12-2006

Service-learning outcomes at a faith-based institution of higher education.

Amy L. Doolittle
University of Louisville

Recommended Citation

Doolittle, Amy L., "Service-learning outcomes at a faith-based institution of higher education." (2006).
Electronic Theses and Dissertations. Paper 366.
https://doi.org/10.18297/etd/366

SERVICE-LEARNING OUTCOMES AT A FAITH-BASED

INSTITUTION OF HIGHER EDUCATION

By

Amy L. Doolittle
B.A. University of Louisville, Louisville, Ky., 1995
M.S.S.W. University of Louisville, Louisville, Ky., 1997

A Dissertation
Submitted to the Faculty of the
Graduate School of the University of Louisville
In Partial Fulfillment of the Requirements
For the Degree of

Doctor of Philosophy

Kent School of Social Work
University of Louisville
Louisville, Kentucky

and

College of Social Work
University of Kentucky
Lexington, Kentucky

December 2006

SERVICE-LEARNING OUTCOMES AT A FAITH-BASED

INSTITUTION OF HIGHER EDUCATION

By

Amy L. Doolittle
B.A. University of Louisville, Louisville, Ky., 1995
M.S.S.W. University of Louisville, Louisville, Ky., 1997

A Dissertation Approved on

November 21, 2006

By the following Dissertation Committee

_____
Gerard Barber, Ph.D., Dissertation Chair

_____
Ruth Huber, Ph.D.

_____
Anna C. Faul, Ph.D.

_____
Gretchen Ely, Ph.D., University of Kentucky

_____
Mike Hayes, Ed.D., Lee University

DEDICATION

I could not have completed such a project without the support of my husband, Tom, who never stopped believing that I could accomplish this. His support did not start with the onset of this program; he has been my best cheerleader for the past 27 years and has never stopped encouraging and sometimes pushing me to dream big. Without his encouragement I never would have even considered beginning such an endeavor as this. He has patiently listened to my complaints while remaining a constant encourager.

To my daughters, Heather and Hilary who have encouraged me to "keep on Mom, you'll get it done!" I am extremely grateful to have been blessed with two daughters who have exceeded my every expectation of what children can and should be. To my friend, Raeko, who has kept in contact with me through this whole journey to offer her encouragement and support. I am more than fortunate to be able to call her my friend. To my cohort, who has listened to me, encouraged me, and grew with me during the educational process. I will be glad to call you all colleagues. To my parents, Willie and Louise Coggins, who in my childhood stressed the importance of a good education and who have supported and encouraged me in my decision to further my education.

ACKNOWLEDGEMENTS

I would like to acknowledge Gerard "Rod" Barber, my dissertation chair, for his encouragement and support to research an area that has not been well defined. It is through his guidance and challenges that this project was birthed. To my committee members: Ruth Huber, Anna Faul, Gretchen Ely, and Mike Hayes for their support in this project. To the faculty members in the Ph.D. program for their patience and time to help me grow and learn during this whole educative process. I also appreciate the time and effort that Ramona Stone took to review and discuss the statistical analysis with me.

I am grateful for the researchers in the Service-learning Research community, who have encouraged me to dialogue and contribute to the growing knowledge base in service-learning research. Many thanks to the University of Louisville Kent School of Social Work for their contribution to my education through student assistantships which made it possible for me to return to school full-time.

During this journey I have met several individuals who have been a constant source or encouragement and support, two of which I want to give special acknowledgement. Ronald Free, DC of Cleveland, TN who has given me more validation and encouragement than one person deserves and has made every effort to keep me *well adjusted* and Edie May who has encouraged me and has constantly kept me in her prayers. Finally, last but certainly not least, I thank

iv

God for keeping me, sustaining me, and allowing me to take on this incredible

journey.

ABSTRACT

SERVICE-LEARNING OUTCOMES AT A FAITH-BASED

INSTITUTION OF HIGHER EDUCATION

Amy L. Doolittle

November 21, 2006

This quantitative dissertation examines outcomes of a required service-learning program at a faith-based institution. Two hundred and ten students completed a pre/post survey administered to a sophomore level class about background, educational processes, and twelve attitude and knowledge subscales related to service-learning. All subscales met standard reliability standards. Two dependent variables were used to measure critical thinking and students' perceptions of learning.

While students entered the class with strong positive attitudes and knowledge on most subscales, four subscales Civic Attitudes, Civic Behavior, Civic Action, and Social Justice showed significant positive changes, and two subscales Motivation for Service and Personal Enrichment were approaching significance. A regression model analysis indicated that significant predictors of Learning Perceptions were: Social Justice Pretest, Learning about the Community Pretest, Learning about the Community Change, and Reflection through Discussion Outside of Class Posttest which accounted for approximately

46% of the variance in the dependent variable. Four independent variables

significantly predicted Critical Thinking: Civic Behaviors Pretest, Civic Action

change, Interpersonal Skills pretest, and Interpersonal Skills change score which

accounted for approximately 21% of the variance in this variable.

The literature indicates that students' participation in reflection is

paramount to the learning process. However, that was not evident in this study.

More research is needed to better understand how reflective experiences affect

service-learning outcomes. Findings also indicate that students come to the

service-learning experience at different levels and readiness to learn, which has

implications for the design of service-learning programs.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

THE PROBLEM STATEMENT

Concerns about the level of engagement of younger generations in their communities provided the impetus for the National Community Service Act (NCSA), signed by President Bush in 1990 (Kraft, 1996)**.** One of the primary purposes of this act was "to renew the ethic of civic responsibility in the United States . . ." (Robinson, 1992, p. CRS-1). This act led to the creation of the Commission on National and Community Service (CNCS), which has provided funds, training, and assistance to states and communities to develop and expand service opportunities (Robinson, 1992; Smith, 1994). The goal was to encourage individuals to give something back to their communities and their world through enhanced civic participation (Smith, 1994). Such endeavors have led to the creation of service-learning centers on many college campuses in an attempt to encourage young adults to serve in their communities.

Concerns that the younger generations may be less inclined to participate in their communities have created an interest in the way young people are socialized and learn to engage in their communities (Boyte, 1991; Campbell, 2000; Flanagan, 2003). Service-learning is one method that has been increasingly used for the purposes of teaching civic engagement, civic values, and social responsibility (Hunter & Brisbin, 2000). This project will examine some

1

of the socialization that takes place through service-learning projects. Outcomes related to service-learning will be reviewed to identify the variables that have the greatest potential to influence individuals making lifelong commitments to their communities. This project will focus on a service-learning program that is organized and directed by a private, faith-based institution at Lee University in Cleveland, Tennessee.

This introduction will review a broad range of definitions in order to move toward the creation of a clearer definition that can be operationalized in a manner that will direct the evaluation of the service-learning program at Lee University. This introduction will briefly review some of the previous research that has sought to establish the benefits of service-learning while clarifying some of the components that are necessary to legitimately provide an educational experience that is worthy of accreditation.

Multiple Definitions of Service-Learning

Service-learning has many definitions, some of which are ill defined for research purposes. Stanton (1990) compared the search for a "single, firm, universal" definition of service-learning to "navigating through fog" (p. 65). Kendall (1990) reported that she had personally encountered 147 definitions in the literature.

Furco (2003) also noted the problem with defining service-learning. He contended that the research is limited by the lack of a "universally accepted definition for the term" (Furco, 2003; p.13) and that within the last 10 years at least 200 different definitions of service-learning have appeared in the literature.

The definitions vary in their use of service-learning as pedagogy, an experience, a type of program, or a philosophy of learning (Furco, 2003), making anticipated and predicted outcomes as varied as the definitions, and Kendall (1990) had reported that there were more than 147 definitions in the literature. Civic engagement is one of the outcomes most anticipated and discussed in service-learning, although the definitions are not operationalized in a manner that easily facilitates measurement. Therefore, it is difficult to assess the level of success or failure of service-learning programs.

In an effort to gain a better understanding of service-learning and how it is defined, this author reviewed more than 100 articles, several books, and websites searching for definitions of service-learning. The majority of this literature did not explicitly provide a clear definition of service-learning, and many of the definitions could only be described as implied. These implied definitions were excluded from this review. Some of the literature provided information about methodology and outcomes in such a way that it was possible to get a sense of what the author *probably* meant by service-learning, but the definition was not clearly stated. This search brought the total number of definitions for review up to 39. Several of the definitions were created by the same authors (Bringle & Hatcher, 1995, 1996, & 1997; Jacoby, 1996 & 2003) or from authors who have stated that they are adopting other authors' definitions (Bringle, Phillips, & Hudson, 2004; Brody & Nair, 2000; Goldstein, 2004; Kendrick, 1996; Marullo, 1996; Sleeter, 2000; Vann, 1999; Zlotkowski, 1999).

A clear definition of service-learning could strengthen research efforts. Cone (2003) reported that the service-learning movement has been built on assumptions that students can gain enough information about civic engagement through their experiences in their classes and their communities to make positive differences in their future civic involvement. Furco (2003) argued that service-learning studies are ". . . based on varied and oftentimes inconsistent sets of incongruous assumptions, constructs, and definitions" (p. 14), thereby making it difficult to determine what ", , , service-learning is and is not . . ." (p. 14), and identify outcomes (Furco, 2003).

One definition of service-learning that has been the basis for many others was created by the NCSA of 1990. This definition outlines service-learning as a method through which students learn through active participation with the community. Such participation must be coordinated in a way that meets needs within the community and is coordinated between the school and the community while teaching civic responsibility. This definition also contends that the service must be integrated into the curriculum and must include structured time for reflection on the service experience itself (Brody & Nair, 2000).

The Learn and Serve Foundation is the Corporation for National and Community Service. This foundation has defined service-learning as a tool that "combines service to the community with student learning in a way that improved both the student and the community" (Learn & Serve, 2005). This website outlines the National and Community Trust Act of 1993 and identifies service-learning as a method by which students learn and develop through active

participation in organized service that occurs within the community and meets a community need, it helps foster civic responsibility, it is integrated into and serves to enhance the curriculum, and provides structured time for reflection (Learn & Serve, 2005).

One of the most commonly adopted definitions, in this review, has been the definition created and published by Bringle and Hatcher (1995). They consider

> service-learning to be a 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 civic responsibility. (p. 112)

Bringle and Hatcher (1995, 1996, & 1997) contrasted service-learning with other forms of service by identifying *learning* as an important component of service-learning. They stated that while it may occur in other forms of service, it is not formally evaluated as it should be in service-learning. This definition has been adopted by authors such as Bringle, Phillips, and Hudson (2004), Marullo (1996), Sleeter (2000), and Zlotkowski (1999).

Ehrlich (1996) defined service-learning as "the various pedagogies that link community service and academic study so that each strengthens the other" (p. xi). This is a rather vague definition, but he goes on to link it to Dewey's theory that it is the interaction of knowledge and skills that is the key to learning

(Jacoby, 1996). Several authors have contended that service-learning occurs concurrently with classroom content. Such a partnership of service and content provides students the opportunity to participate in an organized service experience that meets a community need (Bringle & Hatcher, 1996; Brody & Nair, 2000). Some authors go on to add that such an experience should provide an opportunity for reflection in order to enhance students' understanding of the course content as it relates to the community and enhances their personal sense of civic responsibility (Bringle & Hatcher, 1996; Cone, 2003; Eyler & Giles, 1999; Hepburn, Niemi, & Chapman, 2000; Jacoby, 1996).

Vann (1999) used what she identified as Marullo's definition of service-learning, which stated that it is a method of learning that provides students the opportunity to "test theories with life experiences" (p. 83). This testing then forces students to question and evaluate their knowledge based on the service experience (Vann, 1999). This definition states that the experience should guide students in testing theories. However, the service-learning literature is weak in (a) guiding theories for students to test in their service experiences, and (b) how much information is enough to encourage students to test theories and make decisions. From a different perspective, Marullo (1996) discussed service-learning as a "pedagogy that bridges theory and practice . . ." (p. 2), but then he adopted a definition for service-learning that had been offered by Bringle and Hatcher in a 1994 unpublished manuscript. Marullo (1996) also added components of several other definitions and stated that "service-learning activity, when done properly, should provide students with an increased awareness of

6

civic responsibility, promote their moral development and help them to analyze the causes and consequences of social problems" (p. 1).

Several authors have alluded to the need for theory to guide and teach service-learning (Giles & Eyler, 1994). For example, Lott, Michelmore, Sullivan-Cosetti, and Wister (1997) contended that reflection is a key component that allows students to learn "through the interaction of particular experiences and conceptualization" (p. 42). This practice can assist students to move from the concrete practice to abstract theory (Lot et al., 1997). One problem is that the literature is lacking in its adoption of specific theories to guide and test service-learning.

Another problem is the confusion over the use of the terms such as *community service* and *service-learning*. In some research articles, the terms are used interchangeably. However, in 1993 the Commission on National and Community Service (CNCS), which was created as a part or the NCSA, made a distinction between the definitions for community service and service-learning (Smith, 1994). The CNCS defined community service as the wide array of voluntary services that are provided in the community and added that these experiences may be educational but are not necessarily linked to any educational program or course content. Such a definition separates it from the type of learning experience that occurs along with an academic course that is frequently associated with service-learning.

The term *service-learning* is found in the literature both hyphenated and not. Sigmon (1996) presented a discussion on the uses of the hyphen between

the words *service* and *learning.* He contended that the hyphen linked the terms together, signifying equal emphasis on the service and the learning. He is the only author encountered in this research who disclosed the meaning of the hyphen (Sigmon, 1996). In most of the literature, there is no clarity on how or why the hyphen is used or not used. In review, the hyphen is present in about 50% of the articles on service-learning. Lee University has chosen to use the hyphen in the term service-learning. The university wants to convey that they are placing equal emphasis on the terms *service* and *learning* (Personal Communication, Mike Hayes, 2005). The hyphen alone does not communicate that equal emphasis to the reader; therefore, the definition must be explicit in defining that the emphasis is on both *service* and *learning.*

Missing from the service-learning literature is the way that service-learning is being employed and defined in faith-based institutions. Not one definition reviewed dealt with issues that would be unique to a faith-based institution. A search for all of the necessary components that *should* be present in a universal definition of service-learning showed that it may not be feasible or possible to create just one universal definition.

Service-learning can be linked to the institution's mission. While this linkage is not always the case, Hudson and Trudeau (1995) believed that one of the most critical components for the success of institutionalizing service-learning is that it must be linked to the institution's mission. These authors believed that the success of the program is then driven by the institution's mission, which seeks to give purpose for the service. Lee University, the institution under study,

is committed to ". . . training responsible citizens to contribute their God-given gifts to the community at large" (p. 3). Service is one method that Lee University uses to train *responsible citizens*.

This still leaves the issue of a definition unsettled. Based on the review of the definitions it would seem that the field of service-learning would benefit by having a clearer, more accepted definition that would move the field closer to accepting a universal definition. However, in reality, it may be difficult to create just one definition for service-learning. If the success of service-learning is based on institutions' mission statements, the definitions may be as varied as their mission statements.

Therefore, the field of service-learning may be better served to adopt the *components* that are universal in nature, such as credit-bearing service, integration into the curriculum, organized service across disciplines, the uses and purposes of reflection, and the need to teach civic engagement. These components could be used to create a definition that could then be adopted by individual institutions with permission to add components that reflect their specific missions and purposes.

That task is exactly what will be done for this project. Based on the review of service-learning definitions, components have been identified that seem to permeate the literature as important to the field: (a) the need for service-learning to be integrated into the curriculum, (b) the need for ongoing, regular opportunities for reflection that are related to the course content and the service experience, (c) the need to teach civic engagement, (d) the need for the service

to be guided and organized by the institution, and (e) the need for the service to be beneficial to the students and the community.

Components such as teaching Christian values and the emphasis on calling and vocation may not be universal to the field of service-learning, but they are important to faith-based institutions such as Lee University. Therefore, a definition for such a university would need the freedom and flexibility to add those components to their definition. This project proposes a definition that seeks to integrate the more universal concepts of service-learning with those that would apply to this particular program.

This definition of service-learning has been created for Lee University, a Christian, faith-based university. This institution has as part of its mission statement ". . . a commitment to training responsible citizens to contribute their God-given gifts to the community at large" (Lee University Catalog, 2005-2006; p. 3). As part of this training, Lee University uses the Bible as a guide to teach the concepts of service and benevolence. These concepts are "introduced through the general education core, actualized through planned, reflective community engagement and developed in various major courses" (p. 3). It is out of this mission that a definition of service-learning has been birthed. Five components serve to identify service-learning at Lee University: (a) directed, organized service, (b) enhanced academic learning, (c) purposeful civic engagement, (d) guided reflection, and (e) Christian values.

Finally, service-learning is defined for Lee University, by this writer, as the process that seeks to link the academy to the community through credit-bearing service that is mutually beneficial to the student and the community through

1. Directed service that is organized and directed by the institution's designated office or department of service-learning;

2. Enhanced academic learning through the integration of the concepts and concrete experiences of service and the course content and curriculum;

3. Teaching purposeful civic engagement by providing students the opportunity to explore and process the skills necessary for civic engagement through their concrete service experiences, dialogue, and reflection about those experiences with faculty, site supervisors, and peers;

4. Guided reflection that seeks to teach (a) problem-solving through the application of the curriculum to the problems identified during the service experience, (b) critical thinking skills through the use of open-ended problems that encourage dialogue that leads to higher order thinking, (c) social justice through dialogue and written assignments that examine and reflect upon inequities within the community, and (d) faith-development by engaging students in discussions and written assignments around the biblical concepts of service and benevolence;

5. Teaching Christian values by providing students the opportunity to explore their own gifts, skills, and vocations to be used in the community for social justice and benevolence in a manner that could be considered Christ-like as

guided by the biblical understanding of service and benevolence. The

components of this definition are shown in Figure 1.
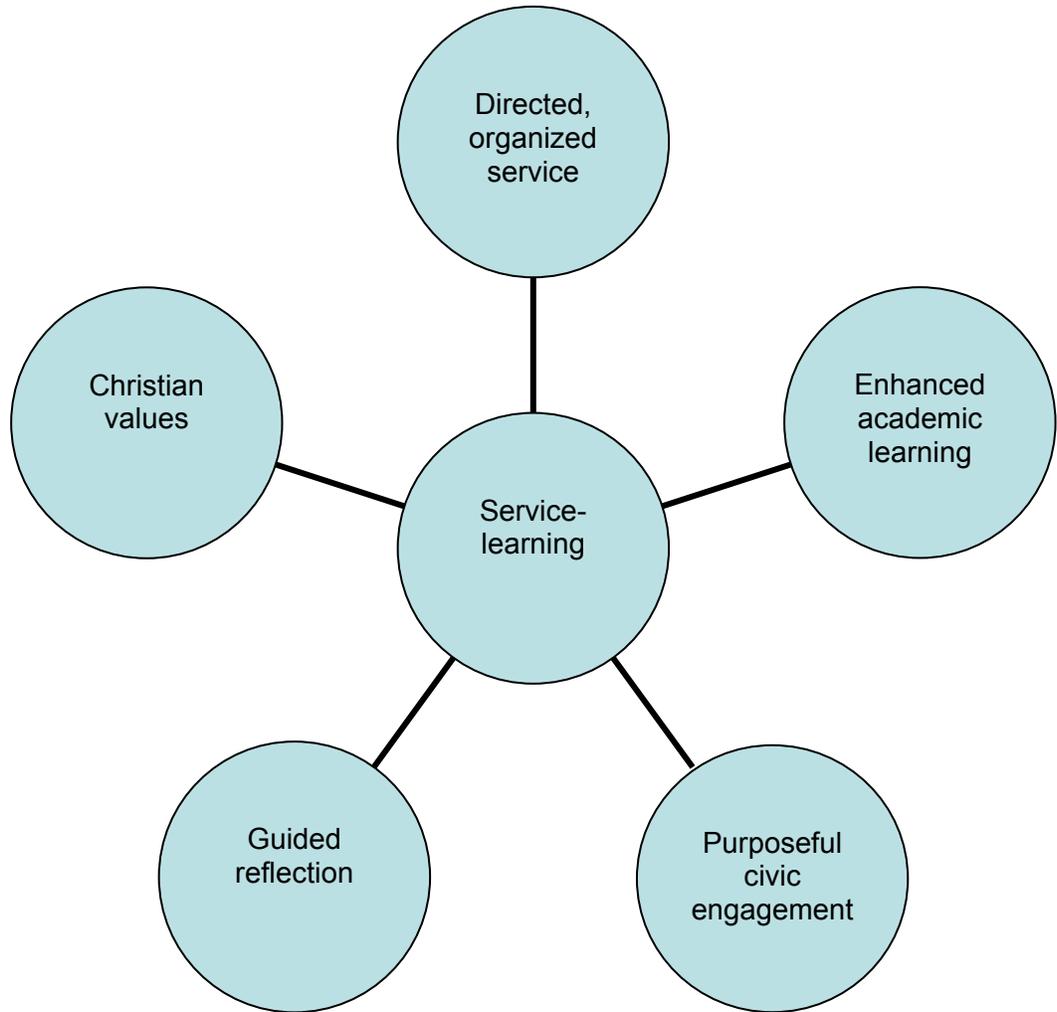
Figure 1. **Lee University's Components of Service-learning.**

Benefits of Service-Learning

Many outcome studies have been conducted in an effort to detail the

benefits of service-learning and connect the service-learning experience to a host

of potential outcomes. While civic engagement has been one of the most cited

anticipated or potential outcomes of the service-learning experience, other outcomes have been noted. Many qualitative and quantitative studies have reported such outcomes as civic attitudes, civic development, diversity awareness, moral development, and social responsibility (Batchelder & Root, 1994; Conrad & Hedin, 1991; Eyler, Giles & Braxton, 1997; Kendrick, 1996; Mabry, 1998; Markus, Howard, & King, 1993; Moely, McFarland, Miron, Mercer, Ilustre, 2002; Myers-Lipton, 1998; Parker-Gwin & Mabry, 1998; Sax & Astin, 1997) and academic outcomes (Giles & Eyler, 1994; Kendrick, 1996; Markus, Howard, & King, 1993; Miller, 1994; Sax & Astin, 1997; Wang, Ye, Jackson, Rodgers, & Jones, 2005). These are a few of the studies that will be reviewed in more depth in the next chapter to determine the outcomes to be measured.

Purpose of the Study

This study was conducted in an effort to assist Lee University in providing information to its accrediting body, the Southern Association of Colleges and Schools (SACS), regarding the outcomes expected by Lee University's service-learning program. This program has been noted by SACS as having good structure, even though Lee has been unable to provide any outcome information about the program's ability to impact the students who are required to complete the program. SACS has requested that the program provide proof of outcome measures in order to satisfy the accreditation requirements for the university. To assist in the SACS requirements, this study addresses the following research questions:

1. Do students change in their attitudes and/or knowledge as a result of the service-learning experience?

2. Which of the predictor variables contribute most to a change in the dependent variables: Learning Perceptions and Critical Thinking?

Conclusion

In summary, one of the primary goals of this research is to create an exact definition of service-learning that will serve to guide the evaluation of anticipated outcomes for accreditation purposes. The next chapter presents a review of the literature that is pertinent to this study and from which the outcome measurements will be identified.

CHAPTER II

LITERATURE REVIEW

This review begins with the history of service-learning, which is followed by the theoretical underpinnings of this dissertation as they apply to service-learning. The definitions of service-learning are reviewed that informed the proposed definition for service-learning at Lee University, and outcome studies of service-learning are reviewed next and followed by a section on existing instruments to measure the effectiveness of service-learning activities. This chapter will conclude with a brief summary of the proposed project.

The History of Service-Learning

Some of the earliest writings on the benefits of civic learning occurred in the early 1900s (Hepburn, 1997). Dunn (1914) contended that community membership came from individuals' participation in the lives of their communities and that citizenship was birthed out of personal responsibility for the community. Dunn (1914) contended that one's participation in the life of the community begins in school. According to Hepburn (1997) Dunn is one of the earliest educators to encourage the use of practical experiences to teach "interdependence within the community and personal responsibility to the community" (Hepburn, 1997, p. 136).

Dunn's work was used as an impetus to change the high school curriculum in the early 1900s to include civics in the curriculum. Just as Dunn advocated for a connection between the school curriculum and community service during high school, a similar concept applies to college service-learning programs.

Another early proponent of connecting academics and the community was John Dewey. Dewey (1899/1959) believed that students should be taught about the community by "saturating" them with "the spirit of service" and providing them with the "instruments of . . . self-direction" (p. 49). Dewey, in *Democracy and Education* (1916/1966), wrote that classroom learning should be applied to the context of the community. He believed that education should consist of a combination and balance of formal and informal learning that occurs in school learning and through concrete experiences in the community (Hepburn, 1997).

Community service continued to be a focus in secondary and some primary schools during the 1920s and 1930s (Hepburn, 1997). It was during this same time that our country witnessed changes that led to individuals' commitments to move from one of civic responsibility to being more focused on self-interests and less committed to their communities (Putnam, 1995, 1996, 2000). One of these changes was the Great Depression, which had a traumatic impact on civic involvement in the 1930s. Many groups experienced drastic declines in membership and volunteers during this era (Putnam, 2000).

World War II created a burst of patriotism that resulted in vital growth in community involvement for two decades. However, that growth was followed by a

slump in community involvement in the 1960s that has never fully recovered

(Putnam, 2000). The 1950s, 1960s, and 1970s witnessed turbulence and change

in communities and on college campuses. During this era civil rights became a

political issue, and there was an increasing focus on poverty and national social

problems (Stanton, Giles, & Cruz, 1999). These years were difficult for those who

were on the margins of society due to their race, gender, social class, or social

orientation (Putnam, 2000).

Through the years we have evolved into a society that views problems as

private. In this view we assume that people have what they need to solve their

own problems. Therefore, if the poor made different choices, they would not be

so poor. Capitalistic forces have reinforced this approach that has encouraged us

to view problems such as poverty, homelessness, and economic depravation as

purely private (Lisman, 1998). This view encouraged us to consider *charity* rather

than *commitment* to deal with social problems (Lisman, 1998). However, charity

alone cannot compensate for the lack of commitment by individuals to work for

and seek solutions to social problems.

An increasing amount of literature suggests that today's college students

are less connected to their communities. The current generation of youth has

been less connected to public affairs than any generation since World War II

(Boyte, 1991). Some have noted that college students have decreased their

participation and involvement in community affairs as well as chosen paths that

are disconnected from their communities and their embedded social problems

(Bringle, Games, & Malloy, 1999; Putnam, 1995). Waldstein and Reiher (2001)

argued that changes within our society have led to a decrease in the way individuals form attachments to the community at large.

Levine (1980) conducted a national study of approximately 100,000 undergraduates to examine their current values. He presented the undergraduates as a group of cynical *me first* students. He suggested that students were placing their emphases and values on things that are personal and individualistic rather than humanitarian, social, or civic. While in the past, colleges and universities had been places where civic responsibility was taught, some suggest that students have not been taught how to connect or *act* on their concerns. This lack of instruction has led to disengagement from the social problems that surround the students (Mathews, 1997; Sax, 2000). In an age in which research indicates that the youth of our country are primarily individualistic and focused on their own self-interests at the expense of "broader social, moral, or spiritual meaning," it is vitally important that we seek ways to connect our youth with a context of society that is broader than their own private foci (Colby & Ehrlich, 2000, p. xxii).

Educators, researchers, and politicians have made attempts to address the lack of civic engagement among the younger generations for several decades. The act of community service is not new to the college campus. Organizations such as the YMCA, 4-H Clubs, scouting groups, and ministry affiliates have sought to provide services to their communities (Jacoby, 1996). Attention to community service grew in the numbers providing service and in the attention the service received following the creation of the Peace Corps in 1961

by President John F. Kennedy (Jacoby, 1996). The founding of the Peace Corps was followed by the creation of the Volunteers in Service to America (VISTA) in 1965. VISTA was created to encourage youth to work on and address problems within the United States (Jacoby, 1996). Events such as the Civil Rights Movement challenged individuals' participation in their communities for the cause of social justice (Jacoby, 1996).

Campus Compact was founded in 1985 by the Education Commission of the States and the presidents of Brown, Georgetown, and Stanford Universities. At the time, the media portrayed college students as "materialistic and self-absorbed" (Campus Compact, 2005). The founding group of the Campus Compact believed that college students wanted to be involved in their communities and would do so with encouragement and support (Campus Compact, 2005).

Concerns about the level of engagement among the younger generations have provided the impetus for legislative action such as the National Community Service Act, which President Bush enacted in 1990 (Kraft, 1996). One of the primary purposes of this act was "to renew the ethic of civic responsibility in the United States . . ." (Robinson, 1992, p. CRS-1). This act led to the creation of the Commission on National and Community Service (CNCS), which has provided funds, training, and assistance to states and communities to develop and expand service opportunities (Robinson, 1992; Smith, 1994). The goal was to encourage individuals to give something back to their communities and their world through enhanced civic participation (Smith, 1994). Such endeavors have led to the

creation of service-learning centers on many college campuses in an attempt to encourage young adults to engage in their communities. Concerns that the younger generations may be less inclined to participate in their communities have created an interest in the way young people are socialized and learn to engage in their communities (Boyte, 1991; Campbell, 2000; Flanagan, 2003).

Since the late 1960s, service-learning is one intervention that has been introduced into educational systems in an attempt to increase civic engagement, civic values, and social responsibility (Checkoway, 1997; Cone, 2003; Gose, 1997; Morgan & Streb, 2001; Yates & Younnis, 1996). Service-learning has embedded within it the hope that it will be able to slow the decline of disengagement among today's youth while encouraging and fostering a lifetime commitment of engagement to the community.

Research that supports service-learning's ability to impact the way that individuals learn and connect with their community, however, is sparse (Myers-Lipton, 1998). Some studies focused on one classroom during a semester and did little to support the hypothesis that service-learning improves civic engagement (Myers-Lipton, 1998).

