting a change in protocol form or a new application to the IRB and referencing the above IRB Exemption number.

If you have any questions about this exemption, or need assistance in determining whether possible changes to your protocol would change your exemption status, please email us at irb@liberty.edu.

Sincerely,

Fernando Garzon, Psy.D.

Professor, IRB Chair

Counseling

(434) 592-4054

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APPENDIX C
Email of Professor Recruitment

Dear XXXX:

In addition to being a teacher in XXXX County Schools, I am also a student in Liberty University's Ed.D. program. As part of my doctoral dissertation, I will be conducting research at University A to learn more about how Gardner's Multiple Intelligences affect student perception and academic outcomes in Service-Learning classes and traditional lecture classes. This research has been approved by the University A IRB. I will be working with approximately 200 University A students with the help Dr. Irene Kokkala, Director of Distance Education and Technology Integration, and Dr. Mark Jordan, professor in the Mike Cottrell College of Business.

Ideally, we would like to recruit professors who teach sections of classes with a Service-Learning component and other sections with traditional lecture. However, we invite all instructors with either Service-Learning or traditional lecture modes of course delivery to participate.

If you agree to participate, we will ask your help in gaining student participants. Students will be asked to complete two different surveys, the SCEQ (Student Course Engagement Questionnaire) and the MIDAS (Multiple Intelligences Development Assessment Scales). The SCEQ will be administered via paper and pencil the final day of class and take approximately ten minutes. The results will be viewed only by the researcher. The MIDAS assessment can be completed by students online at any point during the semester by using a password to be provided by the researcher and will take approximately twenty

minutes. The students' course averages will also be requested. All information obtained will be kept confidential.

If you are willing to participate in this study, please feel free to respond to me directly via this email. This email may be followed by a request for an interview with you to further discuss the research. We look forward to your involvement.

Regards,

Jamie Rife-Prentice

Dr. Irene Kokkala

Dr. Mark Jordan

APPENDIX D

CONSENT FORM

GARDNER'S MULTIPLE INTELLIGENCES AND COURSE TYPE: A CAUSAL-COMPARATIVE LOOK AT THE EFFECTS ON STUDENT ENGAGEMENT AND ACHIEVEMENT

Jamie Rife
Liberty University
School of Education

You are invited to be in a research study of the effects of university students' primary Multiple Intelligence on their academic outcome and engagement. You were selected as a possible participant because you are a student either enrolled in a Service-learning class or traditional lecture class. I ask that you read this form and ask any questions you may have before agreeing to be in the study. You must be 18 years of age to participate.

This study is being conducted by Jamie Rife-Prentice from Liberty University's Education Department.

Background Information:

The purpose of this study is to examine how a students' primary Multiple Intelligence affects how they perform in a class and their level of engagement. The study includes both classes with Service-learning components and those whose primary method of course delivery is lecture.

Procedures:

If you agree to be in this study, I would ask you to do the following things:

I ask that you complete the SCEQ (Student Course Engagement Questionnaire) on the final day of class. This survey will take approximately ten minutes to complete and will help determine your level of engagement in this course.

I ask that you complete the MIDAS (Multiple Intelligences Development Assessment Scales) online. This survey will take approximately thirty minutes to complete and will identify your primary Multiple Intelligence. Should you agree to participate, I will email you directly the link and access codes for the assessment, along with periodic reminders to complete the survey. You may do this at any point between now and November 15.

For the purposes of this study, I will also be collecting your final course averages from your course instructor to measure your academic outcome in the course.

Risks and Benefits of being in the Study:

The study has limited risks: The risks of this study are no more than the participant would encounter in everyday life.

While there is no direct benefit to the participants, participation will help develop a better understanding of how and why students respond to different teaching methods in the field of education.

Compensation:

You will not receive monetary compensation nor any other form of compensation.

Confidentiality:

The records of this study will be kept private. In any sort of report we might publish, I will not include any information that will make it possible to identify a subject. Research records will be stored securely and only researchers will have access to the records.

Only the researcher will have access to the information provided by the participants. The researcher will take every precaution to maintain confidentiality by limiting access to the data. Data will be stored in a password protected environment and, upon successful completion of the dissertation, will be destroyed. Hard copies of surveys will be stored in a locked filing cabinet to which only the researcher has access. Hard copies will be shredded and electronic files will be permanently deleted.

Voluntary Nature of the Study:

Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with Liberty University or NGCSU. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

Contacts and Questions:

The researchers conducting this study are Jamie Rife-Prentice, Dr. Irene Kokkala, and Dr. Mark Jordan. You may ask any questions you have now. If you have questions later, **you are encouraged** to ask the course instructor who will obtain the answers to your questions. You may also contact Dr. Kokkala at Irene.Kokkala@University A.edu or Dr. Jordan at Mark.Jordan@University A.edu.

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher(s), **you are encouraged** to contact the Institutional Review Board, Dr. Fernando Garzon, Chair, 1971 University Blvd, Suite 1582, Lynchburg, VA 24515 or email at fgarzon@liberty.edu.

You will be given a copy of this information to keep for your records.

Statement of Consent:

I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.

Course Name/Number: _____ Instructor Name: _____

This class is a (please circle one): Service-Learning Course Traditional Lecture Course

Name: _____
(Please Print)

Signature: _____ Date: _____

Email Address: _____
(Please Print)

Signature of Investigator: _____ Date: _____

IRB Code Numbers: 1421.112712

IRB Expiration Date: November 27, 2013

APPENDIX E

Instructor Script

You have been invited to participate in a study conducted by a doctoral student from the education department at Liberty University. The researcher is studying the effects of university students' primary Multiple Intelligence on their academic outcome and engagement in both Service Learning classes and traditional lecture classes. You must be 18 years of age to participate.

The information you share will help educators better understand how and why students respond to different teaching methods. You will be asked to complete two different surveys, the Student Course Engagement Questionnaire (SCEQ) and the Multiple Intelligences Development Assessment Scales (MIDAS). The SCEQ will take approximately ten minutes and will be administered on the final day of class. I will not see the results of this survey. The MIDAS assessment will be taken online between now and October 15th and will take approximately twenty minutes. It will help determine your primary Multiple Intelligence. Your final course average will also be provided to the researcher. Only the researcher will have access to the results of the surveys and your course average.

Every effort will be taken to keep the results of these surveys in the strictest confidentiality. Your name will not be linked to the results in the text of the dissertation. There are no other expected risks of participation.

Participation is voluntary. If you decide not to participate, there will be no penalty or loss of benefits to which you are otherwise entitled. Should you wish to participate, please raise your hand and I will provide you a copy of the Consent Form. I will submit this consent form to the researcher who will then contact you with the link and access code for the MIDAS assessment. Throughout the semester the researcher may also contact you via email with reminders to complete the online MIDAS assessment.