The Theoretical Underpinnings of this Study

Two theories provide a better understanding of the service-learning field and the potential outcomes that it is intended to address. The theories of experiential learning and social capital serve as applicable theories to the service-learning movement.

Experiential Learning

Experiential learning has been built upon the early works of Dewey, Lewin, and Piaget (Kolb, 1984). The impact of these authors will be briefly discussed as they relate to the creation of the experiential learning theory.

Dewey is one of early proponents of experiential learning. Dewey (1916/1966) believed that education that was not connected to the community and society outside of school was futile and "inapplicable to life" (p. 359) and that it was the connection between what is learned at school and what occurs outside of the school that gives *meaning* (Dewey, 1916/1966). Dewey (1899/1905) posited that when the school accepts the challenge to integrate the student into the community at large by "saturating him with the spirit of service and providing him with the instruments of self-direction" (p. 44), the school has the opportunity to teach civic awareness and participation. Thus, Dewey (1938) believed that concrete experience was a major component of learning.

Lewin, the founder of American social psychology, conducted research on group dynamics, known as the laboratory-training method and T-groups (Kolb, 1984). Lewin was interested in the way theory was integrated with active problem-solving (Kolb, 1984). In an attempt to create a new type of leadership and group-dynamics training, Lewin and his associates began experimenting with the dynamics of group discussion and decision-making in an environment where all of the participants were treated as peers (Kolb, 1984). After the sessions with the participants, researchers came together to discuss the events of the session and the participants' behaviors.

After several sessions, some of the participants asked to join the evening sessions with the researchers; Lewin agreed. During this session Lewin and his associates discovered that learning was ". . . best facilitated in an environment where there is dialectic tension and conflict between immediate, concrete experience and analytic detachment" (Kolb, 1984, p. 9). In this setting, perspectives could be challenged and offered to provide stimulation to the participants.

The dialogue that ensued was a combination of the *here and now* happenings of the concrete experience and the incorporation of outside information that influenced the discussion. Thus, it became a conflict between the *experience and theory*, which is ". . . a central dynamic in the process of experiential learning itself" (Kolb, 1984, p. 10). This conflict later became a common core in experiential education. It is the actual, personal experience of the learner that serves to open a ". . . process of inquiry and understanding" (Kolb, 1984, p. 11). It was Lewin who first proposed that learning occurs in a four-stage cycle that begins with a concrete experience to provide the opportunity for observation and reflection that guides new experiences (Kolb, 1984).

There are two primary aspects of Lewin's model: the *here and now concrete experience* and *feedback.* Lewin contended that the concrete, personal experience gives life and meaning to abstract concepts (Kolb, 1984). This experience is what gives the learner the opportunity to set a reference point for later testing (Kolb, 1984). The second aspect of Lewin's model, feedback borrowed from electrical engineering (Kolb, 1984). Lewin held that a feedback

loop would provide learners with a continuous process of actions and consequences (Kolb, 1984). Thus, the learners learn to reconsider their actions in terms of consequences and to create new ideas and questions that can be explored in the next concrete experience. Like Dewey, Lewin came to believe that the concrete experience was instrumental in learning processes, and it was these learning processes and the way that individuals process information that interested Piaget.

Piaget, a developmental psychologist and genetic epistemologist, focused on the cognitive-development processes of intelligence (Kolb, 1984). He was interested in the way children process and arrive at the answers to problems they are given (Kolb, 1984). Through this work Piaget began to believe that intelligence was shaped by experience, not through some innate characteristic, but as a result of the interaction that occurs between individuals and their environments (Kolb, 1984). Piaget's work has demonstrated that children have the ability to engage in abstract reasoning because of their personal interactions with ". . . the immediate concrete environment" (Kolb, 1984, p. 13).

Piaget constructed stages that he believed represented the manner in which children learn, ending with adolescence. However, other researchers have reported that learning continues into and throughout adulthood (Kolb, 1984). One such example is Kohlberg's study of moral development (Kolb, 1984). Perry, as reported in Kolb (1984), studied the way college students changed through their educational processes. He found that college students evolved through several systems of knowledge from absolutism toward relativism (Kolb, 1984). Perry

concluded that these stages of change are not concluded during the college years but may extend into later life (Kolb, 1984).

While other researchers and theorists have made contributions to the field of experiential learning, it is the works of Dewey, Lewin, and Piaget that have been the most influential for Kolb in his development of the model and theory of experiential learning (Kolb, 1984). Kolb along with Fry (1975), created the first model of experiential learning:

> The underlying insight of experiential learning is deceptively simple, namely that learning, change and growth are best facilitated by an integrated process that begins with (1) here-and-now experience followed by (2) collection of data and observations about that experience. The data are then (3) analyzed and the conclusions of this analysis are feedback to the actors in the experience for their use in the (4) modification of their behavior and choice of new experiences. (Kolb & Fry, 1975; 33-34)

Kolb and Fry (1975) demonstrated this model by using a learning circle based on Lewin's stages of learning as well as other concepts (Kolb, 1984; Smith, 2001; Sugarman,1985). The learning circle included concrete experiences, observations and reflection, the formation of abstract concepts, and testing in new environments (Atkinson & Murrell, 1988; Brooks-Harris & Stock-Ward, 1999; Kolb, Baker, & Jensen, 2002; Smith, 2001; Sugarman, 1985). Kolb and Fry (1975) contended that learning can begin at any point in the cycle and that it should be seen more as a continuous spiral (Smith, 2001). Service-learning fits well within this theoretical perspective.

Social Capital

Putnam (2000) in *Bowling Alone* explored many factors that he believed could have impacted the level to which individuals engage in their communities. He hypothesized about factors that could have contributed to an overall decrease of individuals' engagement within their communities, even though he did not come to any definitive conclusions. Putnam (2000) reviewed time studies that were conducted between 1965 and 1993 that demonstrated a downward trend in civic participation. Putnam (2000) stated that this decrease in civic participation occurred in all types of areas, including church attendance, league bowling, and overall civic participation. While Putnam (2000) contended that American participation in such activities as bowling alone is not the problem, it is indicative of a larger problem of individuals not engaging with others in their communities. Morgan and Streb (2001) noted a decrease in civic participation as evidenced by the decreasing numbers who go to the polls to vote.

Some authors have contended that a decrease in civic engagement leads to a decrease in social capital (Coleman, 1988; Hyman, 2002; Lin, 2001**;** Portes, 1998; Putnam, 1995). Coleman (1988) defined social capital as being embedded within relationships for the purpose of facilitating social action, and Hyman (2002) contended that social capital exists within social relationships and is purposeful. Lin (2001) defined social capital as an initial investment in relationships, with an intended outcome, i.e. obtaining an education for the intended outcome of increased income. Putnam (1995) held that social capital reinforces the networks and norms of relationships for the purpose of building social trust. Therefore, a

positive consequence of civic participation and social capital may be seen as an increased level of trust within the community.

All of the authors included in this discussion have agreed that social capital exists and is embedded within relationships. Therefore, if individuals are engaging less in their communities we could infer that there is a loss of relationships.

Portes (1998) presented three functions of social capital: a source of social control, a source of family support, and a source of benefits through extrafamilial networks. Portes (1998) believed that the first function of social capital is to maintain social control in a community, thereby decreasing the need for formalized control. Social control is in effect in a community when individuals are aware that their behaviors are being watched and monitored by others. An example of this type of social control occurs when children attend an event and their parents are not there, yet the children know that if they misbehave they will suffer the consequences of their behaviors. They will be corrected by a community member, or their parents will learn of their behaviors from a community member, so the children will suffer the consequences from their parents or from both the community and their parents. In an environment where this facet of social capital exists, individuals would not want to take the chance of getting into trouble or causing embarrassment to their families.

Portes' (1998) second function of social capital can occur in a community that has some social control; however, if a community is low on social control, the function of familial supports can make up for the loss. The supports of an

extended network of family and kin can serve to assist parents in raising their children. Portes (1998) contended that family support provides an important supportive function for individuals and prevents individuals from bearing the brunt of their responsibilities alone. The third function, extrafamilial support (Portes, 1998), is one of the most important. Many families do not live in close-knit neighborhoods with strong networks of related family members, and extrafamilial supports can fill this void. This is the network that has the potential to become *like family* in the nature of their reciprocal roles to help one another with the tasks of raising their families.

Social capital can bring many positive outcomes to a community (Putnam, 1993). Children reared in communities that are rich in social capital have a greater likelihood of finishing school. Employment opportunities, housing conditions, and the overall feeling of safety are better. It is just easier to live and work in communities that are rich in social capital (Putnam, 1993).

The definitions for social capital are linked to the ability to create relationships within communities (Coleman, 1988; Hyman, 2002; Lin, 2001; Portes, 1998; Putnam, 1995). Service-learning is an intervention that can be used to teach and train young adults the concepts of building relationships within their respective communities. Pateman (1970) contended that individuals learn to participate through participation. Service-learning provides students with the opportunity to participate with support and supervision through which they can reflect and respond to their community experiences.

Such practice can create what Battistoni (1997) identified as a *civic outcome,* in which individuals learn how to become partners in their communities, working with others to solve community problems. Such an outcome would be related to Lee University's goal to instill in its students the desire to become purposefully engaged in their communities – not only to provide relief work, but also to become active participants in problem-solving processes.

Service-Learning Definitions

As a result of these initiatives, service-learning was birthed on college campuses (Jacoby, 1996). The term *service-learning* was first used in the late 1960s by the Southern Regional Education Board (SREB), which was funded by federal dollars to create a "service-learning internship model" (Sigmon, 1979/ 1990). At the time the term was coined, service-learning was defined as "the integration of the accomplishment of a public task with conscious education growth" (Sigmon, 1979/1990, p. 56). Kendall (1990) reported that these early service-learning programs did not last, but the idea survived.

The definition created and presented in the first chapter of this project will be used to explore the usefulness of Kolb's model in a service-learning setting. In this section the definition will be summarized. Service-learning was defined as the process that seeks to link the academy to the community through credit-bearing service that is mutually beneficial to the student and the community through directed, organized service, enhanced academic learning, purposeful civic engagement, guided reflection, and Christian values.

Kolb's learning circle provides a good example of how that definition can be applied. The service experience is an actual concrete experience for each student that gives them the opportunity to *experience* an awareness of their immediate environments (Gish, 1990), and a basis for "observation and reflection" (Kolb & Fry, 1975, p. 34). This opportunity then leads students into the second phase of the learning circle: reflection. From the definition presented earlier, students should be guided in the reflection process in a manner that seeks to teach problem-solving, critical thinking, and faith-development. Such reflection encourages students to consider new options for dealing with their problems. Therefore, Kolb (1984) believed that reflection was a key component of the learning process. Reflection that is purposeful and guided is more likely to cause students to consider their own beliefs about the experience and to begin the formation of new ideas surrounding the issue with which they are working. Through this process, Gish (1990) contended that students would begin to create new ideas and concepts in order to contextualize their own experiences, actions, and observations.

Once new ideas have been created, students are able to enter the fourth phase of Kolb's model by testing their new ideas, which Gish (1990) called *active experimentation.* In this phase students should be encouraged to use their new ideas as a guide for dealing with problems in the real world. This need to try out new ideas in the real world leads to another concrete experience in which the cycle starts over again.

Research Relevant to the Outcomes of Service-Learning

Service-learning has been initiated to motivate young people to engage in their communities and encourage them to continue to provide service to their communities throughout their lives. Battistoni (1997) proposed two possible outcomes of service-learning: philanthropic and civic. He believed that philanthropic is a more altruistic form of service where individuals want to give something back to their communities because they are grateful for what they have. The civic outcome, he contended, focuses more on a partnership in which community members are involved in identifying their own needs. It is this type of partnership with the community that service-learning is seeking to create. Such experiences would guide individuals through the processes that Kolb and Fry (1975) have outlined in a way that benefits both individuals and the communities they helped. As Kolb and Fry (1975) and Kolb (1984) have indicated, this experience can create new concepts that individuals can continue testing through future concrete experiences in their communities. The manner by which individuals determine benefit can further be examined through the lens of the social and/or human capital.

Various researchers have sought to connect service-learning with a host of potential outcomes. Each study has attempted to explore the relationship of service-learning to predicted outcomes; however, each study differs in the concept and depth of the concept to measure. Civic engagement has been one of the most cited anticipated or potential outcomes of the service-learning experience, but not the only one. Both qualitative and quantitative studies have

reported such outcomes as attitude and personal development (McKenna &

Rizzo, 1999; Miller, 1994), civic attitudes and development (Moely, McFarland,

Miron, Mercer, & Ilustre, 2002; Moely, Mercer, Ilustre, Miron, & McFarland, 2002;

Myers-Lipton, 1998), diversity awareness (Moely, McFarland, Miron, Mercer, &

Ilustre, 2002; Moely, Mercer, Ilustre, Miron, & McFarland, 2002), moral

development (Batchelder & Root, 1994; Gibbs, Arnold, Morgan, Schwartz,

Gavaghan, & Tappan, 1984; Liddell, Halpin, & Halpin, 1992), motives and values

of service (Clary, Snyder, Ridge, Stukas, Copeland, Haugen, & Miene, 1998;

Parker-Gwin & Mabry, 1998), social responsibility (Kendrick, 1996; Olney &

Grande, 1995), student development (Astin & Sax, 1998), and critical thinking

(Schmiede, 1995).

Over the years, service-learning research has shown positive outcomes

for students in a variety of areas (Eyler, Giles, Stenson, & Gray, 2001). Some

outcomes, such as civic attitudes, have been noted in several different studies

while other outcomes, such as spiritual growth, are more limited (Furco, 2003).

Previous research was examined as it related to service-learning and its

applicability to the program and potential outcomes at Lee University. Key

components in the Lee program include enhanced academic learning, purposeful

civic engagement, guided reflection, and Christian values.

In an attempt to further narrow the review, criteria were established for

exclusion for this study: high school studies (Metz, McLellan, & Youniss, 2003;

Morgan & Streb, 2001; Rutter & Newmann, 1989; Shelton & McAdams, 1990;

Waldstein & Reiher; 2001; Yates & Youniss, 1996; Yates & Youniss, 1998),

qualitative studies (Andolina, Jenkins, Zukin, & Keeter, 2003; Minter &

Schweingruber, 1996; Smith, 1994), studies that were not relevant to the

outcomes at Lee University (Cnaan & Goldberg-Glenn, 1991; Diaz, Furco, &

Yamada, 1999; Forsyth, 1980; Gallini & Moely, 2003; Gibbs et al., 1984; Hunter

& Brisbin, 2000; Liddell, Halpin, & Halpin, 1992; Myers-Lipton, 1998; Olney &

Grande, 1995; Perry, 1996; Perry, 1997; Sherrod, 2003; Springer, Terenzini,

Pascarella, & Nora, 1995), studies that did not present a reliability analysis (Giles

& Eyler, 1994; Kendrick, 1996; Markus, Howard, & King, 1993; Miller, 1994), and

studies that used a combination of qualitative and quantitative methods

(Batchelder & Root, 1994; McKenna & Rizzo, 1999; Palmer & Standerfer, 2004;

Rockquemore & Schaffer, 2000; Strage, 2000) were excluded from this review.

Copyrighted instruments were reviewed in a summary provided by Bringle,

Phillips, and Hudson (2004) and were excluded from further review because

other instruments that could provide the same or similar measurements were

readily available for use (Carlo, 1997; Gibbs et al., 1984; Gordon, 1960;

Heppner, 1988; Rest, 1990). One of the primary purposes of this literature review

is to identify the instruments that have subscales with noted reliability that can be

used to measure the stated outcomes of the Lee University program. A second

purpose of this review is to identify the specific subscales of the reviewed

instruments that can be used to create a multidimensional instrument that will be

used to measure selected outcomes of the service-learning program at Lee

University.

Selection Criteria

In selecting studies for review, several factors were taken into consideration. **First**, only published studies with college students were included, and **second**, only those that included their instruments with reliable subscales with coefficient alphas of at least .70. **Third**, the items in the instruments were reviewed for their wording and the number of items in the subscales, looking for subscales with Likert (1932) formats. Finally, given that the purpose of this review is to develop an instrument that can be used to measure the outcomes of service-learning at Lee University, only studies that directly relate to the definition of the Lee University program were included. These criteria resulted in eight studies that will be discussed first in terms of the constructs/outcomes of interest.

Using subscales that have been previously validated will make it possible to re-test the instrument's reliability. According to Carmines and Zeller (1979), a reliable instrument will produce the same results each time it is administered. The use of the coefficient alpha will assist in determining the internal-consistency reliability (Spector, 1992). The coefficient alpha's value lies between 0 and 1.0, and it has been suggested that a reliability coefficient of at least .80 be used in order to demonstrate a sufficient level of reliability (Nunnally & Bernstein, 1994).

Validity is also an important component of this process. If the instrument is valid, it will "measure its intended construct" (Bonate, 2000; Carmines & Zeller, 1979; Spector, 1992, p. 9). The degree of validity will depend upon the level of correspondence between the instrument and the criteria (Carmines & Zeller, 1979). While face validity is a much less rigorous form of validity testing, the

instrument should possess face validity in that it appears on face value to measure the defined construct (Bonate, 2000; Faul, 1995; Rubin & Babbie, 2001). The subscale items were reviewed following Spector's (1992) guidelines that the items be ". . . clear, concise, unambiguous, and as concrete as possible" (p. 23). These guidelines will help to ensure that each item belongs to only one subscale (Spector, 1992).

Each subscale has been reviewed as to the number of items included. While some have suggested that the reliability of a scale can increase with length, it has been noted that having too many items results in the law of diminishing returns (Faul & van Zyl, 2004). It has been suggested that gains in reliability are less with 11 to 20 items per subscale than with 1 – 10 items per subscale (Faul, 1995; Faul & van Zyl, 2004).

All of the subscales under consideration for inclusion have *category partition scaling* or Likert (1932) scaling. This type of scaling is frequently used to measure opinions, beliefs, and attitudes (DeVillis, 1991). Spector (1992) suggested that the sensitivity of the measurement can be increased by increasing the number of response choices; however, "a point of diminishing returns can be quickly reached" (p. 21). Faul and van Zyl (2004) stated that "the magic number of categories is 7 ± 2. Faul (1995) suggested that ". . . it would be best to use 7 categories, but it is possible to go as low as 5 or as high as 9" (p. 53). This study will use seven categories that are anchored at each end with opposing adjectives – often called semantic differential scales.

Review of Studies and Instruments Related to Service-learning

Six instruments are reviewed in this section: (a) the Civic Attitudes and Skills Questionnaire (CASQ, Moely, Mercer et al., 2002), (b) the Service-Learning Course Survey (SSLCS, Wang, Ye, Jackson, Rodgers, & Jones, 2005), (c) Pedagogy and Civic Education Outcomes (Parker-Gwin & Mabry, 1998), (d) Student Outcomes by Pedagogical Variations (Mabry, 1998), (e) the Volunteer Functions Inventory (Clary et al., 1998), and (f) the Community Service Attitudes Scale (Shiarella, McCarthy, & Tucker, 2000).

Each of these instruments was considered due to their applicability to the program at Lee University. The decision to gather student background information and characteristics was informed by these studies. Variables that relate to the educational process of service-learning and included on the new instrument were also as a result of this review. The subscales chosen from this review pertained to attitude and knowledge variables. All three of these categories of variables: Student Background and Other Characteristics, Educational Process, and Attitude and Knowledge, are conceptualized as independent variables in this study.

The Civic Attitudes and Skills Questionnaire (CASQ)

Moely, Mercer, Ilustre, Miron, and McFarland (2002) used factor analyses to "define scales measuring students' attitudes and self-evaluations that may be influenced by a service-learning experience" (p. 17). This study was conducted at two different times during the 1999-2000 school year (N = 761) and the fall semester of 2000 (N = 725), and resulted in the development of the *Civic*

Attitudes and Skills Questionnaire (Moely, Mercer et al., 2002). The final CASQ consisted of six subscales:

1. ***Civic Action*** consists of eight items measuring the student's intentions or plans for future involvement in the community;

2. ***Interpersonal and Problem-Solving Skills*** has 12 items that measure the student's ability to communicate and work effectively with others;

3. ***Political Awareness*** uses six items to measure the student's awareness and knowledge of current and national politics;

4. ***Leadership Skills*** consists of five items that measure the student's ability to guide others;

5. ***Social Justice Attitudes*** with eight items, measures attitudes concerning the causes of poverty and others' misfortune, and how social problems can be solved;

6. ***Diversity Attitudes*** used five items to measure individuals' appreciation and value of diversity, and their interest in relating to culturally different people.

The Cronbach alphas ranged from .70 to .86 (T1 [pretest]) and .68 to .88 (T2 [posttest]) (Moely, McFarland et al., 2002; Moely, Mercer et al., 2002).

In addition to the CASQ, several other scales were used to measure the impact of social desirability on students' responses. The authors used 12 items from the Crandall, Crandall, and Katkovsky (1965) and Crowne and Marlowe (1960) social desirability scales (Moely, McFarland et al., 2002). They did not identify the specific items used from the Social Desirability scales but did report

the coefficient alpha to be .70 (T1) and .72 (T2) (Moely, McFarland et al., 2002).

The authors also used 11 items from previous research on motivational beliefs to

examine "the extent to which students saw their academic course as useful and

valuable in their own lives (for future academics, career development, or

personal growth)" (p. 18); six items that asked students to identify the usefulness

and importance of the course; and two items that gave students the opportunity

to identify their levels of satisfaction with the service-learning experiences as they

related to "civic service, leadership, and career preparation" (Moely, Mercer et

al., 2002; p. 20). Coefficient alphas were .81 (T1) and .82 (T2). Moely, Mercer et

al. (2002) used seven items that came from previous research on motivational

beliefs to measure the extent to which students "endorsed mastery as a goal in

college academics" (p. 20). The authors reported that this scale was only used in

the first sample, with a coefficient alpha of .81.

Questionnaires in the Moely, Mercer et al. (2002) study were given to

students at the beginning of the semester. The items from the following

instruments were arranged into a single questionnaire randomly, and students

responded to the items using 5-point Likert type scales from 1 (completely

disagree) to 5 (agree completely): CASQ, Modern Racism Scale (MRS), Value of

College, Mastery Orientation, and Social Desirability (Moely, Mercer et al., 2002).

The students' participation was voluntary, and no names were given on the

questionnaires (Moely, Mercer et al., 2002).

This study resulted in the validation of the CASQ, which originated with 84

items but was reduced to a final version with 45 items in six subscales (Moely,

Mercer et al., 2002). Principal component analysis and varimax rotation with Kaiser normalization were conducted on both samples, resulting in six factors that accounted for approximately 40% of the variance in the scores (Moely, Mercer et al., 2002). Social desirability was shown to be positively related to three subscales: Civic Action, Interpersonal and Problem-Solving Skills, and Diversity Attitudes. The remainder of the subscales were not significantly related to Social Desirability (Moely, Mercer et al., 2002). A number of students from each sample did not engage in service-learning (n = 212 for T1; n = 221 for T2). These students' scores were used to estimate the test-retest stability of the measures through the use of a pretest/posttest format. The authors used partial correlations to hold constant the Social Desirability responses as measured at the pretest. Partial correlations for the six subscales (Pearson *r*) for the first sample ranged from .56 to .81 and from .62 to .73 in the second sample (Moely, Mercer et al., 2002).

The authors were also interested in how much the mean scores on the CASQ would change with repeated testing. Moely, Mercer et al. (2002) hypothesized that the students who had not been involved in service-learning would show less change over the course of a semester than the students who had been engaged in service-learning. The mean scores of the non-service-learning students were compared to the second test that was administered three months later (Moely, Mercer et al., 2002). Using an analysis of covariance to control for Social Desirability, there were no significant differences found

38

between the pretest (T1) and posttest (T2) for either sample (Moely, Mercer et al., 2002).

The six subscales of the CASQ showed some interrelationships even though factor analysis identified them as separate scales (Moely, Mercer et al., 2002). The subscale of Civic Action was "positively correlated with all other CASQ scales" (p. 21), which, the authors suggested, could indicate that all of the attitudes measured may contribute to students' future engagement in civic action (Moely, Mercer et al., 2002). The partial correlations of the six subscales on both samples ranged from .31 to .52 (Moely, Mercer et al., 2002).

The Modern Racism Scale (MRS) was moderately correlated with CASQ's subscales Social Justice (r = -.57, T1; r = -.63, T2); Diversity Attitudes (r = -.39, at T1; r = -.44 at T2); Civic Action (r = -.32 at T1; r = -.31 at T2); and Interpersonal and Problem-solving Skills (r = -.78 at T1; r = -.23 at T2). The MRS did not consistently correlate with the CASQ's Political Awareness or the Leadership Skills subscales (Moely, Mercer et al., 2002). The items used to measure the Value of College and Mastery Orientation were positively related to all subscales of the CASQ, and women scored significantly higher on the CASQ than men at both T1 and T2 (Moely, Mercer et. al, 2002).

Students estimated the number of hours they had spent in community service or service-learning activities while in high school, college, or through religious volunteer activities (Moely, McFarland et al, 2002). The authors then calculated the total service hours by summing the values reported. To compensate for a few students who reported a large number of hours, which

39

caused the distribution to skew, the authors transformed the data into a five-point

scale with the values 1-5 to represent from the lowest 20% to the highest 20% of

the distribution. By transforming the values, the distribution of hours was then

shown as a nearly normal distribution. The total number of hours reported was

positively related to the subscale for Civic Action for both samples (partial r = .35

and .29, p < .001, for T1 and T2, respectively), and age, academic rank, GPA,

and educational goals were independent of the CASQ. The only difference found

in the group comparisons was for the subscale of Political Awareness, with

students who were majoring in the Social Sciences showing the highest scores

(Moely, Mercer et al., 2002).

A second study was conducted by Moely, McFarland, Miron, Mercer, and

Ilustre (2002) to examine "service-learning's influence on college students' self-

reports of such attitudes and self-evaluations" (p. 18). This study included a

comparison group of students who were enrolled in the same or similar classes

but did not participate in service-learning (Moely, McFarland et al., 2002). The

service-learning students participated in the service-learning activities during

approximately 10 weeks of the semester and spent approximately two to four

hours each week at their community sites. The study included 541 students who

were enrolled in 26 courses requiring service-learning and another group of

students who were in four courses that did not include service-learning in the

curriculum. Thus, the total number at pre-test was 725, and the retention rate

was 75% for the posttest (Moely, McFarland et al., 2002).

All students were administered the CASQ to assess their self-evaluations (Moely, McFarland et al., 2002) and four newly developed satisfaction subscales: Course Value, Learning about Academic Field, Learning about the Community, and Contribution to the Community. The first three subscales were given at both the pretest and posttest, and the fourth subscale, Contribution to the Community, was administered at the posttest only. Reliability coefficients for these subscales ranged from .74 to .89 (T1) and from .77 to .92 at T2 (Moely, McFarland et al., 2002).

As in the previous study by these authors, 12 items were used from Crandall, Crandall, and Katkovsky (1965) and Crowne and Marlowe (1960), with coefficient alphas of .75 (T1) and .69 (T2) ($N = 540$ for both samples) (Moely, McFarland et al., 2002). Students were given the questionnaire at the beginning and end of the semester. The items from the CASQ, Social Desirability Scale, and the Course Satisfaction Scale were randomly listed in one questionnaire (Moely, McFarland et al., 2002). The students' participation was voluntary, although students who participated had the option of entering their names in a lottery to win gift certificates to local restaurants (Moely, McFarland et al., 2002).

The authors reported that students who were involved in the service-learning classes were enhanced by the experience in the subscales of Civic Action, Interpersonal and Problem-Solving Skills, Leadership Skills, Political Awareness, and Social Justice Attitudes. However, they did not show personal enhancement on the Diversity Attitudes subscale (Moely, McFarland et al., 2002). Using an Analyses of Covariance for the pretest and post-test scores and

controlling for social desirability, the following subscales yielded significant or near significant increases from pretests to posttests: Interpersonal and Problem-Solving Skills ($p < .01$), Leadership ($p < .05$), Political Awareness ($p = .085$), Social Justice ($p < .05$), and Civic Action ($p < .001$) (Moely, McFarland et al., 2002). Students who were involved in service-learning maintained more positive attitudes throughout the semester on the satisfaction measures than those who were not involved in service-learning: Course Value ($p < .05$); Learning about Academic Fields ($p < .01$), and Learning about the Community ($p < .001$) (Moely, McFarland et al., 2002).

Students who were not involved in service-learning showed a decrease on each scale while the service-learning students had shown an increase on the subscales of Course Value and Learning about the Community with only a slight decrease in Learning about the Academic Field (Moely, McFarland et al,, 2002). The same authors also reported that the students' evaluations of the courses were a predictor of four of the CASQ subscales and accounted for 15 – 19% of the variance, and students who had noted an interest in Diversity also noted positive feelings about their Contribution to the Community (Moely, McFarland et al., 2002).

The authors concluded that the more value students placed on service-learning, the more likely they were to demonstrate positive attitudes toward community involvement and issues within the community. Thus, this study overcame some of the weaknesses in other studies by looking at a variety of students who were enrolled in classes across the curriculum. A limitation of the

study is that it only included students over one semester and did not provide information on the lasting impact of service-learning.

The Service-Learning Course Survey (SSLCS)

The Service-Learning Course Survey (Wang, Ye, Jackson, Rodgers, & Jones, 2005) is a 30-item, multi-dimensional questionnaire that consists of four subscales:

1. ***Personal Competence*** was created with six items to measure students' self-confidence, leadership and communication skills;

2. ***Interpersonal Relationship*** included nine items that were taken from the *Student Development Task and Life Style Inventory* by Winston and Miller (1987);

3. ***Charitable Responsibility*** utilized eight items to measure students' willingness to help others for altruistic reasons; and

4. ***Social Justice Responsibility*** used seven items to measure students' awareness of social injustice issues and a commitment to work for social change (Wang et al., 2005).

This study was conducted to validate the instrument via factor analyses to examine the "invariance in the factorial structure across gender" (Wang et al., 2005, p. 2).

The initial questionnaire of 33, 7-point Likert type items was administered to 487 students who were enrolled in 22 different service-learning courses at Ohio State University from Winter 2002 to Winter 2003 (Wang et al., 2005). The survey was administered at two points in time, at the first class session (Pre-

course [T1]) and the last class session (Post-course [T2]). Confirmatory Factor Analysis was used to examine the items and their relationship to the corresponding factors. Three of the items were discarded due to their low correlations with the instrument. The final instrument consisted of 30 items, with Cronbach alphas ranging from .698 to .847 (T1) and .683 to .885 (T2) (Wang et al., 2002).

Utilizing a *t*-test to compare the differences between the pre-course and post-course scores, these authors reported that students were positively impacted by the service-learning experience on the subscales of Personal Competence, Charitable Responsibility, and Social Justice Responsibility (Wang et al., 2005). They also reported that the subscale of Interpersonal Relationships had failed to demonstrate a significant change. Wang et al. (2005) noted that previous studies that used this subscale had also failed to measure a significant change. Therefore, they concluded that the subscale of Interpersonal Relationships may not be an effective measure of students' interpersonal relationship development as a result of service-learning (Wang et al., 2005). A limitation of this study is that the researchers did not use a control group to explore whether the changes noted were, in fact, a result of the service-learning experience (Wang et al., 2005).

Service-Learning as Pedagogy and Civic Education

Parker-Gwin and Mabry (1998) examined service-learning as a pedagogy and as civic education. They collected data from students who were enrolled in 21 courses that had a service-learning component during the spring semester of

44

1997 at Virginia Tech (Parker-Gwin & Mabry, 1998). The instrument sought to measure attitude changes in civic outcomes and the impact of the service activities on academic outcomes (Parker-Gwin & Mabry, 1998). Students participated in 1of 3 types of service-learning: Placement-service optional, Placement-service required, or Consulting group (Parker-Gwin & Mabry, 1998).

In the Placement-service *optional* group, the service component was optional for the class requirements, but it was required for those in the placement-service *required* group. The Consulting group was made up of the entire class. Students were divided into teams and assigned community projects to work on in groups (Parker-Gwin & Mabry, 1998).

This study used a pretest/posttest format, or pre-course (T1) and post-course (T2). The total number of students in the 21 courses was 557, and of these 557, 525 completed the pre-course questionnaire at the beginning of the semester (Parker-Gwin & Mabry, 1998). Twelve courses used the placement model with optional service; four courses used the placement model with required service, and the students in five courses comprised the consulting group (Parker-Gwin & Mabry, 1998). At the end of the semester, the questionnaire was administered again, and 260 students (50%) completed both the pre-course and the post-course questionnaires (Parker-Gwin & Mabry, 1998). Demographics included gender, age, year in school, prior volunteer participation, grade point average, and frequency of religious service attendance (Parker-Gwin & Mabry, 1998).

The majority of the service-learners were white (82%), compared to the total population of the university (90%) (Parker-Gwin & Mabry, 1998). Service-learners were not different in their religious affiliations or the frequency they attended religious services from other students (Parker-Gwin & Mabry, 1998). However, the service-learners varied from the overall university population on gender with 69% of the service-learners being women compared with 42% of all students in the university (Parker-Gwin & Mabry, 1998).

The students who participated in classes that were of the Placement–service *required* classes showed a significant decline on the mean of the Importance of Community Service by the end of the semester. The students who participated in classes that were Placement-service *optional* showed a significant decline in the mean on their Service-Oriented Motives for Service by the end of the semester. Thus, contrary to the authors' expectations, all students had less favorable attitudes toward community service at the end of the semester (Parker-Gwin & Mabry, 1998). In a comparison of the service-learning students in the three types of courses on their civic outcomes and the motives for participating in service-learning the service-learning students did not significantly differ on their civic outcomes nor their motives for participating in service-learning (Parker-Gwin & Mabry, 1998).

At the pre-course administration, students in both placement models (service required/optional) had significantly more previous volunteer experience than the students in the consulting group ($p < .01$) (Parker-Gwin & Mabry, 1998). Students in all three models differed significantly on the subscales of Personal

Social Responsibility ($p < .01$) and Importance of Community Service ($p < .01$). Students in the service required courses had the highest means on both of these subscales. On the Civic Awareness subscale, students in the service optional courses had the highest mean. Students in both Placement models had significantly higher means on the Service Oriented Motives for Community Service subscale than those in the Consulting courses. The authors contended that these differences may be related to the students' self-selection of the courses and their own prior service experiences (Parker-Gwin & Mabry, 1998).

On the post-course outcomes, while the differences diminished, students in all of the groups continue to show a significant difference on the Personal Social Responsibility subscale ($p < .05$). On the Self-Oriented Motives for Service, students in the required service courses and the consulting group model had significantly higher means than the students in the optional service courses. The authors reported that none of the groups differed on the Importance of Community Service, Civic Awareness, or Service-oriented Motives subscale (Parker-Gwin & Mabry, 1998).

To assess academic outcomes, students were asked to use a 5-point Likert scale to rank their own skills and abilities compared to those of other students on analytic and problem-solving skills and their ability to think critically (Parker-Gwin & Mabry, 1998). At the pre-course administration, students in the placement model – with optional service had significantly higher means on their self-ratings of analytic and problem-solving skills. Students in the placement model – optional service had significantly higher means than students in the

placement model – required service in their own self-ratings of their ability to think critically (Parker-Gwin & Mabry, 1998). Time spent in service-learning activities ranged from 15 to 25 hours, with the Consulting group spending the most hours per semester with a mean of 21.5 hours (Parker-Gwin & Mabry, 1998). There were significant differences in the extent to which reflection was required as part of the service-learning experience with the service required model spending more time in reflection with a mean of 1.80 hours per semester (Parker-Gwin & Mabry, 1998).

At the post-course administration, students in the Consulting group showed an increase in the mean of the Analytic and Problem-Solving Skills subscale, but the students in the placement model – optional service model continued to have a higher mean than the students in the placement model – service required model (Parker-Gwin & Mabry, 1998). Students enrolled in the Consulting model and the service *optional* courses had significantly higher means on their self-ratings of their ability to think critically than the students in the service *required* courses (Parker-Gwin & Mabry, 1998). Means on the Awareness of Social Problems subscales were higher for students in both types of Placement model courses than for the students in the Consulting model courses.

These authors found that the impact on Civic Attitudes was mixed but that result may be related to the fact that one semester may not be sufficiently long enough to make lasting attitudinal changes. Parker-Gwin and Mabry (1998) reported that students who were in the courses that required the most reflection

48

were more likely to report that the service had deepened their interest in the course, thus pointing to the importance of using reflection activities as part of the service-learning experience. These authors concluded that service-learning has the potential to help students explore the social and structural issues that may serve to compound social problems (Parker-Gwin & Mabry, 1998).

Outcomes of Service-learning

In a separate study, Mabry (1998) examined the variations in the outcomes of service-learning. Previous studies have reported positive civic outcomes, enhanced moral development, and improvement in social responsibility and civic values in students who have participated in service-learning, yet there is little known about the methods or practices that contribute to these positive outcomes (Mabry, 1998). Outcomes regarding academic improvement as a result of service-learning have been less conclusive, and Mabry (1998) contended that the many different types of methods used to employ service-learning may be to blame. Therefore, identifying methods that lead to greater improvement in students may be paramount to gathering more consistent data.

This study was conducted at a large mid-Atlantic state university during the fall semester of 1997. Twenty-three courses in which service-learning was being used were surveyed with a pre-course (T1) and post-course (T2) survey. Participation was voluntary but strongly encouraged. The pre-course survey was completed by 232 students. Of these, 40 students dropped the course, and 47 of the students did not complete the post-course survey, resulting in a sample of

144 (75%) students who completed both the pre-course and post-course surveys.

Students in the study were primarily white (84%) and female (68%) with a mean age of 20. A majority of the students had participated in community service at least once in the past (96%), and 35% had volunteered regularly, at least several times a month, and 79% did not have any prior service-learning experience. The courses were not listed as service-learning courses and students had the option to drop the class once they learned of the service-learning requirements. However, most of the classes were offered in disciplines such as human resources and education in which students who were already interested in their communities might be enrolled (Mabry, 1998).

The independent variables were service-learning hours, contact with service beneficiaries, frequency of reflection, types of reflection (written or verbal), and sociodemographic characteristics (Mabry, 1998). The dependent variables for the pre-course survey were Personal Social Values and Civic Attitudes. The dependent variables for the post-course survey included the subscales above as well as the Course Impact on Civic Attitudes and Academic Benefit of Service-Learning subscales (Mabry, 1998).

The initial instrument had 12 items to measure the student's personal social values and civic attitudes towards community service (Mabry, 1998). Factor analysis was used to examine the items and their relationship to the corresponding factors resulting in two subscales: Personal Social Values and Civic Attitudes. The final subscales were left with five items each with pre-course

50

Cronbach alphas of .61 (Personal Social Values) and .80 (Civic Attitudes) and post-course alphas of .78 and .81 for Personal Social Values and Civic Attitudes respectively.

The post-course survey included two additional subscales: Course Impact on Civic Attitudes and Academic Benefit of Service-learning. The Course Impact subscale measured students' perceptions of the impact that service-learning had on their own civic attitudes and had a Cronbach alpha of .92. The Academic Benefit subscale measured the students' perceptions of their own academic benefit as a result of having participated in service-learning, and the Cronbach alpha was reported to be .78. Mabry (1998) explored the relationship of the sociodemographic variables and community service experience to the differences in post-course scores on the Personal Social Values and Civic Attitudes subscales and concluded that there were no significant interactions between the pre-course and post-course scores on these subscales.

Mabry (1998) reported that there had been no differences by gender or race in their prior volunteer experiences. At the pre-course administration, women, whites, and those with pre-course volunteer experience scored higher on both the Social Responsibility and Civic Attitudes subscales. The post-course administration reported no differences and noted that all participants had shown improvement in their Civic Attitudes while students with some previous volunteer experience showed a modest positive change in their personal social values (Mabry, 1998).

This study concluded that the amount of time spent in service-learning activities, the time spent with beneficiaries, and reflection all impacted the outcomes and suggested that students need to spend at least 15 hours per semester with the service in order to have enough exposure to the beneficiaries of the service as well as the issues the service seeks to address to obtain the most favorable outcomes. Reflection was noted to be most effective when it occurred weekly, to provide students the opportunity to examine the service in light of the course material. Written reflection provided students the opportunity to connect their experiences to the course content and to put them in perspective which led to greater moral and civic development, while reflection that occurred in class had a greater impact on positive academic outcomes for the course (Mabry, 1998). Discussions about the service with their peers, instructors, and site supervisors had some benefit for students, and Mabry (1998) suggested that this type of reflection should be incorporated into the curriculum to enhance the positive outcomes of service-learning.

A limitation of the study is that the courses that integrated service-learning into their curriculum were courses that would naturally have a community focus. The study could have been strengthened by being conducted across many different disciplines, regardless of their focus. However, this study offers a good review of the types of independent and dependent variables that could be considered in future studies of service-learning programs.

Volunteer Functions Inventory (VFI)

Clary et al. (1998) developed an instrument to examine the motivations that underlie volunteer behavior. They hypothesized that there were six potential functions that were served by volunteering: Values, Understanding, Social, Career, Protective, and Enhancement. Bringle, Phillips, and Hudson (2004) summarized each of these subscales and their functions:

1. **Values**: the degree to which volunteering expresses altruistic and humanitarian concern for others;

2. **Understanding***:* the degree to which volunteering provides opportunities for new learning experiences and to use knowledge, skills and abilities;

3. **Social***:* the degree to which volunteering allows the person to be with friends and receive the recognition of others;

4. **Career**: the degree to which volunteering allows the person to avoid guilt and better cope with personal problems; and

5. **Enhancement***:* the degree to which volunteering promotes an individual's sense of personal growth and positive feelings. (p. 36)

Clary et al. (1998) conducted six studies with the VFI, five of which are appropriate to review here. The **first** study examined the motivations for volunteering and the psychometric properties of the VFI. The **second** was a cross validation study that again used factor analyses. The **third** study examined the temporal stability of the VFI to examine the test-retest correlation for the instrument. The **fourth** was a study of matching motivations with persuasive

communications; the **fifth** was a study to predict volunteers' satisfaction and the **sixth** was a study to predict an individual's commitment to volunteerism (Clary et al., 1998). Five of the six studies are reviewed here as they relate to this research using the study number assigned to them by the original authors.

The first study administered the 30 item instrument to adult volunteers at five organizations in the Minneapolis, St. Paul metropolitan areas by each organization's director of volunteer services (N = 467; 321 females and 144 males, 2 unspecified gender). The mean age was 40.9 years (SD = 13.38), the mean length of volunteer service was 68.2 months (SD = 87.08); 89% reported education beyond high school, and 60% reported at least an undergraduate degree (Clary et al., 1998).

A principal component analysis identified six factors that had eigenvalues greater than 1.0. To further substantiate that there were six factors on which Clary et al. (1998) computed a principal-axis factor analysis. The authors reported that the majority of the items loaded on the intended factor; the exception was item 29 from the Enhancement subscale, which loaded on the Understanding subscale (Clary et al., 1998). To confirm their analysis that this instrument consisted of six subscales, these authors conducted principal-axis factoring set to a five-factor and again at a seven-factor solution. Both of these analyses confirmed that this was indeed a six-factor subscale, as the authors had previously discovered with Cronbach coefficient alphas ranging from .80 to .89 (Clary et al., 1998). Based on these analyses, the authors concluded that the VFI was indeed a valid measure of volunteers' motivations.

In the second study, Clary et al. (1998) completed a cross validation of the VFI. The researchers were interested in the ability of the VFI to measure the motivations to volunteer in a group in which it was assumed that their motivations were *less salient* and were more diverse in terms of age and volunteer experience than their first study (Clary et al., 1998).

The VFI was administered to students at the University of Minnesota Twin Cities Campus who were enrolled in an introductory psychology course that reported a mean age of 21.25 (*SD* = 4.99), and were almost equal in gender (269 were female, 265 were male, and 1 did not specify a gender) (Clary et al., 1998). The researchers asked questions about the students' previous volunteer experiences, specifically asking for the names of their agencies and the length of service (Clary et al., 1998). Students with previous volunteer experience were asked to respond to the items by indicating how important each of the items was for volunteering, and those with no previous volunteer experience were asked to respond to the items by indicating how important each item would be for volunteering (Clary et al., 1998). Using PCA, the authors confirmed that six factors were present, as in the first study (Clary et al., 1998). Coefficient alphas for the subscales ranged from .82 to .85, indicating good reliability.

In the third study the authors examined the test-retest reliability of the VFI. For this study, participants were enrolled in psychology courses at the University of Minnesota Twin Cities Campus (N = 65; 41 females; 24 males) (Clary et al., 1998). The instrument was given at two points during the quarter; T1 was administered early in the quarter, and T2 was administered 4 weeks later.

The students reported a mean age of 25.34 (*SD* = 7.16). Some students were currently participating in volunteer service (*n* = 13), some had previously volunteered (*n* = 27), and some had never participated in volunteer service before (*n* = 25) (Clary et al., 1998). The test-retest correlations ranged from .64 to .78 and all had significant *p* values at the *p* < .001 level (Clary et al., 1998). The authors concluded that this indicated that the subscales of the VFI were stable over a four week period (Clary et al., 1998).

The fourth study did not relate to this current study and is not included in this discussion. **The fifth study** assessed older volunteers' satisfaction. While satisfaction outcomes are important for an agency wishing to retain volunteers, they can also be an important measure that can be used to predict future outcome scores for students. This study is not explored in depth in this research but summarized in order to further the discussion on the importance of satisfaction in retaining and keeping volunteers for the future.

The study included a sample of 61 older volunteers with a mean age of 70, who were volunteering in a hospital in western central Indiana (25 men and 36 women) (Clary et al., 1998). Volunteers reported working at the hospital 4.5 hours per week on average and had served an average of 12 weeks (Clary et al., 1998). Participants completed the VFI as well as other instruments and provided basic demographic data.

Approximately 16 weeks later, each participant received a follow-up questionnaire that had items relevant to the benefits and satisfaction of being a volunteer and the nature and duration of the volunteer services (Clary et al.,

1998). Volunteers who scored higher on the subscales related to the function and benefits of service also rated the volunteer work as more satisfying than those who scored lower on the subscales of function and benefit (Clary et al., 1998).

The sixth study sought to replicate the fifth study with a group of college students; the researchers wanted to look at the motivations and benefits of service as a predictor of satisfaction with service. They hypothesized that volunteers who were more satisfied with their volunteer experiences would be more likely to report an intention to continue working as a volunteer in the short- and long-term future (Clary et al., 1998).

The participants in this study were undergraduate business students at the University of St. Thomas in St. Paul, Minnesota (177 females, 198 males), who were required to complete 40 hours of service, at a site of their own choosing during the semester (Clary et al., 1998). Students were administered the VFI and several attitudinal instruments and were asked to provide some demographic information at the first class session. At the end of the semester, the same students were asked to complete follow-up surveys that asked about their perceptions of the benefits of service, their personal satisfaction with the service activity, and their intentions to continue as volunteers (Clary et al., 1998). The students who perceived that they had received benefits relevant to their motives of volunteering were more satisfied with the volunteer activity, and students who were more satisfied with their service activities were more likely to report an intention to continue volunteering in the future (Clary et al., 1998).

The VFI is an instrument that has been validated and is ready to be used to measure the changes in attitudes that occur as a result of the service-learning experience. Not all of the subscales are relevant to the current Lee University study; however, the following subscales are related and were previously summarized by Bringle, Phillips, and Hudson (2004):

1. *Values* has five items to measure the degree to which volunteering expresses altruistic and humanitarian concern for others (p. 36), which has been renamed Motivation for Service; and

2. *Understanding* subscale consists of five items to measure the degree to which volunteering provides opportunities for new learning experiences and to use knowledge, skills and abilities (p. 36), which has been renamed Personal Enrichment.

Cronbach alphas reported on these three subscales for studies 1 and 2 ranged from .80 to .84 (Study 1), and .82 to .85 (Study 2) (Clary et al., 1998). Cronbach alphas for the other studies were not reported.

Community Service Attitudes Scale (CSAS)

Shiarella, McCarthy, and Tucker (2000) developed an instrument that was based upon Schwartz's (1977) model of helping behaviors. Shiarella, McCarthy, and Tucker (2000) reported that Schwartz's (1977) model consisted of four sequential phases in the helping process: (a) Activation Steps: Perception of a need to respond, (b) Obligation step: Moral obligation to respond, (c) Defense steps: Reassessment of potential responses, and (d) Response step: Engage in helping behavior. While Schwartz (1977) described and referred to helping as a

one-time event, these authors restated helping as more of an ongoing process (Shiarella, McCarthy, & Tucker, 2000).

This study presented the development and validation of the CSAS in order to measure the attitudes of college students toward community service (Shiarella, McCarthy, & Tucker, 2000). Principal component analysis was used to explore the psychometric properties of the CSAS.

This project was conducted at a Western university in the spring of 1997 (T1) (N = 437) and fall of 1998 (T2) (N = 332) with students who were enrolled in business, communication, education, and psychology classes. Students' ages ranged from 18 to above 40 with a modal age of 21, for both T1 and T2. The majority were white (90% for T1 and 87% for T2), and split between the genders (44% female and 56% male for T1 and 59% female and 40% male for T2). At T1 the majority of the participants were business majors (77%), and in their junior (38%) or senior years of school (42%), and at T2 the participants were spread across the majors with the two highest majors reported as business (30%) and psychology (23%), and in their junior (36%) or senior year of school (52%) (Shiarella, McCarthy, & Tucker, 2000).

For the first administration of the instrument, T1, the items were constructed and the data obtained were used to conduct a reliability analysis (Shiarella, McCarthy, & Tucker, 2000). The survey contained items to measure community service attitudes (59 items), gather demographic information (6 items), and examine an individuals' intention to participate in community service or take service-learning courses (3 items) (Shiarella, McCarthy, & Tucker, 2000).

The second administration, T2, used a revised version of the instrument, and the data collected were used to establish reliability of the instrument (Shiarella, McCarthy, & Tucker, 2000). The revised instrument included items to measure Community Service Attitudes (31 items), collect demographic information (7 items), and examine individuals' intention to participate in community service (3 items) (Shiarella, McCarthy, & Tucker, 2000). The final instrument used a 7-point Likert format.

For T1, all items with item-total correlations less than .30 were dropped from the scale. This action is consistent with the recommendations by Faul and van Zyl (2004) that item correlations should be greater than .30. After these items were dropped, coefficient alphas were reported to be .80 or greater for the Helping scale. The subscales of Awareness, Actions, Ability, and Seriousness reported Cronbach coefficient alphas ranging from .54 to .67, which are not acceptable reliability estimates. The authors reported that these subscales consisted of two to five items each. The low number of items may have contributed to the lower alphas (Shiarella, McCarthy, & Tucker, 2000). The subscales that were designed to measure the individuals' intention to participate in service produced coefficient alphas of .75 and .73, indicating acceptable reliability.

These results were used to refine the instrument prior to the second administration. Each of the subscales produced inter-item correlations of greater than .50. This correlation, according to Faul and van Zyl (2004), provides a

sufficient indication of content validity with coefficient alphas that ranged from .78 to .90 (Shiarella, McCarthy, & Tucker, 2000).

To determine construct validity, the relationship between the subscales and measures that were expected to be related to them were examined. Shiarella, McCarthy, and Tucker (2000) had expected that the subscales would not be related to age, race, college rank, and gender. Some previous research had demonstrated some evidence that women participate more than men (Parker-Gwin & Mabry, 1998; Sax & Astin, 1997) in community service, but other research found no differences (Shiarella, McCarthy, & Tucker, 2000). Without clear evidence, these researchers concluded that the subscales would not be related to gender (Shiarella, McCarthy, & Tucker, 2000). These authors believed that the helping behavior subscales would be correlated with previous community service experiences and the amount of time spent in that experience (Shiarella, McCarthy, & Tucker, 2000). It was hypothesized that students majoring in social sciences or liberal arts would obtain higher scores on the subscales than business majors and that the subscales related to helping would be correlated with the subscales that examined an individual's intention to serve (Shiarella, McCarthy, & Tucker, 2000).

As the authors had predicted, there were no significant relationships between age, race, or college rank and any of the subscales. However, there was a slight difference for gender, in that females in the sample consistently scored higher on all subscales than the males (Shiarella, McCarthy, & Tucker, 2000). As the authors had predicted, major, previous community service

61

experience, and the amount of time spent in previous service experience resulted in a positive relationship to most of the subscales (Shiarella, McCarthy, & Tucker, 2000). Bringle, Phillips, and Hudson (2004) suggested that the CSAS has the ability to explore and measure changes in students' perceptions of, attraction to, and changes and outcomes that result from a service-learning experience. The ability to examine the changes over the course of a semester and the outcomes of service-learning are of particular interest to the Lee University study.

Service-learning at Lee University

From a program perspective, the studies reviewed were primarily conducted at public liberal arts schools (Clary et al., 1998; Mabry, 1998; Moely, McFarland et al., 2002; Moely, Mercer et al., 2002; Parker-Gwin & Mabry, 1998; Shiarella, McCarthy, & Tucker, 2000; Wang et al., 2005). With the exception of the Clary et al. (1998) study the instruments in each study were tested across various disciplines such as Biological sciences, Arts & Humanities, Social Sciences, Education, Business, and Professional Programs. The VFI (Clary et al., 1998) in studies two and three were tested with psychology students only.

In each of the studies reviewed, most of the participants were students. In the CASQ the students were primarily female 69% (T1) and 63% (T2), with a mean age of 20.1 (T1) and 20.4 (T2), and the majority were white (79% in T1 and 80% in T2). Most of the students were identified as undergraduates (99% for T1 and 97% for T2) (Moely, Mercer et al., 2002). In the study conducted by Wang et al. (2005) the majority of the students were female (69.2%), with 68% reporting their age to be between 20 and 25, primarily white (82.5%) and mostly

undergraduates (71.9%). Mabry's (1998) study was comprised of all undergraduate students. The majority were female (68%) with a mean age of 20 years old, and primarily white (84%). Parker-Gwin & Mabry (1998) reported that the students in their study were all undergraduate students and were fairly evenly representative of all class ranks. They reported that the majority of their participants were female (69%), with their reported ages between 17 and 24 years old (92%), and primarily white (82%).

Clary et al. (1998) reported that in Study 2 the students (269 female, 265 male, 1 no gender reported) reported a mean age of 21.25 (SD = 4.99) years old. In Study 3, the 65 students (41 female, 24 male) reported a mean age of 25.34 (SD = 7.16). Other studies conducted by Clary et al. (1998) included some individuals who were not students, but their demographic information are not included here.

The CSAS by Shiarella, McCarthy, and Tucker (2000 was given to two different samples. In the first survey, the majority of the students reported their class ranks as juniors or seniors (70%) with 18% reporting their rank as freshmen or sophomores, and 2% reporting their rank as graduate students. The researchers reported that the majority of the participants were mostly male (56%) with a modal age of 21 (27%), and primarily white (90%). In the second survey, the majority of the students reported their class rank as juniors or seniors (88%) with 6% reporting their rank as freshmen or sophomores, and 5% reporting their rank as graduate students (1% is unaccounted for in this report). The

researchers reported that the participants were mostly white (87%) with a modal age of 21 (29%), and the majority of participants were female (59%).

Overall, the most common demographic variables collected have been age, race, gender, college rank, college major, and previous community experience. The studies reviewed did not find statistically significant relationships between age, race, or college rank to any of the outcome measures (Shiarella, McCarthy, & Tucker, 2000). However, some previous research has noted that major and previous community service experience matters in the outcomes of service-learning (Shiarella, McCarthy, & Tucker, 2000).

Students in the current study at Lee University are all undergraduates. The demographic information collected from Lee University students should be reflective of the demographic information collected from students at the other universities included in this review.

The attitudes and beliefs of the students are important components of this study. These variables will take on two functions in the final data analysis. The first function will include using these variables as predictors of learning perceptions and critical thinking. Students who value service-learning and volunteerism may take a more serious attitude toward service-learning and thus gain more from the experience. Thus, these pre-test items could serve as predictor variables possibly explaining the amount of change in learning perceptions and critical thinking. The differences between the pretest and posttest measures will function as the service-learning outcome measures, which will show the gain or loss in different attitudes and types of knowledge.

The following categories of specific items will be used in the pre-post assessments: Student Background and Other Characteristics, Educational Process Variables, and Attitude and Knowledge Variables. All of these variables will be used as independent variables in the final analysis.

Critical Thinking and Learning Perceptions

This study examined how participation in service-learning affects students' self-perceptions of their ability to apply critical thinking and problem-solving skills and their perceptions of their own learning. Two items were added to the pretest and posttest to measure students' perceptions of their own level of critical thinking and learning, and four items were added to the posttest to measure the students' learning perceptions.

Critical Thinking has been operationally defined, in this study, as the students' self-assessments of their own ability to analyze and solve problems and their ability to apply and use critical thinking skills. The students' self-perceptions were used as a dependent variable measure. Vogelgesang and Astin (2000) chose to use the students' self-perceptions of their ability to apply critical thinking skills in a comparison study to examine the effects of community service and service-learning.

Paul (1990) defined critical thinking: "Critical thinking is disciplined, self-directed thinking which exemplifies the perfections of thinking appropriate to a particular mode or domain of thought . . ." (p. 51). In this domain of thought the students have been directed to think about their service experiences through their course work, lab sessions, and homework assignments. It was assumed

that during this course students would be directed to participate in critical thinking through guided reflection in order to build the skills necessary to engage in the type of disciplined, self-directed thought to which Paul (1990) referred.

Self-assessments also were used for the *Learning Perceptions*. This term has been operationally defined as the students' self-assessments of the amount of change, knowledge, and learning they have experienced as a result of the service-learning experience. McKenna and Rizzo (1999) asked students to provide self-assessments of their "perceptions of the academic and personal impact of their experiences" (p. 114). Ninety percent of their respondents reported that the service-learning experience had contributed to their overall learning in the course.

Kendrick (1996) used students' self-reports to measure learning outcomes. At the end of the semester, students were asked to respond to a series of questions to evaluate their learning. Students in the service-learning classes had a higher mean score than students in the same class without the service-learning on the items that measured self-perceived learning. As in the Kendrick (1996) study, this study included the items to measure self-perceived learning at the end of the semester (posttest).

Conclusions

This review began with an overview of the history and origins of service-learning. The roots of service-learning began with Dunn in the early 1900s. What began as an effort to improve the civic education and the connection of education to community for high school students has grown into a multi-level academic

experience that continues into higher education. In an effort to increase students'

awareness about their communities and their ability to make an impact in their

communities, many institutions of higher learning have adopted service-learning

programs that are embedded into the curriculum through classroom dialogue and

concrete experiences that occur within their communities.

This review has provided a brief look at the theories of experiential

learning and social capital and how their concepts can be applied to a service-

learning program. Several definitions of service-learning were reviewed to create

and propose a definition that can be used at a faith-based institution that is

seeking to embed service-learning into the curriculum.

Studies have been reviewed to examine some of the potential outcomes

of service-learning to gain insight into the various independent and dependent

variables that may be inherent in a service-learning experience, as well as to

review the instruments that have been validated through studies with university

students. These studies used various methods and instruments to measure

potential outcomes of service and service-learning experiences, and information

was gleaned to tailor an instrument to be used to provide valid outcome

measures of service-learning at Lee University in Cleveland, Tennessee.

Chapter III

METHODOLOGY

This chapter will describe the methods to be used for this research project, primarily the research design and the test administration. Participants, demographic data, distribution, and data collection are discussed.

Overview of the Study

The goals of this research were to provide information to Lee University and the general scholarly environment about outcomes that are being achieved through a mandated service-learning program. The study will also contribute to the literature regarding the measurement of service-learning outcomes.

Lee University has completed its third year of mandating service-learning for their students. This program has been reviewed by the Southern Association of Colleges and Schools (SACS) and was noted as having a good structure. However, in order to assess more fully assess this program, Lee University needed outcome data regarding the program's ability to impact and influence students' learning. With this in mind, research questions were developed to provide Lee University with the necessary outcomes data to satisfy the accreditation requirements for the university.

Research Questions

The following research questions are addressed in this study using a non-random sample of students from Lee University who were enrolled in a mandated sophomore level class: Biblical and Theological Foundations for Benevolence (REL 200).

1.   Do students change in their attitudes and/or knowledge as a result of the service-learning experience?

2.   Which of the predictor variables contribute most to a change in the dependent variables: Learning Perceptions and Critical Thinking?

Three categories of variables are used as predictor variables: (a) Students' Background and Other Characteristics, (b) Educational Process Variables, (c) Attitude and/or Knowledge Variables.

Research Design

This is a quantitative study that used a survey to examine the outcomes of service-learning. A pretest posttest design was used:

$$O_1 \ X \ O_2$$

In which O_1 is the first administration of the instrument at the beginning of the semester (pretest), and O_2 is the second and last administration of the same instrument at the last lab session (posttest). The **X** represents the service-learning experience. This is a pre-experimental design to measure the dependent variables before and after the introduction of an experimental stimulus, in this case service-learning experience (Rubin & Babbie, 2001; Singleton & Straits, 1999). The goal of this study is to evaluate the ability of service-learning to effect

change in students. However, a weakness of this design is that while it accounts for temporal order, it does not explain factors other than the independent variables that could have caused the change in the students (Rubin & Babbie, 2001; Singleton & Straits, 1999).

While this type of research is often used in educational settings, there are threats to internal validity: history, maturation, testing, and mortality (Campbell & Stanley, 1963). History refers to any events that occurred between the pretests and posttests that could have caused or influenced a change in the participants. The effects of such events cannot be controlled. For instance, an event such as Hurricane Katrina has caused an outpouring of college students into the areas impacted by the storm. The experience of working in hurricane relief may have had an impact upon student outcomes and student perceptions of service and engagement. However, this research method does not control for such events.

Maturation is a natural occurrence that may vary between individuals and time. It is anticipated that students during the course of a semester have grown older, more mature, more knowledgeable, more tired, etc. (Campbell & Stanley, 1963). Any changes detected in the posttest scores could be a result of maturation. The threat of testing may occur just through the repeated offering of the same test. Students' responses on the posttest could be affected by taking the same test as the pretest. Campbell and Stanley (1963) suggested that students may become more aware of socially desirable responses. This awareness could also affect the posttest scores. Mortality in this type of study is

most likely to occur as a result of participants dropping out of the class (Rubin & Babbie, 2001).

Research Population and Sampling

The participants in this study were students at Lee University, a faith-based institution that employs a required service-learning component for all students who enrolled since the fall of 2003. The students selected for this study were all enrolled in a sophomore level class in the spring 2006 semester that has a required service component: REL 200 Biblical and Theological Foundations for Benevolence. This class is required of all Lee University students.

REL 200 is a one credit class that has a lecture and a lab, both of which meet weekly for six weeks. The goal of the class is to introduce students to the biblical and theological aspects of service (Lee University Catalog, 2005-2006). This course required that students participate in at least 10 service hours. The number of students enrolled in REL 200 for the spring 2006 semester was 300. The total population has been surveyed. This class has been selected because it is one of the primary classes through which the students are introduced to Lee University's commitment to and philosophy of service.

The sample was a purposive sample, which is a type of nonprobability sampling in which the sample was chosen through methods that cannot be considered random (Rubin & Babbie, 2001; Singleton & Straits, 1999). The students in this sample were all chosen because they were in the service-learning program and are believed to be representative of Lee University students.

Data Collection

The survey was administered to students in the first main lecture for the pretest and during the final individual lab sessions for the posttest at Lee University during the spring semester of 2006. The REL 200 classes began February 13, 2006, with a lecture session that all students registered for REL 200 were required to attend. The researcher attended the lectures and facilitated the distribution of the surveys to the students, but did not monitor the completion of the surveys. Dillman (2000) suggested that having the group wait for further instructions after the administration of the instrument or by providing a time to debrief may reduce any perceived incentives to answer quickly, due to a desire to leave the class early. The researcher and other faculty members were present during the completion of the surveys and asked students to see the researcher or other faculty members if they had questions or concerns. The surveys were collected in a box at the front of the room and delivered to the office of Dr. Mike Hayes, Director of the Leonard Center, who returned the surveys to the researcher. The students in the REL 200 lab sessions completed the surveys during the last week of labs which occurred during the week of March 27, 2006.

Students were invited to participate in the posttest during the last lab sessions for REL 200, which was anticipated to take approximately 15 – 20 minutes. The students were given a survey package (Appendix A), which consisted of the preamble consent letter and the survey. The return of the survey assumed the students had read the preamble consent letter and willingly agreed to participate in the study. The students were given a second preamble consent

letter and survey at the end of the semester for the posttest. They were once

again invited to participate in the second survey. This study was submitted and

approved by the Internal Review Board (IRB) at the University of Louisville and

the Lee University Human Studies Committee. The instrument was given to the

faculty members of the respective classes by the director of the REL 200

program. The faculty members were asked to read an announcement during the

initial class session (pretest) and at one of the last classes (posttest) to invite the

students to participate.

The students were given a preamble consent letter, the instrument, and

two envelopes. The larger envelope asked for the student's name and the

instructor's name. Students were instructed to read the preamble consent, and

when they completed the survey or if they chose not to complete the survey, to

place the survey in the smaller envelope and seal it. They were then asked to

place the sealed envelope in the larger envelope, seal it, sign their name, and

write the instructor's name on the envelope. The envelope was then to be turned

in to the instructor, teacher's assistant, or peer leader, who was instructed to

check-off the names of students who turned in a packet. The instructor then

removed the outside envelope and destroyed it and returned the sealed surveys

to the Service-learning Office who gave the surveys to the researcher. The

researcher did not have access to the larger sealed envelopes that students

signed.

The instrument was given to the total population for the pretest (N = 300)

and posttest (N = 286). Dillman (2000) suggested that when a group

administration of self-administered surveys occurs, the non-response rate may be negligible because the respondents, in this study the students, may feel motivated to participate in a study that is related to their coursework. However, in the event that students are absent from the initial administration, faculty members and instructors were given extra research packets and asked to give students who had not responded a second opportunity to participate in the survey. The same procedure was followed for the posttest.

Key Variables

The independent and dependent variables are discussed and operationalized in this section (Table 1). The complete survey instrument is available in Appendix A. The major dependent variables were Critical Thinking and Learning Perceptions. The independent variables have been categorized as Student Background and Other Characteristics, Educational Process Variables, and Attitude and/or Knowledge variables.

Student Background and Other Characteristics

Demographic data were collected and used for two purposes: to provide respondent descriptive data and to serve as independent variables. The data that were selected for collection were based upon the studies reviewed in the previous chapter. Demographic data such as age, gender, race, year in college (rank), major, and college GPA have been found to be related to service-learning in previous studies, and Lee University requested that information be collected on students' transfer status from another institution of higher education and the number of hours transferred.

Table 1

Dependent and Independent Variables, Operationally Defined with Level of Data

Variable	Dependent or Independent	Operationally Defined	Level of Data
Student Background and Other Characteristics			
Demographics	Independent	Date of Birth (Age)	Ratio
		Gender	Nominal
		Race	Nominal
		College Rank	Nominal
		College GPA	Ratio
		Major	Nominal
Transfer Status	Independent	Did you transfer to Lee from another institution of higher education (Y/N)	Nominal
		If yes, how many hours did you transfer to Lee University	Ratio
Past Experience	Independent	Estimated number of hours that you have spent in past volunteer experience during the past year	Ratio
		Estimated number of hours you have spent, per week, doing service-learning prior to this class	Ratio
Likelihood	Independent	The likelihood that student would be involved in service outside of the service requirement	Interval
Parental Involvement	Independent	The extent that students perceive that their parents are involved in community service or volunteer activities	Interval

Table 1 (Con't.)

Dependent and Independent Variables, Operationally Defined with Level of

Data

Variable	Dependent or Independent	Operationally Defined	Level of Data
Educational Process Variables			
Reflection	Independent	How much time would you estimate that you have spent, per week, reflecting about your service experiences with the following individuals: peers, instructors, site supervisors	Ratio
		Please provide an estimate of how much time, per week, that you spent in each of the types of reflection listed: writing, discussion inside of class, discussion outside of class	Ratio
Instructor	Independent	The opportunity for students to identify whether the instructor and/or student teaching assistant provided the most course content and/or facilitated the most discussion.	Nominal
Attitude and Knowledge Variables			
Civic Attitudes	Independent	The personal beliefs and feelings that an individual has about their own involvement in their community and their perceived ability to make a difference in that community	Interval

Table 1 (Con't.)

Dependent and Independent Variables, Operationally Defined with Level of

Data

Variable	Dependent or Independent	Operationally Defined	Level of Data
Attitude and Knowledge Variables (Con't.)			
Civic Behaviors	Independent	The actions that one takes to actively attempt to engage and make a difference in their community	Interval
Civic Action	Independent	The student's intentions or plans for future involvement in the community	Interval
Importance of Helping	Independent	The degree to which students feel that volunteering and volunteers are important and make a difference in the community	Interval
Social Justice Responsi-bility	Independent	The student's awareness of social injustice issues and a commitment to work for social change	Interval
Interpersonal Skills	Independent	The student's ability to communicate and work effectively with others	Interval
Diversity Attitudes	Independent	The individual's appreciation and value of diversity and their interest in relating to culturally different people	Interval
Importance of Community Service	Independent	The degree of importance that students place on the act of volunteering	Interval

Table 1 (Con't.)

Dependent and Independent Variables, Operationally Defined with Level of

Data

Variable	Dependent or Independent	Operationally Defined	Level of Data
Attitude and Knowledge Variables (Con't.)			
Learning about the Community	Independent	The level that students believe they will learn/have learned about the community.	Interval
Personal Benefits of Service	Independent	The degree to which students believe they will benefit from volunteer and/or service activities.	Interval
Motivation for Service	Independent	The degree to which volunteering expresses altruistic and humanitarian concern for others	Interval
Personal Enrichment	Independent	The degree to which volunteering provides opportunities for new learning experiences and to use knowledge, skills, and abilities	Interval
Dependent Variables			
Learning Perceptions	Dependent	The students' self assessments of the amount of change, knowledge and learning, they have experienced as a result of the service-learning experience	Interval
Critical Thinking	Dependent	The students' self assessments of their own ability to analyze and solve problems and their ability to apply and use critical thinking skills	Interval

To get a better description of students, four other variables were added to describe the students: (a) past volunteer experience, (b) past service-learning experience, (c) likelihood to volunteer or serve without the class requirement, and (d) the students' perceptions of their parents' involvement in community service. For past volunteer experience, students were asked to estimate the total number of hours they had spent in volunteer experience during the past year, such as political, church, community or agency activities, volunteer service, and service-learning. For past service-learning, students were asked to estimate how many hours they had spent, per week, doing service through service-learning activities prior to this class. These two items were included on the pretest only. Two items were added to explore the likelihood that students would be participating in some type of volunteer service without the class requirement and students' perception of their parents' involvement in community service or volunteer activities. These two items used a 7-point Likert- type format and were included on the pretest only.

Educational Process Variables

To explore the impact of the educational process, students were asked to estimate the amount of time spent in reflection during past service experiences (pretest) and during their current experiences (posttest) with peers, instructors, and site supervisors. In addition, the students were asked to estimate the amount of time they had spent in reflection in writing, discussion inside of class, discussion outside of class during past service experiences (pretest), and current service experiences (posttest).

The number of hours was collected as a ratio variable. The question asked for students to report time in hours, but many students reported the time in minutes, so the amount of time was transformed to minutes so that the data that students provided could be included in this study. The literature has highlighted the importance of reflection and its relationship to changes that occur during the service-learning process. The information gathered in this study will provide the opportunity to explore the relationship of the amount of time spent in reflection and the impact that it has on the learning process.

To explore the impact that the instructor and/or the student teaching assistant had on the students, two questions were added to the posttest to explore the students' perceptions of who provided the greatest amount of content and guidance in the class sessions (instructor or student teaching assistant); and the students' perceptions of who facilitated the greatest amount of discussion in the lab sessions (instructor or student teaching assistant)**.** The literature is sparse regarding the impact of the instructor in the service-learning experience. These data will assist in determining what impact the instructor or student teaching assistant has on the learning that takes place during the service-learning experience.

Attitude and Knowledge Variables

The subscales were selected due to their application to the attitudes and behaviors that are subject to change as a result of the service-learning experience and were previously validated with college students. In an attempt to better understand the attitudes of college students, it was important to choose

subscales that had been previously used with the same population. These subscales were reviewed in the literature review and were found to be significantly related to service-learning.

The Attitude and Knowledge variables used in this survey instrument were a compilation of subscales that have been created and validated by other researchers as well as the *Civic Engagement Scale,* previously validated by Doolittle and Faul (2005). The two subscales of the *Civic Engagement Scale* had Cronbach alphas of .91 (attitudes) and .85 (behaviors). The other subscales were Civic Action, Interpersonal Skills, and Diversity Attitudes (Moely, Mercer, Ilustre, Miron, & McFarland, 2002); Social Justice Responsibility (Wang, Ye, Jackson, Rodgers, Jones 2005); Importance of Community Service (Parker-Gwin & Mabry, 1998); Learning about the Community (Moely, McFarland, Miron, Mercer & Ilustre, 2002); Importance of Helping and Personal Benefits of Service (Shiarella, McCarthy, & Tucker, 2002); Motivation for Service and Personal Enrichment (Clary et al., 1998, Table 1). Reliability has previously been established for all of these subscales and coefficient alphas ranging from .70 to .92, with six of the eleven subscales having alphas greater than .80. However, the reliability will be recalculated to assess the ability to replicate similar results using these subscales in Chapter IV.

Both the *Civic Engagement Scale* (Doolittle & Faul, 2005) and the subscale for Social Justice Responsibility (Wang, et al., 2005) used 7-point response scales. The remaining subscales had previously used 5-point Likert scales where the anchors were 1 (completely disagree) to 5 (completely agree).

The subscale to measure the importance of community service had used a 5-point Likert scale where the anchors were -2 (strongly disagree) to 2 (strongly agree). Some have contended that while this format uses the same number of points (5), the final responses would be considerably different because of the respondents' tendency to use the numerical information to assist them in choosing the most appropriate answer (Singleton & Straits, 1999). These negative response options were changed to the same 7-point Likert responses as the remainder of the subscales in an effort to remove any indication that responses were inherently negative or positive. Seven response categories were chosen for all subscales in an effort to increase the sensitivity of the measurement of the students' attitudes. Singleton and Straits (1999) suggested that "... seven to eleven categories seem best for measuring the full range of their attitudes, beliefs, or feelings" (p. 289).

The subscale outcome measures have been treated as interval measures. According to Nunnally and Bernstein (1994), considering attitudes as an interval measure is appropriate in studies that examine scores, such as outcome scores, based on different types of educational experiences. The subscales and their items are listed in Table 2.

Dependent Variables

Critical Thinking

Two items were added to the pretest and posttest to measure the students' perceptions of their ability to analyze and solve problems and their own ability to use critical thinking skills as compared to others (Table 3). These

Table 2

Subscales and their Items

Subscale Name	Item #	Items
Civic Attitudes (Doolittle & Faul, 2005)	20	I feel responsible for my community.
	21	I believe I should make a difference in my community.
	22	I believe that I have a responsibility to help the poor and the hungry.
	23	I am committed to serve in my community.
	24	I believe that all citizens have a responsibility to their community.
	25	I believe that it is important to be informed of community issues.
	26	I believe that it is important to volunteer.
	27	I believe that it is important to financially support charitable organizations.
Civic Behaviors (Doolittle & Faul, 2005)	28	I am involved in structured volunteer position(s) in the community.
	29	When working with others, I make positive changes in the community.
	30	I help members of my community.
	31	I stay informed of events in my community.
	32	I participate in discussions that raise issues of social responsibility.
	33	I contribute to charitable organizations within the community.
Civic Action (Moely, Mercer, Ilustre, Miron, & McFarland, 2002)	34	I plan to do some volunteer work.
	35	I plan to become involved in my community.
	36	I plan to participate in a community action program
	37	I plan to become an active member of my community.
	38	In the future, I plan to participate in a community service organization.
	39	I plan to help others who are in difficulty.
	40	I am committed to making a positive difference.
	41	I plan to become involved in programs to help clean up the environment.
Importance of Helping Originally titled: Normative Helping	42	It is important to help people in general.
	43	Improving communities is important to maintaining a quality society.
	44	I can make a difference in the community.
	45	Our community needs good volunteers.

Table 2 (Con't.)

Subscales and their Items

Subscale Name	Item #	Items
Importance of Helping (con't.) Originally titled: Normative Helping (Shiarella, McCarthy, & Tucker, 2000)	46	All communities need good volunteers.
	47	Volunteer work at community agencies help solve social problems.
	48	Volunteers in community agencies make a difference, if only a small difference.
	49	College student volunteers can help improve the local community.
	50	Volunteering in community projects can greatly enhance the community's resources.
	51	Contributing my skills will make the community a better place.
	52	My contribution to the community will make a real difference.
Social Justice Responsibility (Wang, Ye, Jackson, Rodgers, & Jones, 2005)	53	I will act to work for social justice changes in society.
	54	We should create programs and public policies to address social issues.
	55	I am confident that I can help in promoting equal opportunities for all people.
	56	I have a responsibility to help efforts directed at social justice changes in society.
	57	I know how to organize efforts for social change.
	58	I have a good understanding of the social justice issues in the community where I am going to provide services.
	59	This society needs to increase social and economic equality.
Interpersonal Skills Originally titled Interpersonal and Problem-Solving Skills (Moely, Mercer, et al., 2002)	60	I can listen to other people's opinions.
	61	I can work cooperatively with a group of people.
	63	I can communicate well with others.
	64	I can easily get along with people.
	66	When trying to understand the position of others, I try to place myself in their position.
	67	I find it easy to make friends.
	69	I try to place myself in the place of others in trying to assess their current situation.
Diversity Attitudes (Moely, Mercer, et al., 2002)	71	It is hard for a group to function effectively when the people involved come from very diverse backgrounds.
	72	I prefer the company of people who are very similar to me in background and expressions.

Table 2 (Con't.)

Subscales and their Items

Subscale Name	Item #	Items
Diversity Attitudes (con't.) (Moely, Mercer, et al., 2002)	73	I find it difficult to relate to people from a different race or culture.
	74	I enjoy meeting people who come from background very different from my own.
	75	Cultural diversity within a group makes the group more interesting and effective.
Importance of Community Service (Parker-Gwin & Mabry, 1998)	76	Adults should give some time for the good of their community or country.
	77	It is important to help others even if you do not get paid for it.
	78	People, regardless of whether they have been successful, or not, ought to help others.
Learning about the Community (Moely, McFarland, Miron, Mercer, & Ilustre, 2002)	79	I (will learn/learned) about the community.
	80	I (will learn/learned) how to work with others effectively.
	81	I (will learn/learned) to appreciate different cultures.
	82	I (will learn/learned) to see social problems in a new way.
	83	I (will become/became) more aware of the community of which I am a part.
Personal Benefits of Service Originally named: Benefits (Shiarella, McCarthy, & Tucker, 2002)	91	I would be contributing to the betterment of the community.
	92	I would experience personal satisfaction knowing that I am helping others.
	93	I would be meeting other people who enjoy community service.
	94	I would be developing new skills.
Motivation for Service Originally titled: Values (Clary, et al., 1998)	95	I am concerned about those less fortunate than myself.
	96	I am genuinely concerned about the particular group I am serving.
	97	I feel compassion toward people in need.
	98	I feel it is important to help others.
	99	I can do something for a cause that is important to me.

Table 2 (Con't.)

Subscales and their Items

Subscale Name	Item #	Items
Personal Enrichment Originally titled: Understanding (Clary, et al., 1998)	100	I can learn more about the cause for which I am working.
	101	Volunteering allows me to gain a new perspective on things.
	102	Volunteering lets me learn through direct "hands on" experience.
	103	I can learn how to deal with a variety of people.
	104	I can explore my own strengths.

questions used a 7-point Likert-type format (1 = Much Less; 4 = About Average;

7 = Much More). Factor analysis and a reliability analysis were conducted, and

the results are reported in Chapter 5.

Table 3

Critical Thinking Subscale and the Items

Subscale Name	Item #	Items
Critical Thinking	105	Rate yourself, compared to others, on your ability to analyze and solve problems.
	106	Rate yourself, compared to others, on your ability to apply and use critical thinking skills.

Figure 2 shows a model of the three categories of variables (Students'

Background and Other characteristics, Educational Process Variables, and

Attitude and Knowledge Variables) that will be used to predict Critical Thinking.
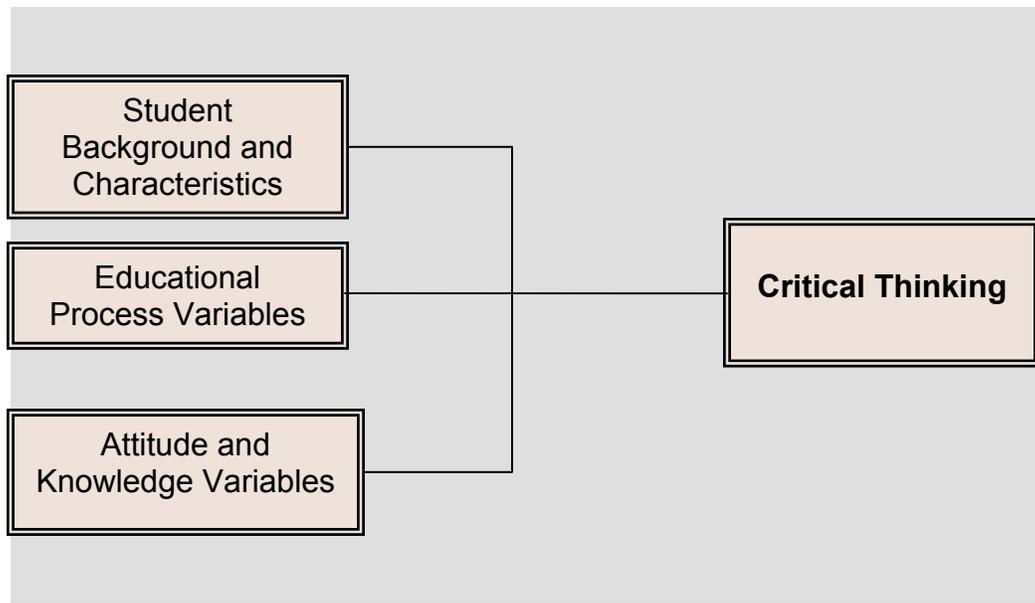
Figure 2. **Model of Predictor Variables for Critical Thinking.**

Learning Perceptions

The Learning Perception measure consisted of four items that were included on the posttest only to measure the students' self-assessment of the amount of change, knowledge, and/or learning they perceive they have experienced as a result of the service-learning experience (Table 4). Factor analysis and a reliability analysis were computed, and the results are presented in Chapter V. Figure 3 shows the model that used in this study to predict the students' learning perceptions from the three categories of variables: Student Background and Characteristics, Educational Process Variables, and Attitude and Knowledge Variables.

Issues of Confidentiality/Informed Consent

A preamble consent form provided all participants with a full explanation of the study. There are no known risks or benefits of the students' participation in the study. The preamble consent letter provided information about the

Table 4

Learning Perception (posttest only) Subscale and the Items

Subscale Name	Item #	Items
Learning Perceptions	9	How much do I think I have changed as a result of the service-learning experience?
	11	Compared to other university experiences, how much knowledge and learning do you think you obtained as a result of the service-learning experience?
	13	How would you describe the changes that you have experienced in your attitudes, knowledge, and learning as a result of the service-learning experience?
	14	Compared to other university learning experiences, how much do you feel that your faith has developed as a result of this service-learning experience?
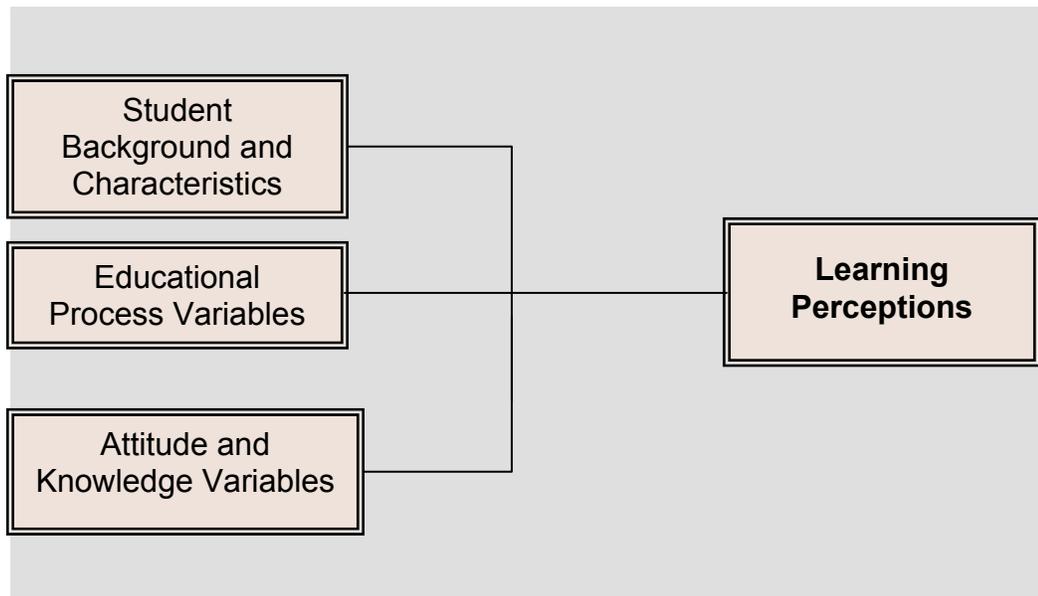
Figure 3. **Model of Predictor Variables for Learning Perceptions.**

individual's right to confidentiality and assurances that it will be protected to the extent provided by the law, and data are reported in aggregate. To match the pretest to the posttest, the instrument began by asking students for the last four digits of their social security numbers (SSN), their date of birth (DOB), and the country (if outside the U.S.) or the county and state of their birth (if within the U.S). The data collection process was approved by the Internal Review Board and Human Studies Committee at the University of Louisville and Lee University respectively.

Data Analysis

The main goal of the data analysis was to provide information to Lee University about the outcomes that students are experiencing as a result of the service-learning experience and to add to the body of knowledge about assessing service-learning outcomes. The analysis in Chapter IV begins with a reliability analysis to compare with the reliabilities that have been reported in previous studies. Factor analysis was conducted to determine if any of the items could be deleted to increase the reliability of the instrument. The Cronbach Alpha was used to determine the reliability of this instrument. Chapter IV also analyzes how the study group is similar to all Lee University students and compared REL 200 students who completed both the pretest and posttest surveys with students who only completed the pretest. These comparative analyses were designed to determine if the study population is representative of all REL 200 students and all Lee University students.

Chapter V presents a reliability analysis of the attitude and knowledge subscales used in this study, addresses the first research question, and describes the dependent variables used in the final analysis. Chapter VI presents a factor and reliability analysis of the dependent variables and presents the steps taken to prepare for the regression analysis that was used to answer the second and final research question.

The first research question, **Do students change in their attitudes and/or knowledge as a result of the service-learning experience?,** is answered using a paired samples t-test to compare the mean pretest total subscale score to the mean posttest total score to determine the amount of change between the pretest and the posttest in the Analysis group that had occurred as a result of the service-learning experience.

The second and final question, **Which of the predictor variables contribute most to a change in the dependent variables: Learning Perceptions and Critical Thinking?,** is answered using a backward stepwise multiple regression analysis. Variables from the previous analyses were entered into a bivariate correlation with the dependent variables. Those independent variables that were found to be significantly correlated with the dependent variables were selected for the multiple regression analysis. In a backward analysis, all of the chosen variables are added into the equation, and those variables that do not significantly contribute to change in the dependent variable are dropped from the analysis (Mertler & Vannatta, 2002).

According to Keith (2006) there are seven assumptions that underlie the multiple regression: (a) the dependent variable is a linear function of the independent variable, (b) the observations are drawn independently from the population which means that the errors for one observation are totally independent of the others in the sample, (c) the residuals should be almost equal for the dependent variable scores – homoscedasticity, (d) the errors in the sample are normally distributed, (e) the independent variable is not influenced by the dependent variable, (f) the independent variables are measured without error, and (g) all common causes of the change in the dependent variable have been addressed.

Keith (2006) contended that the first assumption is one of the most important: If the dependent variable is not a linear function of the independent variable, then the results of the regression may be biased and not be fully representative of the population being studied. If the second, third, and fourth assumptions are violated, then standard error measurements and significance measures will be in error, therefore bringing a threat to the interpretation of the data. The fifth and seventh assumptions deal with the issue of cause and effect, in that it is assumed that it is the independent variable that causes the changes in the dependent variable. The sixth assumption is difficult because it is rare that a perfect measurement can be obtained. The following sections will discuss some of the primary concerns that need to be dealt with in order to have a dependable multiple regression.

Sample Size

To have a reliable regression equation, attention must be given to the ratio of the sample size (*n*) to the number of predictors (*k*). Keith (2006) suggested a common rule of thumb for determining sample size: "10 to 20 participants for each independent variable" (p. 202). So using this rule, for the Learning Perceptions analysis with 20 independent variables, a sample size of 200 to 400 would be needed. For the Critical Thinking analysis with 13 independent variables, a sample size of 130 to 260 would be needed. Based on this rule of thumb, the current sample (*n* = 210) is sufficient to meet the minimum requirements for each analysis.

Tabachnick and Fidell (2001) provide an equation they consider to be a "simple rule of thumb" (p. 117) of $n \geq 50 + 8m$ (m = number of IVs). With a total of 18 independent variables used to predict the Learning Perceptions, the formula would be $n \geq 50 + 8(18) \geq 194$. With a sample size of $n = 210$, the number is sufficient for this analysis. The Critical Thinking analysis had a total of 12 independent variables, so the formula would be $n \geq 50 + 8(12) \geq 146$. The sample size of $n = 210$ is sufficient for this analysis.

Missing Data

The data were reviewed to look for and determine if there was a pattern to the missing data – the missing data were random and did not occur in any pattern or predictable format. Tabachnick and Fidell (2001) suggested one way to deal with the missing data is to substitute the mean for the missing values. In this method, the mean from the available data is calculated and inserted in the

place of the missing data prior to the analysis. George and Mallery (2003) gave a

rule of thumb that suggested that ". . . it is acceptable to replace up to 15% of

data by the mean of the distribution . . . " (p. 48), and this method was used in

this study.

Outliers

Extreme cases can have an impact on the results of a multiple regression

and are known as outliers. Mertler and Vannatta (2002) suggested that outliers

be dealt with through initial screenings prior to running the analysis because the

multiple regression can be sensitive to these extreme cases. There was one

case that had an unusually high number (500 hours) of reported hours spent in

past volunteer service, so this case was deleted from the analysis.

Multicollinearity

Multicollinearity arises when the independent variables are moderately to

strongly correlated, which suggests that the variables are measuring the same

thing (Mertler & Vannatta, 2002). One way to deal with multicollinearity is to

delete the problem variables (Mertler & Vannatta, 2002). The issue was

addressed here by examining the tolerance and variance inflation factor (VIF).

Mertler and Vannatta (2002) contended that the tolerance measures have a

range of values from 0 to 1 and that a typical cut-off point is 0.1, where values

less than that indicate a problem of multicollinearity. VIF examines the variables

to determine the linear relationship between the variables. Mertler and Vannatta

(2002) suggested that values greater than 10 are an indication of

multicollinearity. This issue will be discussed further in Chapter VI.

Conclusions

The research methods used in this study have been presented and discussed in this chapter. The purpose of the study, design, sample, and data collection methods were presented and the analyses to answer the research questions were described. The results are presented in the next three chapters.

Chapter IV

REPRESENTATIVENESS OF THE ANALYSIS GROUP

TO LEE UNIVERSITY STUDENT BODY

This chapter will review demographics and background variables in the Analysis Group – students who responded to both the pretest and posttest will be compared to the student body at Lee University as well as to all of the students who completed the pretest survey in the REL 200 group. This analysis will help the reader to understand how representative the final analysis group is to all students who took the REL 200 class as well as to all Lee University students.

Students in this study were required to complete 10 hours of service during the REL 200 course which provides an introduction to service as it has been portrayed from a biblical, theological, and historical context. The service makes up 30% of the final grade, and reflections on course content and service experiences comprise 55% of the final grade. Therefore, a student cannot pass this course without completing the service and the required reflections. Students are required to attend one lecture and one lab session each week for 6 weeks. Lecture sessions that met once per week were for all students enrolled in the course and were too large to facilitate much discussion. Each week students were also required to complete a lab session with 20 or fewer students. The labs are where discussions were facilitated about the content and experiences of the

course. Some lab facilitators arranged for their classes to complete their service hours as a group while other lab facilitators left it up to the students to arrange and complete their service hours independently of the class and/or lab session. Students were allowed several weeks after the final lab session to complete their service hours and the final reflection paper.

Comparison of Analysis Group with all REL 200 Students and all Lee University Students

The final group of students who were used to evaluate service-learning at Lee University is made up of students who responded to the pretest, at the beginning of the course, and posttest, at the end of the course; this group is referred to as the Analysis Group. This section will review the demographic variables of the Lee University population, the REL 200 Class, and the REL 200 Analysis Group. The number and percentage of students in each group and subcategory are shown in Table 5.

Lee University

Lee University is a private, faith-based institution in Cleveland, Tennessee. At the beginning of the spring semester 2006, the total enrollment was 3,632 students. This number includes all traditional bachelors' level students, students in the Center for Adult and Professional Studies (CAPS), all graduate students, and non-degree students. The traditional bachelors' level students are the only group that is required to complete service as a condition for graduation. The Lee University students compared to the REL 200 Class and the Analysis Group are those students who are enrolled in a traditional bachelors'

level program that requires service hours for graduation (N = 3,102). The majority

of students at Lee are white (83%), 59% are female and 41% male with an age

range of 17 – 56 and a mean of 22.3 (SD = 4.5). Students at Lee have a GPA

range of .26 – 4.03 with a mean of 3.10 (SD = .69). The GPA range exceeds the

standard 4.0 because students in the Honors program earn more points for an

"A" and have the opportunity to earn greater than a 4.0 GPA. Information on the

class rank of students was collected as freshman, sophomore, or other, so the

data from Lee were recoded to match the study's variable. The majority of

students at Lee fell into the other category (n = 2,158, 70%), which encompassed

juniors and seniors at the university. The university reported having 205 (7%)

freshmen and 730 (24%) sophomores. It may be important to note that the

demographics reported by Lee University had an unusually low number of

freshmen in the spring 2006 semester. Even though it is unclear why this number

is low, it is important to note it and recognize that it may have influenced the

sampling of this study.

Lee University is made up of four colleges and schools: College of Arts

and Sciences, Helen DeVos College of Education, School of Music, and School

of Religion. The majors within these colleges and schools are broken down into

13 categories. Each category includes the list of majors offered. Lee University

also offers online and extension programs through the Center for Adult and

Professional Studies and several graduate degrees. Lee University was able to

provide the major code for each student. The majors were then collapsed into six

categories: Arts and Sciences, Behavioral and Social Sciences, Business,

Education, Religion, and Other, which included Music, Undecided and Undeclared. The Arts and Sciences had the majority of majors (31%), and the remaining categories' majors were fairly equal in their distribution across the other five major categories. Lee University does not collect data on students who transferred into Lee from another institution of higher education in a way that could be used in this study (Table 5).

REL 200 Class

The REL 200 class is required of all students at Lee, and the expectation is that students will take the class during the fall or spring semester of their second year. The students in this class self-selected to take REL 200 in the spring semester rather than the fall semester. The survey instrument was administered two times: the beginning of the semester (pretest) and the end of the semester (posttest). Basic demographic information was collected at the pretest only. At the pretest administration, there were 300 total students enrolled in the REL 200 class, and 254 students responded to the survey for an 85% response rate.

The class was mostly female (69%) and white (89%) with an age range of 18 to 45 with a mean age of 21 (SD = 3.4) years. The respondents had a GPA range of 2.0 to 4.0 with a mean of 3.35 (SD = .49). Students in this study were fairly evenly distributed across the majors with Arts and Sciences having the most majors (27%). Of the sample, 68 (27%) reported they had transferred to Lee from another institution of higher education.

REL 200 Analysis Group

At the end of the semester, the survey instrument was administered again to the REL 200 class. At that time 283 students were still enrolled in the course, and 238 (84%) responded to the posttest. After the posttest, the surveys were matched according to the last four digits of students' SSN, DOB, Country of Origin or County and State if born within the USA, and gender. Of the final 283 students enrolled in REL 200, 210 students (74%) completed both the pretest and posttest surveys, and only those who completed both the pretest and the posttest were included in the final analysis (*N* = 210) and are called the Analysis Group.

Based on the original demographic information given by these students, the Analysis Group was primarily white (88%) and female (68%) with an age range of 17 – 45 years and a mean age of 21 (SD 3.5 years). Respondents reported a GPA range of 2.0 to 4.0 with a mean of 3.39 (SD .48). The Arts and the Sciences program had the most majors with 59 students (28%). Students were fairly equally distributed among the other 5 major categories. Basically, one major did not dominate over the others. Of the sample, 56 (27%) reported they had transferred to Lee from another institution of higher education (Table 5).

Sample Versus the Population

To determine the differences of the REL 200 Pretest Group and the REL 200 Analysis Group to the Lee University population a chi-square analysis was used. Table 6 shows that the REL 200 class was significantly different than the

total Lee University population in student characteristics of gender, race, college

rank and major.

  The overall population at Lee University is primarily female (59%), white

(84%), other college rank (70%), and majoring in the Arts and Sciences (31%),

Table 5

Overview of Demographic Variables for Lee University, REL 200 Class and

REL 200 Analysis Group

Variable	Lee University (*N* = 3102)		REL 200 – Class (*n* = 254)		REL 200 – Analysis Group (*n* = 210)	
	N	**%***	**N**	**%***	**N**	**%***
Gender						
Male	1268	41%	79	31%	65	31%
Female	1834	59%	175	69%	145	68%
Race						
White	2572	83%	225	89%	185	88%
African-American	99	3%	6	2%	4	2%
Asian	58	2%	4	2%	4	2%
Hispanic	94	3%	9	4%	9	4%
Other	241	8%	2	3%	5	2%
College Rank						
Freshman	205	7%	10	4%	7	7%
Sophomore	730	24%	136	54%	118	56%
Other	2,158	70%	103	41%	84	40%
Major*						
1. Arts and Sciences	954	31%	68	27%	59	28%
2. Behavioral and Social Sciences						
3. Business	318	10%	40	16%	33	16%
4. Education	455	15%	44	17%	36	17%
5. Religion	519	17%	47	19%	40	19%
6. Other	387	13%	27	11%	21	10%
	469	15%	27	11%	20	10%
Transfer from another institution of higher education**						
Yes						
No			68	27%	56	27%
			182	72%	121	72%

*Percentages may not equal 100% due to rounding.
** Lee does not collect this information in a way that can be used in this table.

while the REL 200 Pretest Group is overwhelmingly female (69%), white (90%), primarily Sophomores (55%), and Arts and Sciences Majors (27%). Some of the differences between the REL 200 Class and the Overall Lee group are more subtle, but the REL 200 class had significantly more females and white students, making the distribution of the genders and racial mix noticeably different than that of the overall Lee population. Students in the REL 200 class were mostly from the sophomore class (55%); however, since this class is part of the second year requirement that percentage was to be expected.

The Analysis Group, on which this study is based, is similar to all students in the REL 200 class. The chi-square analysis with the demographic characteristics found no differences between the REL 200 Pretest Group and the REL 200 Analysis Group (Table 7). Thus, the Analysis Group does not represent all students at Lee University, but it is a good representation of all students who enrolled in the spring 2006 REL 200 course.

The distribution of majors among the students between the Lee population and the REL 200 Pretest Group were significantly different. Approximately 45% of students in the REL 200 Pretest Group indicated their major as Behavioral and Social Sciences, Education, and/or Religion as opposed to 40% in the overall Lee University population. These majors generally encompass jobs or careers in which individuals are more likely to be working with individuals and be community based. The students' choices of major could be related to some of the high pretest scores on their attitudes and beliefs or their orientations toward service.

Table 6

Results of Chi-Square Testing: Demographic Characteristics by Group (Lee University and the REL 200 Class)

Demographic Attribute	Lee Population (_n_ = 3102)	REL 200 Class (_n_ = 254)	Chi-Square	df*	Sig.**
Gender			9.336	1	.002*
Male	1268	79			
	40.9%	31.1%			
Female	1834	175			
	59.1%	68.9%			
Race			9.714	4	.046*
White	2572	225			
	83.9%	89.6%			
African American	99	6			
	3.2%	2.4%			
Asian	58	4			
	1.9%	1.6%			
Hispanic	94	9			
	3.1%	3.6%			
Other	241	7			
	7.9%	2.8%			
College Rank			115.484	2	.000*
Freshman	205	10			
	6.6%	4.0%			
Sophomore	730	136			
	23.6%	54.6%			
Other	2158	103			
	69.8%	41.4%			
Major			13.314	5	.021*
Arts and Sciences	954	68			
	30.8%	26.9%			
Behavioral and Social Sciences	318	40			
	10.3%	15.8%			
Business	455	44			
	14.7%	17.4%			
Education	519	47			
	16.7%	18.6%			
Religion	387	27			
	12.5%	10.7%			
Other: Music/Undecided/ Undeclared	469	27			
	15.1%	10.7%			

*Degrees of Freedom
** Significant at p ≤ .05

Table 7

Comparison of REL 200 Class and REL 200 Analysis Group on Personal Characteristics

Demographic Attribute	REL 200 Class (*n* = 254)	REL 200 Analysis Group (*n* = 210)	Chi-Square	df*	Sig.**
Gender			.001	1	.972
Male	79	65			
	31.1%	31.0%			
Female	175	145			
	68.9%	69.0%			
Race			.413	4	.981
White	225	185			
	89.6%	89.4%			
African American	6	4			
	2.4%	1.9%			
Asian	4	4			
	1.6%	1.9%			
Hispanic	9	9			
	3.6%	4.3%			
Other	7	5			
	2.8%	2.4%			
College Rank			.210	2	.900
Freshman	10	7			
	4.0%	3.4%			
Sophomore	136	117			
	54.6%	56.3%			
Other	103	84			
	41.4%	40.4%			
Major			.277	5	.998
Arts and Sciences	68	59			
	26.9%	28.2%			
Behavioral and Social Sciences	40	33			
	15.8%	15.8%			
Business	44	36			
	17.4%	17.2%			
Education	47	40			
	18.6%	19.1%			
Religion	27	21			
	10.7%	9.6%			
Other: Music/Undecided/ Undeclared	27	20			
	10.7%	9.6%			

*Degrees of Freedom
** Significant at p ≤ .05

Other Student Characteristics

To examine further what students brought to the REL 200 service experience, students were asked to provide information on their involvement in past volunteer experience, their involvement in service-learning prior to this class, the likelihood that they would participate in service without the requirement of this class, and their perceived level of their parents' involvement in community service or volunteer activities. All of these questions were on the pretest only. This section will review the results of those questions.

Past Volunteer Experience

On the pretest, students were asked to estimate the total number of hours they had spent in volunteer experience during the past year. Most students responded to this question but with times that were less than an hour. Based on their responses, it was determined that any amount of time given could be important in the final analysis, so all responses were kept for the final analysis. If the student made any response, it was recorded. Only blank responses were left blank ($n = 9$, .07%). These missing values were replaced with the series mean, following the guidelines for replacing missing data by Tabachnick and Fidell (2001) and George and Mallery (2003).

A review of the past volunteer experience for the REL 200 Analysis group was conducted to determine if their time spent in past volunteer service was similar to that of the Pretest Group. Missing values were dealt with in the same manner as with the Pretest Group, and the series mean was used for the students who did not respond to this question ($n = 6$, .03%). The mean time

spent in past volunteer experience was 46.3 hours (SD = 48.8) for the REL 200

Pretest Group and 39.7 hours (SD = 43.4) for the REL 200 Analysis Group.

An independent samples t test was calculated to compare the mean

amount of time spent in past volunteer experience of the REL 200 Pretest Group

(n = 43) and the REL 200 Analysis Group (n = 210) pretest. The difference was

not significant (t (251) = -.880, p = .380). The mean hours reported by students in

the REL 200 Pretest Group were 46.3 (SD = 48.8), and was not significantly

different from the mean number of hours reported by students in the REL 200

Analysis Group pretest (M = 39.7, SD = 43.4).

Past Service-Learning Experience

Students were asked to provide an estimate of how many hours per week

they had spent doing service through service-learning activities prior to this class.

Once again, for the students who did not respond from the Pretest Group (n = 4,

9%) and the Analysis Group (n = 32, 15%), the missing values were replaced

with the series mean. The mean amount of time spent in past service-learning

experience was 2.1 hours (SD = 4.0) for the REL 200 Pretest Group and 2.0

hours (SD = 3.6) for the REL 200 Analysis Group.

Another independent samples t test compared the mean number of hours

that students reported spending in past service-learning experiences. The

difference was not significant (t (251) = -.181, p = .856). The mean number of

hours per week that students in the REL 200 Pretest Group reported spending in

service-learning prior to this class was 2.1 (SD = 4.0) compared to the mean of

the REL 200 Analysis Group pretest of 2.0 (SD = 3.6).

Likelihood of Doing Service without a Requirement

To examine some of the motivations and/or attitudes that students bring with them to the service experience, on the pretest only, students were asked to identify the likelihood that they would be doing some type of volunteer service if not required to do so by their class. The responses were on a 7-point Likert-type scale (1 = Not at all likely; 4 = Neither Likely nor Unlikely; 7 = Very Likely). One (.02%) student in the Pretest Group and 4 (.02%) students in the Analysis Group did not respond to this question, so the series mean was used to replace the missing variables. Students in the both groups had a range of scores 1 – 7.

To compare the mean scores of each group, an independent samples t test was calculated. The difference was not significant (t (251) = -.336, p = .737). The mean score of the REL 200 Pretest Group was 5.2 (SD = 1.7) compared to the mean score of the REL 200 Analysis Group pretest of 5.1 (SD = 1.8).

Students' Perceptions of Parental Involvement in Community Service

To explore the impact of parents' involvement in community service on students' attitudes, students were asked to rate the extent to which their parents were involved in community service (such as scouting, PTA, church activities, political activities, community or agency activities, etc.) on a 7-point Likert-type format (1 = Not at all involved; 7 = Very Involved). The series mean was used to replace missing values of the Pretest Group (n = 3, .07%) and the Analysis Group (n = 9, .04%). Students in both groups had a range of scores from 1 – 7.

An independent samples t test was calculated to compare the mean scores of the students' perceptions of their parents' involvement in volunteer or

106

community service. The difference was not significant (t (251) = .316, p = .752). The Pretest Group had a mean score of 4.9 (SD = 1.8), and the Analysis Group had a mean of score of 5.0 (SD = 1.8). In summary, none of the variables for *Other Student Characteristics* were significantly different between the REL 200 Analysis Group and the REL 200 Pretest Group.

Educational Process Variables

Variables that provide information about the program or the process involved within the program have been identified as Educational Process Variables. These variables include the reflection questions (Q14 and Q15 pre; Q6 and Q7 post) and the content and guidance questions that were included on the posttest only (Q15 and Q16). It is expected that part of the learning that occurs in the service-learning experience happens as a result of reflection inside and outside of the classroom, and the impact that the instructor, peer leader, and/or teaching assistant has on the students' ability to grasp the course content and information. This section will review and analyze these variables.

All students in the REL 200 class were required to write five two-page papers that were guided written reflections about the course content. They also wrote one five-page paper about their service experience which was turned-in a few weeks after the last lab session. These papers enabled students to reflect upon the meaning of their service experience and to integrate course concepts with their service-learning assessments.

The literature indicates that reflection is an important component of the educational process and learning (Boud, Keogh, & Walker, 1985; Hatcher &

Bringle, 1997; Mabry, 1998). To examine the impact of reflection on service-learning, two questions were designed to gather information about the amount of time that students were spending in reflection.

Reflection with Individuals

The first group of reflection questions asked about reflection with different types of individuals (peers, instructors, or site-supervisors), and the second group asked about reflection activities (writing, discussion inside of class, and discussion outside of class). On the pretest, students were asked to think about their *previous* service experiences and to estimate how much time they had spent, per week, reflecting about their service experiences with different types of individuals: peers, instructors, and site supervisors (Q14 pre). Each of these variables – peers, instructors, and site supervisors – had some blank responses. The missing values were handled the same as with the other variables. For each of the following categories, the series mean was used to replace the missing values: peers ($n = 23$, 11% for the Analysis Group and $n = 3$, .07% for the Pretest Group), instructors ($n = 26$, 12% for the Analysis Group and $n = 3$, .07% for the Pretest Group), site supervisors ($n = 24$, 11% for the Analysis Group and $n = 3$, .07% for the Pretest Group). Table 8 breaks down the amount of time, by minutes, the mean and the standard deviation spent in reflection with different types of individuals for the REL 200 Pretest Group. The table also provides the number and percent of students who spent time in reflection.

At the pretest, the majority of students reported having spent no time in reflection about past service or volunteer experiences with peers, instructors, or

108

Table 8

REL 200 Pretest Group's (n = 43) Time Spent in Reflection

Types of Individuals:		Number of Students and Percent Reporting Time Spent in Reflection with Individuals							
		0 min.	1 – 30 min.	31 – 60 min.	61 – 90 min.	91 – 120 min.	121 + min.	Mean Hours	SD
Peers	*n*	11	3	16	3	6	4	1.2	1.7
	%	26%	7%	37%	7%	14%	10%		
Instructors	*n*	26	3	10		3	1		
	%	61%	7%	23%	0	7%	2%	.59	1.6
Site Supervisors	*n*	23	7	10			3		
	%	54%	16%	23%	0	0	7%	.74	2.4

site supervisors. Reflection with peers had the highest overall mean amount of time spent at 1.2 hours (*SD* 1.7) with Reflection with Instructors and Reflection with Site Supervisors having an overall means of (.59 & .74 respectively). To further examine the amount of time that students reported spending in refection with peers, instructors, and site supervisors, those who reported having spent "0" amount of time in reflection were screened out. Twenty-six percent of students reported spending no time in reflection with peers. Of those who did, 74% reported spending 1.2 mean hours (*SD* = 1.7) in reflection with peers; 61% of students reported they had not spent any time in reflection with instructors. Of the students who did, 39% reported spending .59 mean hours (*SD* = 1.6) with instructors. Fifty-four percent reported they had not spent any time in reflection with site supervisors, and of those who did 46% reported having spent .74 mean hours (*SD* = 2.4) with site supervisors. If those who reported having spent no time in reflection are screened out, the mean hours reported for each type of

group is 1.7 hours (*SD* = 1.8) in reflection with peers, .72 hours (*SD* = 1.8) in reflection with instructors, and .86 hours (*SD* = 2.6) in reflection with site supervisors.

Table 9 presents the amount of time, by minutes, the mean and the standard deviation spent in the different types of reflection with individuals for the REL 200 Analysis Group. The table also presents the number and percent of students who spent time in reflection with individuals.

Table 9

REL 200 Analysis Group's (n = 210) Time Spent in Reflection

		Number of Students and Percent Reporting Time Spent in Reflection with Individuals*							
Types of Individuals:		**0 min.**	**1 – 30 min.**	**31 – 60 min.**	**61 – 90 min.**	**91 – 120 min.**	**121 + min.**	**Mean Hours**	**SD**
Peers	***n****	68	16	39	1	18	21	1.4	3.4
	%	33%	8%	19%	.5%	9%	10%		
Instructors	***n***	100	8	28	0	10	7		
	%	48%	4%	13%		5%	3%	.74	2.1
Site Supervisors	***n***	103	9	25	0	7	4		
	%	49%	4%	12%		3%	2%	.38	.79

The majority of students in the REL 200 Analysis Group at the pretest reported having spent no time in reflection with individuals: peers, instructors, and/or site supervisors. As in the REL 200 Pretest Group, reflection with peers had the highest overall mean amount of time spent at 1.4 hours (*SD* = 3.4), with reflection with peers and site supervisors having an overall mean of less than one hour each. To further examine the time that students reported spending in reflection with peers, instructors, and site supervisors, those who did not report having spent any time in reflection were screened out. When those individuals

110

who reported they had not spent any time in reflection with individuals, the mean number of hours for each type of reflection increased to 2.5 hours ($SD = 4.2$) with peers, 2.1 hours ($SD = 3.1$) in reflection with instructors, and 1.2 hours ($SD = 1.0$) with site supervisors.

Through visual examination of the data, the amount of time spent in reflection with individuals: peers, instructors, and site supervisors does not appear to be significantly different for the REL 200 Pretest Group and the REL 200 Analysis Group. Each group spent a little more than 1 mean hour in reflection with peers, and both groups spent less than 1 hour in reflection with instructors and site supervisors.

Again, to test if the Analysis Group is relatively similar to the REL 200 class, an independent samples t test was computed to determine if the REL 200 Analysis Group was similar to the REL 200 pretest group in their reflection experience. Table 10 shows the results of reflection time with individuals for both groups.

A significant difference was found in Reflection with Site Supervisors. The REL 200 Pretest Group mean of .74 ($SD = 2.3$) was significantly greater than the pretest mean of the REL 200 Analysis Group. In the other two categories, Reflection with Peers and Reflection with Site Supervisors, no significant differences were found. Thus it can be concluded that the Analysis Group was different in its prior reflection experiences with site supervisors but not different in terms of its reflection experience with peers or instructors.

Table 10

Comparison of Pretest Mean Reflection Time for REL 200 Pretest Group (n = 43) and the REL 200 Analysis Group (n = 210)

Types of Individuals	Pretest Group		Analysis Group		Test Results		
	M	*SD*	*M*	*SD*	*t*	*df*	*Sig.*
Peers	1.2	1.7	1.3	3.6	-.142	251	.887
Instructors	.59	1.6	.47	.59	-.431	251	.667
Site Supervisors	.74	2.3	.30	.66	-2.322	251	.021*

At the posttest, students were asked to think about their *current* service experiences and to estimate the hours spent per week reflecting about the service with their peers, instructors, and their site supervisors. Missing values were replaced with the series mean (Table 11).

Table 11

Analysis Group's Time Spent in Reflection at the Posttest

Types of Individuals		Number of Students and Percent Reporting Time Spent in Reflection with Individuals*						Mean Hours	SD
		0 min.	1 – 30 min.	31 – 60 min.	61 – 90 min.	91 – 120 min.	121 + min.		
Peers	*n**	33	5	75	1	43	53		
	%	16%	2%	36%	.5%	21%	25%	2.1	3.1
Instructors	*n*								
	%	29	3	96	0	55	27		
		14%	2%	46%		26%	13%	1.7	1.9
Site Supervisors	*n*								
	%	71	4	99	0	25	11		
		34%	2.0%	47%		12%	5%	1.0	1.3

The amount of time spent in reflection had increased at the posttest. The majority of students reported having spent 31 – 60 minutes per week in reflection. The overall mean for Reflection with Peers for the Analysis Group posttest was 2.1 compared to the Pretest Group of 1.3. This figure was an increase of .8 of an hour. The means on time spent in Reflection with Instructors and Reflection with Site Supervisors increased to 1.7 and 1.0 respectively, which was an increase of 1.2 and .62 hours.

To examine further the mean amount of hours spent in reflection at the posttest, those who had reported not having spent time in reflection were filtered out, and the mean for only those students who had reported an amount of time spent in reflection was recalculated. Of the Analysis Group, 33% reported they had not spent any time with reflecting with peers, and of those who had, 67% reported having spent 2.5 mean hours (SD = 3.2). Approximately 14% reported they had not spent any time reflecting with instructors, and of those who had, 86% reported having spent 2.0 mean hours (SD = 1.9) in refection with instructors. Thirty-four percent of students reported they had not spent any time in reflection with site supervisors, and those who had (66%) reported having spent1.5 mean hours (SD = 1.4) in reflection with site supervisors.

To examine the change that students experienced in the amount of time in reflection, a paired samples t test was computed to test for differences in the Analysis Group time spent in reflection with peers, instructors, and site supervisors (Table 12). In order to get a variable that measured the overall time spent in reflection, a new variable, *Reflection with Individuals,* was calculated by

summing the time spent in reflection with peers, instructors, and site supervisors.

Table 12 shows that there was a significant increase reported in the time spent in

reflection with different types of individuals and in the composite variable,

Reflection with Individuals. Because all reflection variables showed significant

change from pretest to posttest, the composite variables, Reflection with

Individuals, will be used in later analyses.

Table 12

Analysis Group's Changes from Pretest to Posttest in Reflection (n = 210)

Types of Individuals	Pretest Results		Posttest Results		Test Results		
	M	*SD*	*M*	*SD*	*diff.*	*t**	*Sig.*
Peers	1.40	3.00	2.1	3.1	-0.70	2.377	.018
Instructors	.74	1.80	1.7	1.9	-0.96	5.523	.000
Site Supervisors	.38	.66	1.0	1.3	-0.62	6.454	.000
Reflection with Individuals	2.60	4.10	4.9	4.8	-2.30	-5.314	.000

* Degrees of Freedom - 209

Reflection Activities

Students were asked to think about the types of reflection activities in

which they had participated and to provide an estimate of how much time per

week they had spent in the reflection activities, such as writing and discussion,

both inside and outside of class. The pretest (Q15 pre) asked students to think

back to their *prior* service experience when responding. The posttest (Q7 post)

asked students to think about their current service experience and provide an

estimate of the time spent in writing, discussion inside, and discussion outside of the class per week (Table 13).

Table 13

REL 200 Pretest Group's Time Spent in Reflection Activities at Pretest (n = 43)

Types of Reflection Activities		Number of Students and Percent Reporting Time Spent in Reflection Activities							
		0 min.	1 – 30 min.	31 – 60 min.	61 – 90 min.	91 – 120 min.	121 + min.	Mean Hours	SD
Writing	***n*** *	23	1	7	4	3	5	1.0	1.9
	%	54%	2%	16%	9%	7%	12%		
Discussion Inside of Class	***n***								
	%	23	5	0	8	4	7	.86	2.0
		54%	12%		19%	9%	17%		
Discussion Outside of Class	***n***								
	%	20	6	0	5	1	4	.81	1.8
		47%	13%		12%	2%	9%		

Prior to the REL 200 class, close to 50% of the students in the REL 200 Pretest Group reported they had not spent any time doing reflection in writing or discussion inside or outside of the class. If students who reported spending no time in past reflection activities are excluded from the calculations, the mean time spent in reflection was 2.7 mean hours (*SD* = 2.3) in writing activities, 1.8 mean hours (*SD* = 2.7) in discussion inside of the class, and 1.5 mean hours (*SD* = 2.2) in discussion outside of the class.

Table 14 presents the time spent in Reflection Activities for students in the REL 200 Analysis group. As with the REL 200 Pretest Group, most of the students in the Analysis Group reported, at the pretest, that they had not spent

any time in reflection activities in their past service or volunteer experiences. If students who did not report spending any time in reflection activities are filtered out of the analysis, the mean time spent in reflection activities was 2.0 mean hours (*SD* = 2.3) in writing activities, 2.7 mean hours (*SD* = 4.4) in discussion inside of class, and 2.7 mean hours (*SD* = 4.3) in discussion outside of class.

Table 14

REL 200 Analysis Group's Time Spent in Reflection Activities at Pretest (n = 210)

		Number of Students and Percent Reporting Time Spent in Reflection Activities							
Types of Reflection Activities		**0 min.**	**1 – 30 min.**	**31 – 60 min.**	**61 – 90 min.**	**91 – 120 min.**	**121 + min.**	**Mean Hours**	**SD**
Writing	***n***	81	14	30	0	10	18	.91	1.8
	%	39%	7%	14%		5%	9%		
Discussion Inside of Class	***n***								
	%	80	5	37	0	8	15	1.2	3.2
		38%	3%	18%		4%	7%		
Discussion Outside of Class	***n***								
	%	74	10	33	0	14	13	1.3	3.3
		35%	5%	16%		7%	6%		

To more closely examine the ability of the REL 200 Analysis Group to represent the REL 200 Pretest Group, an independent samples *t* test compared the REL 200 Pretest Group's mean in different reflection activities with the Analysis Group's means (Table 15).

T-test results show that the mean number of hours spent in reflective writing, discussion inside or outside of class, and discussion outside of class was not significantly different between the REL 200 Pretest Group and the REL 200

Table 15

Comparison of Pretest Mean Reflection Time for REL 200 Pretest Group (n = 43) and REL 200 Analysis Group Pretest (n = 210) on Reflection Activities

Types of Activities	Pretest Group		Analysis Group		Test Results		
	M	*SD*	*M*	*SD*	*t*	*df*	*Sig.*
Writing	1.00	1.9	.83	1.5	-.681	251	.496
Discussion Inside of Class	.86	2.0	.80	2.6	-.124	251	.901
Discussion Outside of Class	.81	1.8	1.40	3.6	1.115	251	.266

Analysis Group. Based on these results, it can be concluded that the Analysis Group and the REL 200 Pretest Group were not significantly different in their reflection activities.

On the posttest, students were asked to think about their current service experience and estimate the hours they had spent in reflection through writing, discussion inside of class, and discussion outside of class. For the students who did not respond, the missing value was replaced with the series mean. Table 16 shows that at the posttest, more students indicated that they had spent time reflecting in writing and discussion inside and outside of the class.

To determine the mean hours spent in types of reflection activities for students who actually spent time on these activities, a mean was calculated just for students who had reported a reflection time of more than 0 hours. Students

Table 16

Time Spent in Reflection Activities for the Analysis Group (n = 210) at the

Posttest

Types of Reflection Activities		Number of Students and Percent Reporting Time Spent in Reflection Activities						Mean Hours	SD
		0 min.	1 – 30 min.	31 – 60 min.	61 – 90 min.	91 – 120 min.	121 + min.		
Writing	*n**	12	10	86	10	63	29		
	%	6%	5%	41%	5%	30%	14%	2.0	2.7
Discussion Inside of Class	*n*	6	7	125	1	59	12		
	%	3%	3%	60%	.5%	28%	6%	1.6	2.2
Discussion Outside of Class	*n*	48	12	72	2	54	22		
	%	23%	6%	34%	1%	26%	11%	1.5	2.4

who had reported spending time in reflection through writing (*n* = 198) spent 2.0

mean hours (*SD* = 2.8); those (*n* = 204) spending time in discussion inside of

class reported 1.6 mean hours (*SD* = 2.3); and students (n = 162) who reported

spending time in discussion outside of class reported a mean of 2.0 hours (*SD* =

2.6).

To examine the changes that occurred in the Analysis Group between the

pretest and posttest, a paired samples *t* test was computed. This analysis

compared the mean scores of the Analysis Group pretest and posttest reports of

time spent in reflection through writing and discussion inside and outside of

class. Table 17 shows that a significant increase was found in the amount of time

students spent on reflection in writing and discussion outside of class. However,

no significant difference was found on time spent on reflection in discussion outside of class.

Table 17

Analysis Group's Changes from Pretest to Posttest in Reflection Activities (n = 210)

Types of Reflection Activities	Pretest Results		Posttest Results		Test Results		
	M	*SD*	*M*	*SD*	*diff.*	*t**	Sig.
Writing	.91	1.6	1.9	2.7	-0.99	5.127	.000
Discussion Inside of Class	1.20	2.7	1.6	2.2	-0.40	-1.943	.053
Discussion Outside of Class	1.30	2.7	1.5	2.4	-.20	-1.117	.265

* Degrees of Freedom 209

Instructor and Student Teaching Assistant

Beginning with the spring 2006 semester, the Director of the REL 200 classes used student teaching assistants, for the first time, in some of the lab sessions. To determine if the student teaching assistants made any differences, it was requested that a question be created to provide this information. On the posttest only, two questions were created to explore who provided the greatest amount of content and guidance in class sessions (Q15 post) and who facilitated the greatest amount of discussion in lab sessions (Q16 post). Students were instructed to place a check by their choice. Only students who completed the posttest had the opportunity to respond to these questions.

For the Analysis Group, 185 (88%) students reported that the instructor had provided the greatest amount of content and guidance in the classroom setting, and 20 (9.5%) students indicated that the student teaching assistant had provided the greatest content and guidance. Regarding facilitation of discussion in the lab sessions, again 182 students (87%) reported that the instructor had facilitated the greatest amount of discussion, while 24 (11.4%) of students had indicated the student teaching assistant.

Attitude and Knowledge Variables

To explore students' attitudes and beliefs about service, 12 previously discussed subscales, which included 74 items, were used. A full review of the reliability of these subscales will be presented in the next chapter. Students completed these subscales on both the pretest and the posttest.

Subscales

A full description of the subscales and their operational definitions was provided in the previous chapter. To determine how representative the REL 200 Analysis Group is of the REL 200 Pretest Group, independent samples *t* tests were computed to compare the means of each group on the subscale mean (Table 18). Table 18 shows that there were no significant differences on any of the subscales. Therefore, analyses showed that the Analysis Group is very similar to the REL 200 Pretest Group on their attitude and knowledge variables.

Conclusions

This chapter analyzed how representative the Analysis Group, the data source that the service-learning program assessment is based on, is

Table 18

Comparison of Mean Subscale Score for REL 200 Pretest Group (n = 43)

and REL 200 Analysis Group (n = 210)

Subscales	Pretest Group		Analysis Group		Test Results		
	M	*SD*	*M*	*SD*	*t*	*df*	*Sig.*
Civic Attitudes	5.6	.96	5.5	1.10	-.390	251	.697
Civic Behaviors	4.3	2.00	4.1	1.20	-.627	251	.531
Civic Action	5.4	1.80	5.4	1.10	.391	251	.696
Importance of Helping	5.9	.78	6.0	.91	.491	250	.624
Social Justice Responsibility	4.8	1.30	4.6	1.30	-1.105	250	.270
Interpersonal Skills	6.3	.75	6.1	.84	-1.326	250	.186
Diversity Attitudes	2.8	1.30	3.3	1.40	1.842	249	.066
Importance of Community Service	6.0	.96	6.1	1.00	.642	250	.522
Learning About the Community	5.6	1.10	5.7	1.10	.591	250	.555
Personal Benefits of Service	5.8	.98	5.8	1.20	.212	249	.832
Motivation for Service	6.3	.74	6.2	.91	-.941	249	.348
Personal Enrichment	6.2	.78	6.0	1.00	-1.138	249	.256

representative of the total Lee University undergraduate student population and

the more selective spring REL 200 class population. The analysis shows that the

Analysis Group is not representative of the overall Lee University undergraduate

population, but it is representative of the larger REL 200 class in most measures.

Demographically, the Analysis Group tended to have more whites and females than the university student body and the REL 200 class. The Analysis Group also was compared to a larger REL 200 Pretest Group on the basis of eight educational variables and 12 social attitudes. The Analysis Group spent significantly less time in Reflection with Site Supervisors during their past service experiences than the REL 200 Pretest Group. The majority of students in the Analysis Group indicated that the instructor had provided the greatest amount of content and guidance in the classroom and had facilitated the most discussion in the lab sessions. None of the attitude and knowledge variables showed a statistical difference between the REL 200 Pretest Group and the Analysis Group.

Chapter V

STUDENT CHANGE AS A RESULT OF THE

SERVICE-LEARNING EXPERIENCE

This chapter presents the reliability analysis of the attitude and knowledge subscales in this study. Following the reliability analysis the first research question will be addressed: *Do students change in their attitudes and/or knowledge as a result of the service-learning experience?* The last section will address the two dependent variables used in this study.

Reliability Analysis of the Subscales

Each of the subscales had been tested for reliability in previous studies, and retested here. In addition to the demographic items, the student characteristic items, and the education process variables discussed in the previous chapter, there were 74 items at pretest and posttest that made-up 12 subscales about students' attitudes and knowledge related to service-learning. The items and scores for each subscale in the pretest and posttest are shown in Appendix B. A brief description of each subscale follows.

The *Civic Attitudes* subscale measured the students' personal beliefs and feelings that individuals have about their own involvement in their communities and perceived ability to make a difference in those communities. High scores

indicate that students agree that individuals should be involved in their communities.

The *Civic Behaviors* subscale measures students' likelihood to be engaged and make a difference in their communities. The higher the score, the more likely the respondent will be involved in service and working to raise social awareness through discussions and involvement in their communities.

Civic Action measures the respondents' intentions or plans for future involvement in their communities. The higher the score, the more likely respondents are to have made some plans to be involved in their respective communities in the future. *Social Justice* measures the respondents' awareness of social injustice issues and their commitment to work to reduce injustice. This subscale was used because of the importance Lee University places on social justice in their curriculum. High scores indicate that respondents have an increased awareness of social justice issues within their communities and strong commitments to address these issues.

Interpersonal Skills measures respondents' ability to work and communicate effectively with others. A high subscale score suggests that respondents feel they have a very good ability to work and communicate with others. *Diversity Awareness* measures respondents' appreciation and value of diversity and their interest in relating to culturally different people. High scores indicate that respondents are comfortable interacting with others from different cultures and values learning about different cultures.

The *Importance of Community Service* measures the degree of importance that respondents place on the act of volunteering and giving service time to their communities. Higher scores on the subscale suggest that respondents believe it is very important for them to be involved in their communities.

Learning about the Community subscale measures the level respondents will learn/learned about the community. The pretest measure offered respondents the opportunity to predict how much they believed they would learn about a community at the beginning of the course. The posttest gave the same respondents the opportunity to assess how much they felt that they actually learned about the community at the end of the course. A high pretest score indicates that respondents expect to learn much about a community at the beginning of the course, and a high posttest score indicates that the respondents actually feel they did learn much about their communities. However, a decrease from the pretest to the posttest score would indicate that the respondents' expectations were not met and they did not learn as much about their communities as they had expected.

The *Personal Benefits* subscale measures how much respondents believe they will benefit from volunteer and/or service activities. Higher scores indicate a belief that they would receive personal benefits, such as meeting others in the community, developing new skills, and personal satisfaction, from the service experience. The *Motivation for Service* subscale assesses the degree to which volunteering expresses altruistic and humanitarian concern for others, and again

higher scores suggest that students had a high degree of concern for others who were less fortunate than they, and that they feel compassion for those who are in need.

Personal Enrichment measures respondents' beliefs that volunteering provides opportunities for new learning experiences and to use their knowledge, skills, and abilities in new ways. Higher scores indicate that respondents feel that the service experiences provide new perspectives on life while providing "hands-on" experience.

A reliability analysis was conducted on all 12 subscales using the Analysis Group posttest survey results (Table 19). Ten of the subscales had reliability ratings of .90 or better, and two others had reliability ratings of .81 and .85, which was similar to reliability scores reported in earlier literature.

One subscale had a lower reliability than had been reported in the original studies (Diversity α. = .68, pretest and .69, posttest) for the Analysis Group. This alpha was less than the original alpha reported (α. = .70 SI and α. = .71 S2). Upon further examination it was concluded that three items (Q71, Q72, & Q73) could be removed to increase the reliability of this subscale. After the items were removed, the reliability was recalculated, which resulted in α = .66 (pretest) and α = .81 (posttest) for the Analysis Group. This subscale is not as reliable as anticipated; however, it may be able to provide some valuable information in the analysis and has been retained.

Table 19

Analysis Group Overview of Reliability Analysis after Reverse Scoring and Items Removed on the Posttest (n = 210)

SUBSCALES	Number of Items	Analysis Group Posttest Alpha Scores
Civic Attitudes	8	.94
Civic Behaviors	6	.85
Civic Action	8	.93
Importance of Helping	11	.96
Social Justice Responsibility	7	.93
Interpersonal Skills	7	.93
Diversity Attitudes	2	.81
Importance of Community Service	3	.93
Learning About the Community	5	.92
Personal Benefits of Service	4	.91
Motivation for Service	5	.92
Personal Enrichment	5	.95

Attitude and Knowledge Change

To address the first research question, ***Do students change in their attitudes and/or knowledge as a result of the service-learning experience?***, paired *t* tests were conducted to identify where students started on these different attitudes and knowledge areas, and which of them changed after the service-learning experiences. There were significant ($p < .05$) positive increases on four of the subscales: Civic Attitudes, Civic Behaviors, Civic Action, and Social Justice (Table 20). However, six of the seven remaining subscales had subscale

Table 20

Analysis Group's Changes from Pretest to Posttest in Subscale Scores (n = 210)

Subscales	Pretest Results		Posttest Results		Test Results			
	M	*SD*	*M*	*SD*	*diff.*	*t*	*df*	*Sig.*
Civic Attitudes	5.5	1.10	5.7	1.1	0.2	-2.986	209	.003*
Civic Behaviors	4.1	1.20	4.5	1.20	0.4	-5.331	209	.000*
Civic Action	5.4	1.20	5.6	1.10	0.2	-2.705	209	.007*
Social Justice	4.5	1.30	5.1	1.20	0.6	-7.713	208	.000*
Importance of Helping	6.0	.91	6.0	1.00	0	.355	207	.723
Interpersonal Skills	6.1	.86	6.2	.90	.1	-.608	207	.544
Importance of Community Service	6.1	1.00	6.1	1.00	0	-.592	209	.555
Personal Benefits	5.8	1.20	5.9	.99	0.1	-1.241	209	.216
Diversity Attitudes	4.7	1.40	4.7	1.40	0	-.358	208	.721
Motivation for Service	6.2	.91	6.3	.85	0.1	-1.905	207	.058
Personal Enrichment	6.0	1.00	6.1	.93	0.1	-1.728	207	.086
Learning About the Community	5.7	1.10	5.3	1.30	-0.4	3.857	209	.000*

mean scores at the pretest that ranged from 5.8 to 6.2 out of a 7-point interval

scale. Their posttest subscale scores ranged from 5.9 to 6.3. These subscales

were Importance of Helping, Interpersonal Skills, Importance of Community

Service, Personal Benefits of Service, Motivation for Service, and Personal Enrichment. Of these subscales, Motivation for Service and Personal Enrichment showed a positive change that was not significant at the p = .05 level. If a significance level of p = .10 were used, these two subscales would have been significant with their p values at .058 and .086 respectively showing a trend towards significance. Moreover, the high pretest subscale scores on the remaining subscales indicate that many students came to this service-learning experience with strong positive attitudes and beliefs that were embodied within these subscales. Therefore, there was relatively little room for these students to improve in their attitudes or knowledge, especially related to the Importance of Helping, Interpersonal Skills, and Importance of Community Service.

One of the scales, Diversity Attitudes, did not show a significant change in the mean scores from pretest to posttest. This subscale sought to measure the students' appreciation of and their value of diversity, and their interest in relating to culturally diverse individuals. In a previous study using the Diversity Attitudes subscale Moely, McFarland, et al. (2002) also found that it did not show a change from pretest to posttest. They suggested that this result might be explained by limitations inherent within the subscale; the issues with this scale's reliability analysis would support this assessment. The same authors (Moely, McFarland, et al., 2002) felt it could be due to weaknesses within the structure of the service-learning program regarding diversity but this study did not assess the viability of the learning objectives to the educational programs design, so this study cannot comment on this possible explanation.

A significant negative difference was found with the Learning about the Community subscale, suggesting that students reported a lower mean score on the posttest after the service-learning experience. This change indicates that students anticipated that they would learn more about the community than they reported at the posttest which occurred at the last lab session. This result suggests that neither the service-learning experience nor the course content met the students' expectations for what they had expected to learn about the community.

The Social Justice Subscale posttest mean score of 5.1 (SD = 1.2) was an increase of .6 from the pretest score. However, out of the seven items, only one item specifically asked students about their commitment to work for social justice changes in society. On this item (Q53 pre and post), students in the Analysis Group had a mean score of 4.7 (SD = 1.5) on the pretest and 5.2 (SD = 1.5) on the posttest. This result indicates a net increase of .5 in the students' mean scores.

Of the seven Social Justice items, two items had the greatest increase in the mean score: "I know how to organize efforts for social change," which had a pretest mean of 3.7 and a posttest mean of 4.4. This result was an increase of .7, which indicates that students felt they had learned something from the course during the semester or through their service experience that helped them to feel that they knew more about organizing efforts for social change. The second item was the subscale question with the greatest change. This item asked students to rate their level of agreement with the statement "I have a good understanding of

the social justice issues in the community where I am going to provide service."
The mean score on this item was 3.8 and 4.7 at the pretest and posttest
respectively, which was an increase of .9. This change would suggest that
students felt they had a better understanding of social justice issues that were
embedded in the communities where they served after completing the service-
learning experience.

Dependent Variables

In addition to the subscales reviewed above, two items (Q105 and Q106)
were used on the pretest and posttest surveys to measure students' perceptions
of critical thinking (Table 21). Four additional items were added to the posttest to
assess students' perceptions of their own learning: the amount they believed
they have changed as a result of the service-learning experience (Q9 post), their
perception of how much knowledge and learning they have obtained (Q10 post),
how much that service-learning has deepened their interest in the subject matter
of the course (Q13 post), and how much they perceived that their faith has
developed as a result of the service learning experience (Q14 post) (Table 21).
These two items, Critical Thinking and Learning Perceptions, will be used as
dependent variables in the final analysis.

Examination of the Reliability of the Critical Thinking
and the Learning Perceptions Subscales

Principal component analysis with no rotation was conducted on the six items
that were created to measure the students' learning perceptions and their own
self-ratings of their ability to apply critical thinking and problem-solving skills.

131

Table 21

Dependent Variables and the Items

Variable	Item #	Items
Critical Thinking (pre and post)	105	Rate yourself, compared to others, on your ability to analyze and solve problems.
	106	Rate yourself, compared to others, on your ability to apply and use critical thinking skills.
Learning Perceptions (post only)	9	How much do I think I have changed as a result of the service-learning experience?
	11	Compared to other university experiences, how much knowledge and learning do you think you obtained as a result of the service-learning experience?
	13	I believe that participating in service-learning deepened my interest in the subject matter of this course.
	14	Compared to other university learning experiences, how much do you feel that your faith has developed as a result of this service-learning experience?

This analysis resulted in two separate components. The first component consists of four items with factor loadings ranging from .79 to .81 and accounted for 49% of the total variance. This component has been labeled Learning Perceptions. The second component consists of two items with factor loadings of .76 and .84 and accounted for 25% of the total variance explained. This component has been labeled Critical Thinking. Eigenvalues for both factors were greater than 1.0 and the variance that was explained by both factors together was 74% of the matrix variance.

A reliability analysis was conducted to determine if these measures were reliable. Table 22 shows that the Learning Perceptions Subscale proved to be a

reliable measure with a Cronbach alpha of .85 with corrected item-total scores ranging from .67 - .72.

Table 22

Reliability, Mean, and Standard Deviation for the Learning Perceptions Subscale at the Posttest (*n* = 210)

Learning Perceptions Subscale	Number of Items	Alpha	Mean	*SD*
Learning Perceptions	4	.85	17.8	4.8

Table 23 shows that the Critical Thinking Subscale proved to be a reliable measure, with a Cronbach alpha of .79 at the pretest and .80 at the posttest with both corrected item-total correlations equal to .66 at both the pretest and the posttest.

Because the Critical Thinking measures were administered on both the pretest and the posttest, it is possible to explore the level of reported change that occurred in students' perceptions to apply critical thinking and problem-solving skills. To test the significance of the change, a paired samples t-test was used and is reported in Table 24. The Critical Thinking measures indicate a significant positive change on the subscale, revealing that students self-reported a higher level of ability to apply critical thinking and problem-solving skills at the posttest.

Table 23

Reliability, Mean, and Standard Deviation for the Critical Thinking Subscale at the Pretest and Posttest (n = 210)

Subscale	Number of Items	Analysis Group Pretest			Analysis Group Posttest		
		Alpha	*M*	*SD*	Alpha	*M*	*SD*
Critical Thinking	2	.79	10.5	1.8	.80	10.7	1.7

Table 24

Analysis Groups' Change on the Critical Thinking Scale (n = 210)

Critical Thinking Subscale	Pretest Results		Posttest Results		Test Results			
	M	*SD*	*M*	*SD*	*diff.*	*T*	*df*	*Sig.*
Critical Thinking	10.4	1.7	10.7	1.8	-.4	-2.197	207	.029

Conclusions

This chapter reported the reliability assessments of the subscales used in this study. All subscales were determined to be reliable within the ranges reported from the previous studies with the exception of the Diversity Awareness subscale. After assessing of the individual items, three items were removed from

the Diversity Awareness subscale for this study, and the reliability increased to greater than the literature had reported.

Twelve subscale change scores for the Analysis Group were reviewed to determine if students' attitudes and knowledge had changed following the service-learning experiences that occurred by the final lab session. Results of the paired samples t test indicate that students experienced significant positive changes on four subscales: Civic Attitudes, Civic Behaviors, Civic Action, and Social Justice, indicating that students, on average, reported higher mean scores at the posttest than at the pretest administration. Two subscales change scores, Motivation for Service and Personal Enrichment, showed a trend toward significance, and four subscales that did not show change, already had high scores at the pretest (Importance of Helping, Interpersonal Skills, Importance of Community Service, and Personal Benefits). This result indicates that most students had a high predisposition toward these attitudes and knowledge areas before entering the course; thus, there was little room for change in these four subscales.

The dependent variables, Learning Perceptions and Critical Thinking, which will be used in the final analysis, were introduced and discussed. Independent t tests and bivariate correlations between the dependent and independent variables to determine which variables will be entered into a regression analysis will be discussed in the next chapter.

Chapter VI

PREDICTING CRITICAL THINKING AND LEARNING PERCEPTIONS

The previous two chapters discussed all variables included in this study. All independent variables were grouped into three major categories: Student Background and Characteristics, Educational Process, and Attitude and Knowledge variables. Reliability assessments were conducted to confirm the reliability of all subscales. Two subscales related to critical thinking and learning perceptions, that are dependent variables in this analysis, were introduced and discussed.

As a brief review, Critical Thinking is a subscale, composed of two items, that were used in the pretest and posttest to measure the students' self assessments of their own ability to analyze and solve problems and their ability to apply and use critical thinking skills. The Learning Perceptions scale, which is made up of four items, was used in the posttest. This subscale measures students' self assessments of the amount of change, knowledge, and learning gained as a result of the service-learning experience. These two scales are the dependent variables in the final analysis.

Variables Related to Dependent Variables

To prepare for the regression analysis that will be used to answer the final research question, independent samples *t* tests were computed to compare the

mean scores for critical thinking and learning perceptions and nominal grouping for race, gender, and teaching source who was most helpful and facilitated the most guidance with discussion. Pearson correlations were used to determine which interval level, independent variables were related to the two dependent variables: learning perceptions and critical thinking.

The next step was to correlate the variables from the independent samples *t* tests and the paired samples *t* tests to the dependent variables. This task was completed in two steps. In the first step the significant results of the independent samples *t* test and the paired samples *t* test pretest and change scores were correlated with the dependent variables. In the second step the non-significant results of the independent samples *t* test and the paired samples *t* test pretest scores and change scores were correlated with the dependent variables. The posttest results of all reflection variables were entered into the correlation, resulting in a set of variables that was significant or not significant. The variables that were significantly correlated with the dependent variables were then selected for the multiple regression equation that will be discussed later in this chapter.

These analyses were computed to test which items were significantly related to the dependent variables. The ultimate goal of these analyses is to narrow the number of variables that will be entered into the regression analysis. A general rule of thumb is 10 – 20 participants for each variable in a regression analysis (Tabachnick & Fidell, 2001; Keith, 2006). Through these analyses the variables to be entered into the regression analysis for learning perceptions was reduced to 18 variables, and the critical thinking variables to 12.

Relationship Between Nominal Independent Variables and

Dependent Variables

      To determine the impact that gender and race had on the score of both dependent variables, learning perceptions and critical thinking, an independent samples *t* test was calculated. The learning perceptions mean score for the females (*M* = 17.7, *SD* = 4.8), was not significantly different from the males (*M* = 17.8, *SD* = 4.8) and the mean score for learning perceptions of those who were white (*M* = 17.5, *SD* = 4.8) was not significantly different than those who are not white (*M* = 19.5, *SD* = 4.8). Therefore, gender and race were not significantly related to the students' learning perceptions (Table 25).

      Similar results were found between the mean score for critical thinking of the females (*M* = 10.6, *SD* = 1.7) and the males (*M* = 10.8, *SD* = 1.8) and the mean score for critical thinking of those who were white (*M* = 10.6, *SD* = 1.8) and not white (*M* = 11.1, *SD* = 1.6). Therefore, it can be concluded that gender and race were not significantly related to students' critical thinking scores.

      To explore the group differences between the instructor or the student teaching assistant and the dependent variables (Critical Thinking and Learning Perceptions), an independent samples *t* test again was used. Table 26 shows that the amount of content and guidance provided by the instructor or the student teaching assistant in class sessions was not significantly related to the students' critical thinking or learning perception scores.

      The students' mean scores on Critical Thinking was not significantly different for students who reported the instructor was the most helpful

Table 25

Relationship of Gender and Race to Critical Thinking and Learning

Perceptions Scale Scores

	Critical Thinking			Learning Perceptions		
	t*	<u>df</u>	<u>Sig.</u>	*t**	<u>df</u>	<u>Sig.</u>
Gender	-.744	206	.458	-.077	206	.939
Race	-1.318	203	.189	-1.881	203	.189

*Used Independent Samples *t*-test

(M = 10.7, SD = 1.7) compared to those who did not indicate that the instructor

was most helpful (M = 10.7, SD = 1.7). The students' mean scores on Learning

Perception did not differ significantly between those who indicated that the

instructor had been the most helpful (M = 17.9, SD = 4.7) and those who did not

(M = 16.8, SD = 5.4).

The students were also asked to indicate whether the student teaching

assistant had provided the greatest amount of content and guidance in class

sessions. Again, there were no significant group differences found between the

mean scores on critical thinking and learning perception between the students

who indicated that the student teaching assistant had provided the greatest

amount of content and guidance (M = 11.0, SD = 1.7 for Critical Thinking and M

= 17.8, SD = 5.5 for Learning Perceptions) and those who had indicated that the

student teaching assistant had not provided the greatest amount of content and

guidance in class sessions (*M* = 10.7, *SD* = 1.7 for Critical Thinking and *M* = 17.8, *SD* = 4.7 for Learning Perceptions).

Table 26

Comparison of the Impact that the Instructor or Student Teaching Assistant had on the Dependent Variables: Critical Thinking and Learning Perceptions

Source Most Helpful	Critical Thinking			Learning Perceptions		
	*t**	df	Sig.	*t**	df	Sig.
Instructor	.034	206	.973	1.044	206	.298
Student Teaching Assistant	.600	206	.549	.044	206	.965

** Used Independent Samples *t*-test

      The students were also asked to identify whether the instructor or student teaching assistant had facilitated the greatest amount of discussion in the lab sessions. An independent samples *t* test was used to test for relationships between instructor or student teaching assistant facilitator to guide discussion and the dependent variables. Results shown in Table 27 indicate that no significant relationships were found.

      The students' mean scores on Critical Thinking were not significantly different for students who reported the instructor had facilitated the greatest amount of discussion (*M* = 10.8, *SD* = 1.7) compared to those who did not (*M* = 10.2, *SD* = 1.7). Neither did students' mean scores on Learning Perceptions

Table 27

Relationship of Instructor or Student Teaching Assistant as Facilitator of Discussion with Critical Thinking and Learning Perceptions Scale Scores

Sources that Facilitated the Greatest Amount of Discussion	Critical Thinking			Learning Perceptions		
	t*	df	Sig.	*t**	df	Sig.
Instructor	1.585	206	.115	.071	206	.944
Student Teaching Assistant	-.407	206	.684	1.306	206	.193

*Used Independent Samples *t*-test

differ significantly between those who indicated that the instructor had provided the greatest amount of discussion in the lab sessions (*M* = 17.8, *SD* = 4.9) and those who did not (*M* = 17.7, *SD* = 4.3).

The students were also asked to indicate whether the student teaching assistant had facilitated the greatest amount of discussion in the lab sessions. There were no significant differences found between the mean scores on the critical thinking and the learning perceptions between the students who indicated that the student teaching assistant had facilitated the greatest amount of discussion (*M* = 10.5, *SD* = 1.8 for Critical Thinking and *M* = 19.0, SD = 4.4 for Learning Perceptions) and those who had not (*M* = 10.7, *SD* = 1.7 for Critical Thinking and *M* = 17.6, SD = 4.9 for Learning Perceptions).

Correlations Between Interval Independent Variables

and Dependent Variables

Bivariate correlations were used to determine relationships between interval, independent variables and the two dependent variables. The correlation coefficient will indicate the strength of the relationship between dependent and independent variables. A Bivariate correlation between an independent variable that is significant at the .05 level or less would be considered significantly related to the dependent variable.

Bivariate correlation results, shown in Table 28, indicate that there were nine variables significantly correlated with Learning Perceptions: Civic Attitudes pretest, Civic Attitudes change, Civic Action pretest, Civic Action change, Social Justice pretest, Learning about the Community pretest, Learning about the Community change, Reflection with Individuals post, and Reflection in Discussion Outside of Class post. Five variables were significantly correlated with Critical thinking: Civic Behaviors pretest, Civic Action pretest, Civic Action change, Social Justice pretest, and Learning About the Community pretest. The significant correlation (*r*'s) ranged from .157 - .212 for Critical Thinking and .139 - .397 for Learning Perceptions. These variables were retained for the final analysis.

It was anticipated that variables that were not significant in earlier analyses were less likely to be related to the dependent variable. However, to test these assumptions variables that were not found to be significant in the independent samples *t* test and the paired samples *t* test were also correlated with the dependent variables. The exceptions are the variables of gender, race

Table 28

Correlations between Significant Independent Variables and the Dependent Variables

	Learning Perceptions Post		Critical Thinking Post	
	r	Sig.	*r*	Sig.
Civic Attitudes Pre	.204**	.003	.082	.240
Civic Attitudes Change	.180**	.009	.131	.059
Civic Behavior Pre	.124	.074	.208**	.003
Civic Behavior Change	.109	.119	.110	.115
Civic Action Pre	.279**	.000	.157**	.024
Civic Action Change	.139*	.045	,166*	.016
Social Justice Pre	.344**	.000	.195**	.005
Social Justice Change	.103	.138	.086	.220
Learning About the Community Pre	.285**	.000	.212**	.002
Learning About the Community Change	.397**	.000	.123	.077
Reflection with Individuals Post	.151*	.029	.086	.217
Reflection in Writing Post	.133	.055	.070	.312
Reflection in Discussion Inside of Class Post	.120	.084	.065	.354
Reflection in Discussion Outside of Class Post	.223*	.001	.045	.519

** Significant at p = .01
* Significant at p = .05

and instructor impact on content and guidance, student teaching assistant on content and guidance, instructor facilitation of discussion, and student teaching assistant facilitation of discussion. Since these variables are nominal measures, they do not meet the interval measurement assumption for a correlation analysis; these variables were excluded from this analysis. The results are presented in Table 29.

Bivariate correlation results indicated that 11 variables were significantly correlated with Learning Perceptions: Perception of Parent's Involvement, Importance of Helping pretest, Importance of Helping Change, Interpersonal Skills pretest, Diversity Attitudes pretest, Importance of Community Service pretest, Personal Benefits pretest, Motivation for Service pretest, Personal Enrichment pretest, Reflection with Individuals posttest, and Reflection in Discussion Outside of Class posttest. Correlation coefficients (r's) ranged from .151 - .272. Seven variables were significantly correlated with Critical Thinking: Importance of Helping pretest, Interpersonal Skills pretest, Interpersonal Skills change, Diversity Attitudes pretest, Personal Benefits pretest, Motivation for Service pretest, and Personal Enrichment pretest. Correlation coefficients (r's) ranged from .140 - .307. Results reported in Tables 28 and 29 resulted in a total of 18 variables that were retained and entered into the multiple regression to predict Learning Perceptions and a total of 12 variables that were retained and entered into a multiple regression analyses to predict Critical Thinking.

Table 29

Bivariate Correlations between Non-significant Independent Variables and

Dependent Variables

	Learning Perceptions Post		Critical Thinking Post	
	r	Sig.	*r*	Sig.
Past Volunteer Experience	.066	.343	-.020	.778
Past Service-Learning Experience	-.073	.293	.039	.581
Likelihood of Doing Service Without Requirement	.072	.304	-.093	.181
Perception of Parents' Involvement in Community Service	.155*	.025	.114	.102
Importance of Helping Pre	.255***	.000	.163*	.019
Importance of Helping Change	.179**	.010	.136	.052
Interpersonal Skills Pre	.200**	.004	.307**	.000
Interpersonal Skills Change	.098	.158	.140*	.045
Diversity Attitudes Pre	.153*	.028	.192**	.006
Diversity Attitudes Change	-.011	.880	.060	.393
Importance of Community Service Pre	.259***	.000	.100	.150

Table 29 (Con't.)

Bivariate Correlations between Non-significant Independent Variables and

Dependent Variables

	Learning Perceptions Post		Critical Thinking Post	
	r	Sig.	*r*	Sig.
Importance of Community Service Change	.009	.903	.096	.166
Personal Benefits of Service Pre	.272***	.000	.186**	.007
Personal Benefits of Service Change	.042	.543	.098	.158
Motivations for Service Pre	.229**	.001	.202**	.003
Motivations for Service Change	.061	.387	.050	.471
Personal Enrichment Pre	.269***	.000	.146*	.035
Personal Enrichment Change	.096	.169	.074	.289
Reflection with Individuals Post	.151*	.029	.086	.217
Discussion in Writing	.133	.055	.070	.312
Discussion Inside of Class Post	.120	.084	.065	.354
Discussion Outside of Class Post	.223	.001	.045	.519

Predicting Learning Perceptions and Critical Thinking

The second research question was *Which of the predictor variables*

contribute most to a change in the dependent variables, Learning

Perceptions and Critical Thinking? A backward, stepwise multiple regression

was conducted to determine which independent variables retained from the earlier analysis were predictors of each dependent variable. In a backward deletion multiple regression, all of the desired variables are entered into the equation and are deleted if they do not significantly contribute to the regression analysis (Mertler & Vannatta, 2002). Again, based on the previous analysis, only the variables that were significantly correlated with each dependent variable were used in the final regression analysis.

Multicollinearity is an issue that must be addressed in a multiple regression. Multicollinearity arises when the independent variables are moderately to strongly correlated, suggesting that the variables are measuring the same thing (Mertler & Vannatta, 2002). To assess for multicollinearity, a two-step process was used: (a) bivariate correlations were computed to determine which variables were moderately to highly correlated with one another (Correlation Tables are in Appendix C); (b) the variance inflation factor and the tolerance measures were examined in the regression analysis. The easiest way to deal with multicollinearity is to delete the variable in question (Mertler & Vannatta, 2002)

Cronk (1999) contended that variables are moderately correlated with relationships of .3 to .7, and relationships higher than .7 are considered to be strong relationships. Variables that were correlated with r's greater than .3 were further scrutinized prior to running the regression analysis. After the analysis was computed, tolerance and variance inflation factor (VIF) were examined to look for further evidence of multicollinearity. According to Mertler and Vannatta (2002)

tolerance values can range from 0 to 1 with a typical cut off point at 0.1. Values less than 0.1 indicated a problem of multicollinearity. VIF examines the variables to determine if there is strong linear relationship, and while there are not hard and fast rules, Mertler and Vannatta (2002) suggested that values greater than 10 are a strong indication of multicollinearity.

For this study, more conservative estimates have been adopted to ensure that the variables are not measuring the same construct. Tolerance values will be greater than 0.3, and the VIF values will be less than 3.0. This tactic should assist in obtaining a model that does not include variables that are highly correlated with one another, thus ensuring that the independent variables are indeed measuring different constructs.

Learning Perceptions

Based on the bivariate correlations with the significant and non-significant variables, 18 independent variables were retained from the following categories: Student Characteristics (Extent of Parents Involvement in Service), Educational Process Variables (Reflection with Individuals and Reflection through Discussion Outside of class), and Attitude and Knowledge Variables (Civic Attitudes pretest and change score, Civic Action pretest and change score, Social Justice pretest, Learning About the Community pretest and change score, Importance of Helping pretest and change score, Interpersonal Skills pretest, Diversity Awareness Attitudes pretest, Importance of Community Service pretest, and Personal Benefits of Service pretest, Motivation for Service pretest, Personal Enrichment pretest). To assess further for multicollinearity, the independent variables were

correlated with one another (Appendix C). Variables that had relationships greater than .3 were scrutinized further for multicollinearity through examination of the VIF and tolerance factors in the regression analysis.

Regression results generated 14 models with statistical significance. The first model (R^2 = .481, R^2 adj = .431, F (18,186) = 9.586, p = .000) included all 18 independent variables. However, when examining for tolerance and VIF, this model did not meet the criteria of a tolerance greater than 0.3 and VIF of less than 3.0, and an examination of regression coefficients indicated that not all the variables had a statistically significant impact upon Learning Perceptions.

The final regression model retained only four independent variables. This is the most parsimonious model that explains the most variance in the dependent variable: Learning Perceptions. The four predictors were Social Justice pretest score, Learning about the Community pretest score, Learning about the Community change score, and Discussion Outside of Class posttest score. The unstandardized regression coefficients (*b*) and the standardized regression coefficients (β) are presented in Table 30. The regression model was statistically significant, R^2 = .458, R^2 adj = .447, F (4,200) = 42.202, p = .000, and accounted for approximately 46% of the variance in the dependent variable, Learning Perceptions.

The beta (*b*) for each variable associated with Learning Perceptions is presented in the units or terms of that specific variable, i.e. the units for the reflection variable are time and units for the other variables are interval on 7-point Likert type scales. A better comparison is the standardized coefficients (β), in

Table 30

Backward Regression Analysis for Final Model Predicting Learning

Perceptions

Predictor Variables	Unstandardized Coefficients		Standardized Coefficients		
	B	SE B	β	t	Sig.
Social Justice Pretest	.733	.249	.193	2.946	.004
Learning About the Community pretest	1.656	.311	.381	5.321	.000
Learning About the Community Change	2.219	.224	.571	9.884	.000
Reflection: Discussion Outside of Class Posttest Score	.424	.117	.192	3.636	.000

R^2= .458, R^2adj = .447, F (4,200) = 42.202, p = .000

which all variables have been converted into common units of measurement. The

common measure makes it easier to compare variables.

In this analysis, the Learning about the Community change score (.571)

has a more powerful influence on Learning Perceptions than the Social Justice

pretest score (.193), the Learning about the Community pretest score (.381), and

Discussion Outside of Class pretest score (.192). The standardized coefficient

.571 indicates that each standard deviation increase in the Learning about the

Community change score would bring about an increase of .571 standard

deviations in the students' Learning Perceptions score. This finding suggests that

for every point increase on the Learning about the Community change score, the

Learning Perceptions score would increase by 2.219 points.

Critical Thinking

The regression analysis for this dependent variable included 12

independent variables that were all attitude and knowledge variables (Civic

Behaviors pretest, Civic Action pretest, Civic Action change, Social Justice

pretest, Learning about the Community pretest, Importance of Helping pretest,

Interpersonal Skills pretest, Interpersonal Skills change, Diversity Awareness

pretest, Personal Benefits of Service pretest, Motivation for Service pretest, and

Personal Enrichment pretest). The analysis generated nine models. The 12

model (R^2 = .221, R^2 adj = .172, F (12,191) = 4.513, p = .000) included all twelve

independent variables. However, when examining for tolerance and VIF, this

model did not meet the criteria of a tolerance greater than 0.3 and VIF of less

than 3.0, and an examination of regression coefficients indicated that not all the

variables had a statistically significant impact upon Critical Thinking.

The model shown in Table 31 that best predicted the variance in Critical

Thinking included four variables (Civic Behaviors pretest, Civic Action change

score, Interpersonal Skills pretest, and Interpersonal Skills change score) that

were statistically significant (R^2 = .205, R^2 adj = .189, F (4,199) = 12.810, *p* = .000).

Table 31

Backward Regression Analysis for Final Model Predicting Critical Thinking

Predictor Variables	Unstandardized Coefficients		Standardized Coefficients		
	B	**SE B**	**β**	**t**	**Sig.**
Civic Behaviors Pretest	.216	.105	.152	2.051	.042
Civic Action Change	.228	.129	.135	1.770	.078
Interpersonal Skills Pretest	.755	.160	.368	4.715	.000
Interpersonal Skills Change	.525	.175	.240	3.002	.003

R^2= .205, R^2adj = .189, F (4,199) = 12.810, p = .000

The four variables (Civic Behaviors pretest, Civic Action change, Interpersonal Skills pretest, and Interpersonal Skills change) accounted for approximately 21% of the variance in Critical Thinking. Each independent variable had a statistically significant impact on Critical Thinking. However, the Interpersonal Skills pretest (.368) had a stronger influence on Critical Thinking than did Interpersonal Skills change score (.240), Civic Behaviors pretest (.152) or Civic Action change score (.135). This result indicates that for each standard deviation increase in the Interpersonal Skills pretest, an equal positive increase

of .368 standard deviations in the students' perceptions of their own Critical Thinking would be expected to occur. These results indicate that for every point increase on the Interpersonal Skills pretest score, the Critical Thinking score would increase by .755 points.

CHAPTER VII

DISCUSSION

This chapter presents a summary of service-learning outcomes at Lee University. The implications of the study's findings, the limitations of the study, and the need for further research are discussed.

Overview of the Study

Lee University, a private, faith-based institution in Cleveland, Tennessee. Lee University began a mandated service-learning program for all students in the fall of 2003. A pretest/posttest survey was administered to all students in the Biblical and Theological Foundations for Benevolence (REL 200) class during the spring 2006 semester, and students who completed both the pretest and posttest surveys ($n = 210$, 70% of all students enrolled in REL 200) were used in this analysis. A comparison of students in the Analysis Group with students who completed only the pretest indicated that students in the Analysis Group are very similar to all students in the REL 200 class.

A primary goal of this research has been to measure outcomes of the service-learning component of the REL 200 course. The Southern Association of Colleges and Schools (SACS), the accrediting body for Lee University, mandated that Lee University provide outcome measures of service-learning. In order to be responsive to their accreditation requirements, it is hoped that this study will

provide Lee University the outcome information needed to satisfy the accrediting board's information requirements.

To clarify what outcomes should be measured in this study, a definition of service-learning was proposed in the first chapter. This definition was created, by this researcher, to address specifically Lee University's faith-based mission and commitment to service-learning. The definition contains five components: Directed, organized service, Enhanced academic learning, Purposeful civic engagement, Guided reflection, and Christian values.

The theory of Experiential Learning was introduced and discussed in the second chapter. Kolb and Fry (1974) described the key elements of experiential learning and these elements were used as a model paradigm of this study. The experiential learning model is based on the following: here-and-now experience, collection of data and observations about the experience, analysis and conclusions provided as feedback to the participants, and finally the participants' ability to modify their own behavior and ideas as they prepare for new experiences. It is this model of experiential learning and the newly created definition that provided the foundation for what would be included in this study's service-learning outcome measures to answer the following research questions:

1. Do students change in their attitudes and/or knowledge as a result of the service-learning experience?

2. Which of the predictor variables contribute most to a change in the dependent variables: Learning Perceptions and Critical Thinking?

The study employed a pretest/posttest quantitative research design to examine service-learning outcomes. A pretest/posttest survey was administered at the beginning of the semester and at the last lab session to measure the impact that demographics, prior experience with service, and educational processes would have on service-learning outcomes.

Study Findings and Implications

Independent variables were divided into three major categories: student background and characteristics, educational process variables, and attitude and knowledge variables.

The Analysis Group was primarily white (88%) and female (68%) with a mean age of 21 years (SD = 3.5). These students reported a mean GPA of 3.39 (SD = .48), and the Analysis Group had somewhat higher representation from Behavioral and Social Sciences, Education, and Religion majors. One hundred and thirty six (54%) students reported they were sophomores, and 56 (27%) indicated that they had transferred to Lee University from another institution of higher education. Based on a chi-square analysis, the Analysis Group was representative of the overall REL 200 students but was significantly different than the Lee University population. Therefore, the Analysis Group is not representative of the total Lee University student body.

Because of the emphasis on reflection in the service-learning literature, the time that students spent in reflection and the facilitation provided by instructors or teaching assistants was collected in an effort to determine the effect of reflection processes on service-learning outcomes. Time spent in

reflection, the source guiding the reflection activity, and the type of reflection were measured. The data indicated that students were spending more time in reflection at the end of the course than they had in previous volunteer or service-learning experiences. The time that students reported having spent in reflection with peers, instructors, and site supervisors had increased significantly from the pretest to the posttest at the end of the semester. Since all three of these items increased significantly, they were combined into one variable for the final analysis: Reflection with Individuals. To explore further the role of reflection on the service-learning experience, students were asked to indicate the amount of time they had spent in reflection through writing, discussion inside and outside of class on both the pretest and the posttest. Results show that students were spending significantly more time in reflection through writing and discussion inside of class activities at the end of the semester. Eighty-eight percent of students reported that the instructor as compared to the student teaching assistant provided the greatest amount of content and guidance in the classroom as well as facilitated the most discussion in the lab sessions.

To measure changes in attitudes and knowledge related to experiential learning variables, 12 previously validated subscales reported in the literature were used. All of the subscales were found to be reliable measures, with Cronbach alphas ranging from .81 to .96 at the posttest, and were retained for the final analysis. The comparison of pretest/posttest attitude and knowledge scores indicated that students had significant (p = .05) positive increases on four subscales: Civic Attitudes, which measured the students' personal beliefs and

157

feelings about their own involvement in their community and their perceived

ability to make a difference; Civic Behavior, which measured students' likelihood

to be engaged and make a difference in their communities; Civic Action, which

measured the students' intentions or plans to be involved in their communities in

the future; and Social Justice, which measured the respondents' awareness of

social injustice issues and their commitment to work to reduce injustice. At the

pretest the students had mean subscale scores ranging from 4.1 to 5.5 on these

four subscales and posttest mean scores of 4.5 to 5.7. Students had the greatest

amount of change on the Social Justice subscale (4.5 – pretest; 5.1 – posttest).

Social Justice is an important component of the Lee University program as it is

included in the University's mission statement. The findings reported above

suggest that the service-learning program at Lee University is influencing

students' attitudes concerning social justice.

Students had near-significant changes on two other subscales: Motivation

for Service, which assessed the degree to which volunteering expresses altruistic

and humanitarian concern for others, and Personal Enrichment, which measured

the respondents' beliefs that volunteering provides opportunities for new learning

experiences and for using their knowledge, skills, and abilities in new ways. On

these two subscales, students had fairly high pretest scores (6.2 and 6.0

respectively) and still had near-significant changes in these two groups of

attitudes, with posttest scores at 6.2 and 6.1 respectively; this result indicates

that even though students came into this program with an inherent motivation to

serve and felt they would gain some personal benefits through service, they still experienced some positive gains in their attitudes.

Four subscales (Importance of Helping, Interpersonal Skills, Importance of Community Service, and Personal Benefits) had high pretest scores ranging from 5.8 to 6.1. These scores suggest that students came into this program with strong positive attitudes and knowledge in these areas. The scores on these subscales indicate that students may need a more advanced service-learning experience that will challenge them to engage more fully in the community rather than teaching them the importance of individuals serving in the community and how they can benefit from it. Many Lee University students come into this course with strong positive attitudes and beliefs.

The Diversity Awareness is one subscale that did not perform well in this study. Students scored fairly low on the pretest and posttest (4.7 on both), which indicated that there is much room for improvement in these attitudes, yet none was noted. As outlined earlier in Chapter 5, this subscale has not performed well in previous studies. Measurement problems with this subscale discussed in Chapter 5 indicate that the subscale may have inherent flaws and needs to be redesigned or that more research is needed to find a better measure for diversity attitudes. Such research would serve to identify possible dimensions that could be measured when seeking information about students' diversity attitudes.

However, Lee University could also benefit by examining the way in which diversity is dealt with in the course to ensure that diversity is being taught and discussed in a way that would facilitate greater sensitivity and appreciation for

this topic. That students scored lowed in Diversity Awareness raises the question of what types of learning experiences students are having that provide growth opportunities in the area of diversity; does the curriculum include a component on diversity in a way that raises awareness and sensitivity to diversity issues within the community?

Students experienced a negative change, which was significant at the .000 level, on another subscale: Learning about the Community. Students had a fairly high pretest assessment of what they anticipated they would learn about the community (5.7), but at the posttest, when they were asked to rate what they actually learned about the community, the assessment was significantly lower (5.3). This change indicates that students' expectations of what they would learn about the community were not met. Again, the administration could work with faculty to see what types of learning would increase student interests and work to incorporate such learning activities into the course.

Four independent variables were significant predictors of Learning Perceptions. Of these, three were Attitude and Knowledge variables, and one was an Educational Process variable. These variables accounted for approximately 46% of the variance in the dependent variable. Through examination of the standardized coefficients (β) the strongest predictor of Learning Perceptions was the Learning about the Community change score (.571), which had a more powerful influence on Learning Perceptions than Reflection through discussion outside of class posttest (.192), Social Justice pretest (.193), and Learning about the Community pretest (.381). Therefore, as

students perceive that they have learned about the community, their scores on the Learning about the Community subscale should increase, which would influence the overall Learning Perceptions in a positive way.

The educational process variable that was related to the students' learning perceptions was Reflection in Discussion Outside of Class posttest score. The standardized coefficient takes all of the variables' measurements and converts them into a common measure so that a comparison can be made. Students were asked to estimate how much time they had spent in reflection through discussion in their current service-learning experience. In this analysis, the variable "discussion outside of the class" on the posttest had a significant positive influence on a change in the dependent variable. This outcome suggests that students who have actively participated in discussions outside of the classroom may be more prepared to learn and engage in the learning process than students who have not spent time in reflecting and discussing their service experiences.

Four independent variables were significant predictors of Critical Thinking. All four of the variables were Attitude and Knowledge variables: Interpersonal Skills pretest (.368), Interpersonal Skills change score (.240), Civic Behaviors pretest (.152), and Civic Action change (.135). These variables accounted for approximately 21% of the variance in the dependent variable. Examination of the standardized coefficients (β) indicated that the strongest predictor of Critical Thinking was the Interpersonal Skills pretest score (.368).

While some may perceive that Interpersonal Skills measures the same thing as Critical Thinking, these are two different dimensions. The Interpersonal

161

Skills subscale consists of six items that measure skills related to interpersonal skills such as the ability to communicate with others, the ability to work cooperatively with others, and the ability to make friends and get along with others. The Critical Thinking subscale measures the students' ability to rate themselves, as compared to others, on their ability to apply critical thinking skills and their ability to apply problem-solving skills.

Three groups of variables were used in preparation for a regression analysis: student background and characteristics, educational process, and attitude and knowledge variables; only one background variable was related to either dependent variable. The students' perceptions of their parents' involvement in the community was significantly correlated to the students' learning perceptions ($r = .157$, $p = .027$), which indicates that the students' perceptions of their parents' involvement in the community influenced their own learning. This finding suggests that students who come from environments where their parents are involved in the community may have already begun to learn and think about issues within the community in a way that students who are new to the service environment may just be learning. Students who came from families with more community experience may need a different kind of service-learning experiences than other students, which has important implications for designing service-learning courses.

In the attitude and knowledge variables, students did not experience significant changes on six of the subscales. These subscales had fairly high subscale scores at the pretest that ranged from 5.8 to 6.2 out of a 7-point Likert-

type scale, and the posttest mean subscale scores ranged from 5.9 to 6.3: Importance of Community Service, Interpersonal Skills, Importance of Community Service, Personal Benefits of Service, Motivation for Service, and Personal Enrichment. The overall subscale scores indicate that many students came to this service-learning experience with strong positive attitudes and beliefs consistent with service-learning. Again, these results suggest a need for designing service-learning courses based on the level of experience, knowledge, and attitudes that students bring to the course.

Changes in attitudes and knowledge may occur as a result of purposeful assignments that introduce exercises into the curriculum that create dissonance within students, thus requiring them to examine their own attitudes and knowledge in a way that facilitates new understanding and awareness, thereby creating learning and an increase in critical thinking skills. Improving the connection between the students' experiences and the course content would have a significant impact on students' learning. Such connections could be made through the reflection process, when students are actively directed to identify how their experience in the course relates to the course content and its relevance to their perceptions of learning and critical thinking skills.

The service-learning program at Lee University is just completing the third year since mandated service was instituted. Students in this study experienced some positive significant changes on the outcomes related to service-learning. The program is relatively new and continues to develop each year. The positive results indicate that the program has been successful in the development of a

framework to create a learning environment where students can examine their own attitudes and beliefs as they relate to service.

These outcomes may be important for those who administer the service-learning program to review in terms of the curriculum they use. If the instructors are spending a significant amount of time attempting to shape students' attitudes about service, then instructors' time may be better spent creating more advanced service experiences as many students have already developed their own ethic of service and are already convinced of the importance of community service.

In a mandated program, such as this one, it is not possible to select the students who participate in the service program. However, it may be important to note that students may be selecting to attend Lee University, in part because of their own personal morals and values that are reflected in the university's mission statement. Part of that statement is related to the service component at the university. Based on the knowledge that students are purposely choosing to attend this university, administrators may want to think about the level and readiness that students bring with them to the service experience. Students who choose to attend a faith-based institution may be more sensitive and aware of the biblical principles that outline the need to serve others and, therefore, may not need as much teaching on the biblical principles as they need experience and guidance in connecting the service experience to their own personal growth and development.

It may be practical to assess students' attitudes and beliefs about community service when they come to the class. There is relatively little literature

that addresses assessing students' community service attitudes and knowledge as they enter a course and the implication for designing service-learning courses. This study suggests that students have different levels of community service attitudes and knowledge, so these differences could affect students' assessment of how much they learned from a service-learning course. The regression analysis indicates that the attitudes and knowledge that students hold coming into a course influences their perception about how much they learned even more than their change in attitudes as a result of taking a service-learning course.

An assessment that helps determine where students are in their learning about the community and their ability to engage in it could serve to help schools create programs tailored to meet students where they are and move them to the next level. We assume that all students have an equal ability to learn through service, but that assumption is likely an error. Because different students have different learning styles and levels of knowledge and attitudes about community service, more research is needed to understand the implications of creating different service experiences for different students so that the likelihood can increase that all students feel that they learned a great deal from their service experience.

This suggestion also brings to light a challenge to those facilitating service-learning experiences either through a program such as at Lee University or through service-embedded classes. The challenge is to identify students who are ready for the service experience. Students with less appreciation and

165

knowledge of service-learning may need more preparation and guided interaction to help them connect with the community in a way that is positive and facilitates learning. It is easy to cater to students who believe that service in the community is valuable and they can benefit from it, but it is not as easy to connect with students who appear resistant or have little appreciation or knowledge of community service. Such resistance may be nothing more than a signal that students need the opportunity to develop and explore how service can help them make connections from the course content to their communities. Such teaching may reduce the resistance on the part of the student who came in feeling forced or coerced to take a service-embedded class.

A pretest assessment, such as used in this study, could help instructors identify students who already have relatively high, positive attitudes and knowledge related to service, as well as to identify those students who have lower, less-positive attitudes about the service experience and what they stand to gain from it. Students who come to the experience with negative feelings may have set themselves up not to learn as much because they believe they will not learn as much. However, students who come to the experience feeling fairly positive and can see the benefits of participating in the service experience may have set themselves up to learn more just by having an open mind about what the experience has to offer them.

Such assessments offer schools the opportunity to create different service and reflection experiences for students who are *ready*. These assessments allow instructors the opportunity to challenge the attitudes and beliefs about service of

those who are *not ready* in a way that gives them the opportunity to reevaluate their own attitudes and beliefs. Such an opportunity could facilitate new understanding and therefore assist students in creating new attitudes or beliefs about their participation in the community through service.

Students who scored high on the pretest could be trained as peer leaders to serve as mentors for those students who did not score as high. These peer leaders could then be used to facilitate discussions outside of the class around the service experiences and the students' attitudes and knowledge about their experiences.

Implications of Findings and Future Research

Service-learning has been ill-defined in the past. There have been more than 200 definitions cited in the literature (Furco, 2005). With this many definitions it is difficult, at best, to determine effective ways to measure outcomes of service-learning. To improve outcome research in the future, schools like Lee University need to develop more focused expectations for their service-learning programs. The more this focusing is done, the easier it will be to measure outcomes that are consistent with their expectations. This study has attempted to advance such discussions at Lee University.

When this study began, one of the hopes was that a single instrument would be created that could be used in multiple settings to measure outcomes of service-learning. However, now at the end of this study, it does not seem feasible to have one universal instrument to measure service-learning outcomes. This author believes that service-learning is a multi-dimensional construct that

requires some flexibility in creating a multi-dimensional measurement of service-learning. There are many service-learning programs with different learning expectations. Therefore, to measure more accurately service-learning outcomes, it will be necessary to have multiple subscales, each related to different aspects of service-learning expectations. In this way outcome measures can be related more precisely to specific service-learning program outcomes expectations.

The Diversity Attitudes subscale did not show a significant change in the mean scores from the pretest to the posttest, similar to a previous study using this same subscale in which changes were not noted from the pretest to the posttest (Moely, McFarland, et al., 2002). These authors suggested that the lack of change may be due to limitations within the subscale or through programmatic weakness in the way that diversity is handled (Moely, McFarland, et al., 2002). The concept of diversity needs to be further researched to determine what is meant by diversity. Such a reconceptualization could identify different dimensions of diversity and ways to measure it. Service-learning researchers need to work toward a better conceptualization and definition of diversity in order to create better measures of diversity attitudes.

The REL 200 group results were consistent with the previous study. This group did not experience a change in their mean scores between the pretest (4.7) and posttest (4.7). Based on the previous study and the authors' explanation of the results, Lee University may want to explore whether these results are due to the instrument or the structure and teachings that occur within the program. An evaluation of the curriculum needs to be done to examine the

emphasis that is placed on diversity in the course content and/or service experiences. However, based on the pretest and posttest scores, there is significant room for improvement in students' attitudes and knowledge of diversity issues.

According to the literature, it has been suggested that students need to spend at least 15 hours per semester with the service to have enough exposure to the beneficiaries of the service as well as the issues the service seeks to address to obtain the most favorable outcomes (Mabry, 1998). Lee only requires 10 hours of service per semester of their students, and the hours do not have to be completed at one agency. Further research needs to clarify whether spending all of students' required service hours at one facility or service-learning experience would produce more positive outcomes. Serving all of their time at one facility would allow students to spend more time with providers and/or beneficiaries of services rendered within the community. This added time may have the potential to impact student outcomes.

Lee University requires students to complete a total of 80 hours prior to graduation, basically 10 hours per semester for 8 semesters (4 years). The majority of studies assess the outcomes after only one semester, as this study did. However, further research is needed in order to explore how outcomes change as a result of an ongoing mandated program that requires students to participate the entire time they are enrolled in school. Service-learning programs, such as the one at Lee University, have the opportunity to assess students at

multiple points during the educational process to measure change as students develop and accumulate more service experiences.

Mabry (1998) noted that the time spent in reflection impacts the outcomes of service-learning. She suggested that reflection was most effective when it occurred on a regular basis (Mabry, 1998). In the current study, it is of concern that the time students reported spending in all types of reflection was so low. Students were required to complete reflection papers and to participate in class discussion, but that time spent is not necessarily reflected on this survey. However, through informal conversations and dialogue with a few students about their service experiences and their reflection, students reported that the majority of their reflections were about the course content and not the service experiences (Personal Communication with students, 2006). It should be noted that the students' final reflection paper on their service experience was not due until a few weeks after the final lab session.

When asked about their reflection times and the low amount of time reported, students maintained that their in-class reflections were concentrated around the class content and they had not really thought of those discussions as reflection. They also contended that most of their written reflections had been written quickly and were centered around the impact the course content had on them individually and that any reflection about the service experiences and their impact were minimal (Personal Communication with students, 2006). Parker-Gwin and Mabry (1998) suggested that for students to make the connection between the curriculum, the service, and the potential for change, the connection

must be facilitated by the instructors in a way that challenges students to identify and analyze the forces that produce social problems. Parker-Gwin and Mabriy (1998) believed that it is this type of guided reflection that creates the potential for social change.

This study gathered information on reflection with individuals: peers, instructors, and site supervisors as well as reflection activities: writing and discussion inside of class and discussion outside of class. As noted by Parker-Gwin and Mabry (1998) and reiterated in this study, guided reflection has a great potential for creating change in students. Guided reflection creates the opportunity for students to analyze and critique their service experiences in a way that helps them make connections between the service experience and the curriculum. This study highlights the need for further research to determine what types of reflection experiences lead to attitude and knowledge changes. More research is needed to identify how much time students should be expected to spend in reflection in order to experience positive changes. In addition, research on specific types of instructional methods that facilitate learning through reflection and feedback methods should be conducted. Also, Lee University should consider evaluating the methods that instructors are using to guide students' reflections. Such an evaluation would highlight areas that need to be addressed with students and instructors to improve students' skills in using reflection as part of the learning process.

The literature is weak in terms of specific behaviors that are or should be influenced by the service experience. Most of the literature focuses on attitudes

that are impacted as a result of the service experience. The primary behavior in question is actual service within the community. Studies that have examined this area have primarily taken place on college campuses. Relatively few studies have sought to follow students after they have left school to determine their level of service and engagement within their respective communities.

Lee University is in a unique position to follow their students in the years to come. Because all students are mandated to participate in the service-learning program, Lee University has access to future alumni lists that could be used to conduct follow-up studies to assess the level of engagement that students have created and maintained within their communities. This type of assessment has the potential for becoming the real measure of success for a mandated service-learning program. While studies such as this one show that students benefit from service experiences while in school, the real test of success would come in the future as additional research seeks to measure the program's influence on students and the level to which they continued to be engaged and invested within their communities after they left school.

The critical thinking dependent variable used students' self-reports to measure their own ability to analyze and solve problems and their ability to apply and use critical thinking skills. It proved to be a reliable measure but was weak in terms of the amount of variance explained (21%). Other measures of critical thinking as reviewed in Bringle, Phillips, and Hudson (2004) have been validated and proven reliable. These measures are longer and take more time for students to complete. However, in future studies the use of such standardized measures

of critical thinking could provide more objective and helpful information to the university.

Concluding Remarks

As service-learning is a relatively new and evolving pedagogy and there is much research to be done, and service-learning is increasingly being relied upon as a method to train and equip individuals to engage in their communities. Little is known about the long-term and behavioral effects of the service experience, which should be evaluated.

While this study examined the outcomes of the mandated service-learning course at Lee University over one semester, it is hoped that Lee University will use this report as a spring board for launching more research to evaluate their four-year service-learning program. This study is offered as an assessment of one part of Lee University's four-year, service-learning program. While students in this study were primarily sophomores, Lee University has the opportunity to reassess the same students in the future to examine some of the cumulative results of their mandated program.

Limitations of the Study

No study is ever completed without some limitations, and this study is no exception. One limitation of this study is that it occurred over only one semester. Parker-Gwin and Mabry (1998) suggested that one semester of service-learning may not be enough time to influence students' attitudes. Although the REL 200 group was having their second in-class service-learning experience at Lee University, there is no data from the first service experience that could be used to

compare these results. This limitation could be overcome by continuing to measure the outcomes of service-learning every year a student is in the program. This measurement would allow Lee University to explore student changes that occur because of this program over the four years.

Another limitation is that all students in this study were attending a private, faith-based institution and were a fairly homogenous group. The majority of students who choose to attend Lee University do so because of their faith beliefs which are of a conservative nature. This study may be of interest to other similar faith-based institutions but cannot be generalized to other types of educational institutions.

This study relied upon self-reports from students. This type of data collection could be influenced by a social desirability factor whereby students give answers they perceive to be the *right* or *desirable* responses regardless of what they truly believe. It is impossible to know how many of the answers were given in a socially desirable manner. A subscale that measures individuals' likelihood to respond in a socially desirable manner would have been helpful in this study. Also, the data for the learning perceptions were just that, the students' perceptions of how much they had learned. Students' perceptions should not be used as a substitute to measure actual changes in knowledge or behavior. However, students' perceptions of the course and the changes that they experienced may provide information about the way that student satisfaction influences learning. If students perceive the program to be beneficial to them, they may in turn perceive that they learn more while in the program.

The definition of critical thinking was not well developed and lacked precision for the measurement of critical thinking. To assess critical thinking, a better defined, stronger instrument is needed. Such an instrument would provide better results to institutions and their accrediting boards about their students' abilities to use critical thinking skills.

A limitation worth noting was the variability within the faculty members who facilitated the distribution of the instrument. The post-test was administered by 15 different REL 200 professors and/or student teaching assistants. When that many individuals are involved, it is likely that there was a great amount of variability in the emphasis that was placed on the collection of the information, the time that was allotted to the students to complete the instrument, and the manner in which the instrument was returned to the Service-learning Office. Data were not collected on the individual faculty members. Therefore, it is not known if or how students' perceptions of learning or critical thinking are related to what instructors did.

Information about the way that faculty members present information and guide reflection could be a helpful addition so that researchers are able to follow-up with individual professors as the study progresses. The reflection variables in this study were weak in their ability to predict changes in the dependent variables, learning perceptions and critical thinking. More research is needed to understand the instructors' role in facilitating reflection that is meaningful and leads to changes in students' perceptions of their own learning and critical

thinking skills. The literature is weak in providing information about the instructors' role in reflection as it pertains to learning and critical thinking.

When using a research design such as the one in this study, there are risks that threaten or weaken the validity of the study. As discussed in Chapter III, the threats of particular interest in this study were history, maturation, testing and mortality (Campbell & Stanley, 1963). Several of these threats could have been dealt with through the use of a control group that did not have the service-learning experience. In a program such as the one at Lee University, the use of a control group or random assignment is not feasible because all students are mandated to participate in service-learning. Without a control group or a longer study, it is not possible to determine that the service-learning experience is the only cause of the changes that occurred during the study.

The occurrence of any events between the pretest and posttest, was not controlled for. Therefore, in essence, other events in the respective students' lives could have accounted for some or all of the change that took place in the students' learning perceptions or critical thinking skills. It is anticipated that students matured during the semester; they grew older, more mature, more knowledgeable, more tired, etc. and these changes in the individual could have influenced the posttest score. Testing effects become an issue in a pretest/posttest design such as was used in this study. Students have already had the opportunity to complete the survey on a previous occasion, which could influence the outcomes on the posttest. Campbell and Stanley (1963) suggested that students may become more aware of socially desirable responses between

the pretest and posttest administration. That awareness is a viable threat in this case as the students had the opportunity to attend several lectures that would reinforce the school's desire for students to want to become involved in service. Students could have easily learned that it would be more desirable to express positive attitudes and knowledge regarding the outcomes they have achieved as a result of the service experience. Mortality was one threat that was of concern in this study. In this case mortality occurred as a result of students' dropping the course or choosing not to participate in the pretest and/or the posttest.

No behavioral measures were included in this study. The behavior of service would be best assessed after the students leave school. Lee University should consider following up with the students in the program in the years to come to determine if their time spent in service-learning has impacted the way that they engage in their communities as independent adults.

REFERENCES

Andolina, M. W., Jenkins, K., Zukin, C., & Keeter, S. (2003). Habits from home, lessons from school: Influences on youth civic engagement. *PS: Political Science and Politics, 36*(2), 275-280.

Astin, A. W., & Sax, L. J. (1998). How undergraduates are affected by service participation. *Journal of College Development, 39*(3), 251-263.

Atkinson, G., & Murrell, P. H. (1988). Kolb's experiential learning theory: A meta-model for career exploration. *Journal of Counseling and Development, 66,* 374-377.

Batchelder, T. H., & Root, S. (1994). Effects of an undergraduate program to integrate academic learning and service: cognitive, prosocial cognitive, and identity outcomes. *Journal of Adolescence, 17*(4), 341-355.

Battistoni, R. M. (1997). Service learning and democratic citizenship. *Theory Into Practice, 36*(3), 150-156.

Bonate, P. L. (2000). *Analysis of pretest-posttest designs.* Boca Raton, FL: Chapman & Hall/CRC.

Boud, D., Keogh, R., & Walker, D. (1985). Promoting reflection in learning: a Model. In D. Boud, R. Keogh, & D. Walker (Eds.). *Reflecting: Turning experience into learning* (pp. 18-40). New York, NY: Nichols.

Boyte, H. C. (1991). Community service and civic education. *Phi Delta Kappan, 72*(10), 765-767.

Bringle, R. G., Games, R., & Malloy, E. A. (1999). *Colleges and universities as citizens.* Needham Heights, MA: Allyn & Bacon.

Bringle, R., & Hatcher, J. A. (1995). A service-learning curriculum for faculty. *Michigan Journal of Community Service Learning, 2*(Fall), 112-122.

Bringle, R., & Hatcher, J. A. (1996). Implementing service learning in higher education. *Journal of Higher Education, 67*(2), 221-239.

Bringle, R., & Hatcher, J. A. (1997). Reflection: Bridging the gap between service and learning. *College Teaching, 45*(4), 153-158.

Bringle, R. G., Phillips, M. A., & Hudson, M. (2004). *The measure of service learning: Research scales to assess student experiences.* Washington, DC: American Psychological Association.

Brody, R., & Nair, M. (2000). *Community service: The art of volunteering and service learning* (2nd ed.). Wheaton, IL: Gregory.

Brooks-Harris, J. E., & Stock-Ward, S. R. (1999). *Workshops: Designing and facilitating experiential learning.* Thousand Oaks, CA: Sage.

Campbell, D. E. (2000). Social capital and service learning. *PS: Political Science and Politics, 33*(3), 641-645.

Campbell, D. T., & Stanley, J. C. (1963). *Experimental and quasi-experimental designs for research.* Boston, MA: Houghton Mifflin Company.

Campus Compact. (2005). *Who are we?* (n.d.). Retrieved May 16, 2005 from http://www.compact.org/aboutcc/structure.html

179

Carmines, E. G., & Zeller, R. A. (1979). *Reliability and validity assessment.* Sage

University Paper Series on Qualitative Applications in the Social Sciences,

07-017. Beverly Hills, CA: Sage.

Checkoway, B. (1997). Reinventing the research university for public service.

Journal of Planning Literature, 11(3), 307-319.

Clary, E. G., Snyder, M., Ridge, R. D., Stukas, A. A., Copeland, J., Haugen, J., &

Miene, P. (1998). Understanding and assessing the motivations of

volunteers: A functional approach. *Journal of Personality and Social*

Psychology, 74(6), 1516-1530.

Cnaan, R. A., & Goldberg-Glen, R. S. (1991). Measuring motivation to volunteer

in human services. *Journal of Applied-Behavioral Science, 27*(3), 269-284.

Colby, A., & Ehrlich, T. (2000). Higher education and the development of civic

responsibility. In T. Ehrlich (Ed.), *Civic Responsibility and Higher*

Education (pp. xxi-xliii). Phoenix, AZ: American Council on

Education/Oryx.

Coleman, J. S. (1988). Social capital in the creation of human capital. *The*

American Journal of Sociology, 94, S94-S120.

Cone, R. (2003). Service-learning and civic education: Challenging assumptions.

Peer Review, 5(3), 12-15.

Conrad, D., & Hedin, D. (1991). School-based community service: What we know

from research and theory. *Phi Delta Kappan, 91*(72), 743-749.

Cronk, B. C. (1999). *How to use SPSS: A step-by-step guide to analysis and*

interpretation. Los Angeles, CA: Pyrczak.

DeVillis, R. F. (1991). *Scale development: Theory and applications.* Applied

    Social Research Methods Series, 26. Newbury Park, CA: Sage.

Dewey, J. (1899/1959). *Dewey on education.* New York, NY: Teachers College

    Press.

Dewey, J. (1916/1966). *Democracy and education.* New York, NY: Macmillan.

Dewey, J. (1938). *Experience and education.* New York, NY: Collier

    Books/Macmillan.

Diaz, D., Furco, A., & Yamada, H. (1999). *Higher Education Learning Survey.*

    Retrieved September 18, 2005, from University of California-Berkeley;

    Service-Learning Research and Development Center Web site:

    http://gse.berkeley.edu/research/slc/surveys/highered/HEdSurveyRel.doc

Dillman, D. A. (2000). *Mail and internet surveys: The tailored design method* (2nd

    ed.). New York, NY: John Wiley & Sons.

Doolittle, A., & Faul, A. C. (2005). *Validation of a scale for civic engagement.*

    Unpublished manuscript, University of Louisville, Louisville, KY.

Dunn, A. W. (1914). *The community and the citizen.* Boston, MA: D. C. Heath.

Ehrlich, T. (1996). Forward. In B. Jacoby and Associates (Eds.). *Service learning*

    in higher education: Concepts and practices (pp. xi-xvi)*.* San Francisco,

    CA: Jossey-Bass.

Eyler, J., & Giles, D. E., Jr. (1999). Where's the learning in service-learning? San

    Francisco: Jossey-Bass.

Eyler, J. Giles, D. E., Jr., & Braxton, J. (1997, Fall). The impact of service-learning on college students. *Michigan Journal of Community Service Learning, 4*, 5-15.

Eyler, J., Giles, D. E., Stenson, C. M., & Gray, C. J. (2001). *At a glance: What we know about the effects of service-learning on college students, faculty, institutions and communities, 1993-2000: Third Edition.* Retrieved Summer 2005 from

http://www.compact.org/resource/aag.pdf#search='At%20a%20Glance%20What%20we%20know%20about%20servicelearning'

Faul, A. C. (1995). *Scale development in social work.* Unpublished doctoral dissertation. Rand Afrikaans University, Johannesburg, South Africa.

Faul, A. C., & van Zyl, M. A. (2004). Constructing and validating a specific multi-item assessment or evaluation tool. In A. R. Roberts & K. R. Yeager (Eds.) *Evidence-based practice manual: Research and outcome measure in health and human services* (pp. 564-581). New York, NY: Oxford.

Flanagan, C. (2003). Developmental roots of political engagement. *PS: Political Science and Politics, 36*(2), 257-261.

Forsyth, D. R. (1980). A taxonomy of ethical ideologies. *Journal of Personality and Social Psychology, 39*(1), 175-184.

Furco, A. (2003). Issues of definition and program diversity in the study of service-learning. In S. H. Billig and A. S. Waterman (Eds.). *Studying service-learning: Innovations in education research methodology* (pp. 13-33). Mahwah, NJ: Lawrence Erlbaum Associates.

Gallini, S. M.. & Moely, B. E. (2003). Service-learning and engagement, academic challenge, and retention. *Michigan Journal of Community Service Learning, 10*(1), 5-14.

George, D., & Mallery, P. (2003). SPSS for windows step by step: A simple guide and reference (11.0 update). Boston, MA: Allyn and Bacon.

Gibbs, J. C., Arnold, K. D., Morgan, R. L., Schwartz, E. S., Gavaghan, M. P., & Tappan, M. B. (1984). Construction and validation of a multiple-choice measure of moral reasoning. *Child Development, 55,* 527-536.

Giles, D. E., & Eyler, J. (1994). The impact of a college community service laboratory on students' personal, social, and cognitive outcomes. *Journal of Adolescence, 19*(4), 327-339.

Giles, D. E., & Eyler, J. (1994). The theoretical roots of service-learning in John Dewey: Toward a theory of service-learning. *Michigan Journal of Community Service Learning, 1*(1), 77-85.

Gish, G. L. (1990). The learning cycle. In J. C. Kendall & Assoc. (Eds.). *Combining service and learning: A resource book for community and public service* (pp. 198-205). Raleigh, NC: National Society for Internships and Experiential Learning.

Goldstein, D. (2004). Service-learning and teaching about globalization. *Review of Radical Political Economics, 36*(3), 307-313.

Gose, B. (1997). Many colleges move to link courses with volunteerism. *The Chronicle of Higher Education, 44*(12), A45-A46.

Hatcher, J. A., & Bringle, R. G. (1997). Reflection: Bridging the gap between

    service and learning. *Journal of College Teaching, 45*(4), 153-158.

Hepburn, M. A. (1997). Service learning in civic education: A concept with long,

    sturdy roots. *Theory into Practice, 36*(3), 136-142.

Hepburn, M. A., Niemi, R. G., & Chapman, C. (2000). Service learning in college

    political science: Queries and commentary. *PS: Political Science and*

    Politics, 33(3), 671-622.

Hudson, W. E., & Trudeau, R. H. (1995). An essay on the institutionalization of

    service-learning: The genesis of the Feinstein Institute for public service.

    Michigan Journal of Community Service Learning, 2(Fall), 150-158.

Hunter, S., & Brisbin, Jr., R. A. (2000). The impact of service learning on

    democratic and civic values. *PS: Political Science and Politics, 33*(3), 623-

    626.

Hyman, J. B. (2002). Exploring social capital and civic engagement to create a

    framework for community building. *Applied Developmental Science, 6*(4),

    196-202.

Jacoby, B. (1996). *Service learning in higher education: Concepts and practices.*

    San Francisco, CA: Jossey-Bass.

Jacoby, B. (2003). Fundamentals of service-learning partnerships. In B. Jacoby &

    Associates (Eds.) *Building partnerships for service-learning* (pp. 1-19).

    San Francisco, CA: Jossey-Bass.

Keith, T. Z. (2006). *Multiple regression and beyond.* Boston, MA: Pearson.

Kendall, J. C. (1990). Combining service and learning: An introduction. In J. C.

 Kendall & Assoc. (Eds.). *Combining service and learning: A resource*

 book for community and public service (pp. 1-33). Raleigh, NC: National

 Society for Internships and Experiential Learning.

Kendrick, J. R., (1996, Fall). Outcomes of service-learning in an introduction to

 sociology course. *Michigan Journal of Community Service Learning, 3*, 72-

 81.

Kolb, D. A. (1984). *Experiential learning: Experience as te source of learning and*

 development. Englewood Cliffs, NJ: Prentice Hall P T R.

Kolb, D. A., Baker, A. C., & Jensen, P. J. (2002). Conversation as experiential

 learning. In A. C. Baker, P. J. Jensen, & D. A. Kolb (Eds.) *Conversational*

 learning: An experiential approach to knowledge creation. Westport, CT:

 Quorum Books.

Kolb, D. A., & Fry, R. (1975). Toward an applied theory of experiential learning.

 In C. Cooper (Ed.) *Theories of Group Process* (pp. 33-59). London: John

 Wiley.

Kraft, R. J. (1996). Service learning an introduction to it's theory, practice, and

 effects. *Education and Urban Society, 28*(2), 131-159.

Learn and Serve. (2005). *Information about service-learning.* Retrieved April 25,

 2005, from http://www.learnandserve.org/

Lee University. (2005-2006). *University Catalog.*

Levine, A., (1980). *When dreams and heroes died: A portrait of today's college*

 student. San Francisco: Jossey-Bass.

Liddell, D. L., Halpin, G., & Haplin, W. G. (1992). The measure of moral

orientation: Measuring the ethics of care and justice. *Journal of College

Student Development, 33,* 325-330.

Likert, R. (1932). A technique for measurement of attitudes. *Archives of

Psychology, 140, 44-55.*

Lin, N. (2001). Building a network theory of social capital. In N. Lin, K. Cook, & R.

S. Burt (Eds.) *Social capital: Theory and research* (pp. 3-29). Hawthorne,

NY: Aldine De Gruyter.

Lisman, C. D. (1998). *Toward a civil society: Civic literacy and service learning.*

Westport, CT: Bergin & Garvey.

Lott, C. E., Michelmore, C. W., Sullivan-Cosetti, M., & Wister, J. A. (1997).

Learning through service: A faculty perspective. *Liberal Education, 83*(1),

40-45.

Mabry, J. B. (1998). Pedagogical variations in service-learning and student

outcomes: How time, contact and reflection matter. *Michigan Journal of

Community Service Learning, 5*(Fall), 32-47.

Marcus, G. B., Howard, J. P. F. & King, D. C. (1993). Integrating community

service and classroom instruction enhances learning: Results from an

experiment. *Educational Evaluation and Policy Analysis, 15*(4), 410-419.

Marullo, S. (1996). Sociology's contribution to the service learning movement. In

M G. Ender, B. M. Kowalewski, D. A. Cotter, L. Martin, & J. DeFiore (Eds.)

*Service-learning and undergraduate sociology: Syllabi and instructional

materials* (pp. 1-13). Washington, DC: American Sociological Association.

Mathews, D. (1997). Character for what? Higher education & public life. *Educational Record, 78,* 11-17.

McKenna, M. W., & Rizzo, E. (1999). Student perceptions of the "learning" in service-learning courses. In J. R. Ferrari & J. P. Chapman (Eds.), *Educating students to make a difference: Community-based service-learning* (pp. 111-123). Binghamton, NY: Hayworth.

Mertler, C. A., & Vannatta, R. A. (2002). *Advanced and multivariate statistical methods: Practical application and interpretation* (2nd ed.). Los Angeles, CA: Pyrczak.

Metz, E., McLellan, J., & Younnis, J. (2003). Types of voluntary service and adolescents' civic development. *Journal of Adolescent Research 18*(2), 188-203.

Miller, J. (1994). Linking traditional and service-learning courses: Outcome evaluations utilizing two pedagogically distinct models. *Michigan Journal of Community Service Learning, 1*(1), 29-36.

Minter, D. W., & Schweingruber, H. (1996, Fall). The instructional challenge of community service learning. *Michigan Journal of Community Service Learning, 3*, 92-102.

Moely, B. E., McFarland, M., Miron, D., Mercer, S., & Ilustre, V. (2002). Changes in college students' attitudes and intentions for civic involvement as a function of service-learning experiences. *Michigan Journal of Community Service Learning, 9*(1), 18-26.

Moely, B. E., Mercer, S., Ilustre, V., Miron, D., & McFarland, M., (2002). Psychometric properties and correlates of the Civic Attitudes and Skills Questionnaire (CASQ): A measure of students' attitudes related to service-learning. *Michigan Journal of Community Service Learning, 8*(2), 15-26.

Morgan, W., & Streb, M. (2001). Building citizenship: How student voice in service—learning develops civic values. *Social Science Quarterly, 82*(1), 154-169.

Myers-Lipton, S. J. (1998). Effect of a comprehensive service-learning program on college students' civic responsibility. *Teaching Sociology, 26,* 243-258.

Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric Theory (3rd ed.).* New York: NY: McGraw-Hill.

Olney, C., & Grande, S. (1995, Fall). Validation of a scale to measure development of social responsibility. *Michigan Journal of Community Service Learning, 2*, 43-53.

Palmer, D. L., & Standerfer, C. (2004). Employing civic participation in college teaching designs. *College Teaching, 52*(4), 122-127.

Parker-Gwin, R., & Mabry, J. B. (1998). Service learning as pedagogy and civic education: Comparing outcomes for three models. *Teaching Sociology, 26*, 276-291.

Pateman, C. (1970). *Participation and democratic theory.* New York, NY: Cambridge.

Paul, R. W. (1990). *Critical thinking: What every person needs to survive in a rapidly changing world.* (A. J. A. Binker, Ed.). Rohnert Park, CA: Center for Critical Thinking and Moral Critique.

Perry, J. L. (1996). Measuring public service motivation: An assessment of construct reliability and validity. *Journal of Public Administration Research and Theory, 6*(1), 5-22.

Perry, J. L. (1997). Antecedents of public service motivation. *Journal of Public Administration Research and Theory, 7*(2), 181-197.

Portes, A. (1998). Social capital: Its origins and applications in modern sociology. *Annual Review in Sociology, 24,* 1-24.

Putnam, R. D. (1993). The prosperous community: Social capital and public life. *The American Prospect, 13,* 35-42.

Putnam, R. D. (1995). Bowling alone: America's declining social capital. *Journal of Democracy, 6*(1), 65-78.

Putnam, R. D. (1996). The strange disappearance of civic America. *The American Prospect, 24*, 34-48.

Putnam, R. D. (2000). Bowling alone: The collapse and revival of American community. New York: Simon & Schuster.

Robinson, D. H. (1992). *The National and Community Service Act of 1990.* Washington, D.C.: Congressional Research Service, Library of Congress.

Rockquemore, K. A., & Schaffer, R. H. (2000, Fall). Toward a theory of engagement: Cognitive mapping of service-learning experiences. *Michigan Journal of Community Service Learning, 7*, 14-25.

Rubin, A., & Babbie, E. (2001). *Research methods for social work* (4th ed.).

    Belmont, CA: Wadsworth Thompson Learning.

Rutter, R. A., & Newmann, F. M. (1989). The potential of community service to

    enhance civic responsibility. *Social Education 53*(6), 371-374.

Sax, L. J. (2000). Citizenship development and the American college student. In

    T. Ehrlich (Ed.), C*ivic Responsibility and Higher Education* (pp. 3-18).

    Phoenix, AZ: American Council on Education/Oryx.

Sax, L. J., & Astin, A. W. (1997). The benefits of service: Evidence from

    undergraduates. *Educational Record, 78*(3/4), 25-32.

Schmiede, A. E. (1995, Fall). Using focus groups in service-learning: Implications

    for practice and research. *Michigan Journal of Community Service*

    Learning, 2, 63-71.

Shelton, C. M., & McAdams, D. P. (1990). In search of everyday morality: The

    development of a measure. *Adolescence, 25*(100), 923-944.

Sherrod, L. R. (2003). Promoting the development of citizenship in diverse youth.

    PS: Political Science and Politics, 36(2), 287-292.

Shiarella, A. H., McCarthy, A. M., & Tucker, M. L. (2000). Development and

    construct validity of scores on the community service attitudes scale.

    Educational and Psychological Measurement, 60(2), 286-300.

Sigmon, R. L. (1979/1990). Service-learning: Three principles. In J. C. Kendall

    (Ed.) *Combing service and learning: A resource book for community and*

    public service, Vol. 1 (56-64). Raleigh, NC: National Society for

    Experiential Education.

Sigmon, R. L. (1996). The problem of definitions in service-learning: Why no one

    definition works. In R. Sigmon (Ed.) *The Journey to service-learning:*

    experiences from independent liberal arts colleges and universities (pp. 9-

    11). Washington, DC: Council of Independent Colleges.

Singleton, R. A., & Straits, B. C. (1999). *Approaches to social research* (3rd ed.).

    New York, NY: Oxford.

Sleeter, C. E. (2000). Strengthening multicultural education with community-

    based service learning. In C. R. O'Grady (Ed.) *Integrating service learning*

    and multicultural education in colleges and universities (263-276).

Smith, M. K. (2001). David A. Kolb on experiential learning, the encyclopedia of

    informal education. Retrieved March 19, 2004 from http://www.infed.org/b-

    explrn.htm

Smith, M. W. (1994). Community service learning: Striking the chord of

    citizenship. *Michigan Journal of Community Service Learning, 1*(1), 37-43.

Spector, P. E. (1992). *Summated rating scale construction: An introduction.* Sage

    University Paper Series on Qualitative Applications in the Social Sciences,

    07-082. Beverly Hills, CA: Sage.

Springer, L., Terenzini, P. T., Pascarella, E. T., & Nora, A. (1995). Influences on

    college students' orientations toward learning for self-understanding.

    Journal of College Student Development, 36(1), 5-18.

Stanton, T. (1990). Service learning: Groping toward a definition. In J.C. Kendall

    (Ed.). *Combing service and learning: A resource book for community and*

public service, Vol. 1 (65-67). Raleigh, NC: National Society for

Experiential Education.

Stanton, T. K., Giles, Jr., D. E., & Cruz, N. I. (1999). *Service-learning: A*

movement's pioneers reflect on its origins, practice, and future. San

Francisco, CA: Jossey-Bass.

Strage, A. A. (2000, Fall). Service-learning: Enhancing student learning

outcomes in a college-level lecture course. *Michigan Journal of*

Community Service Learning, 7, 5-13.

Sugarman, L. (1985). Kolb's model of experiential learning: Touchstone for

trainers, students, counselors, and clients. *Journal of Counseling and*

Development, 64, 264-268.

Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics* (4th ed.).

Boston, MA: Allyn and Bacon.

Vann, B. H. (1999). Service-learning as symbolic interaction. In J. Ostrow, G.

Hesser, and S. Enos (Eds.), *Cultivation the sociological imagination:*

Concepts and models for service-learning in sociology (pp. 83-92).

Washington, DC: American Association for Higher Education.

Vogelgesang, L., & Astin, A. (2000, Fall). Comparing the effects of community

service and service-learning. *Michigan Journal of Community Service*

Learning, 7, 25-34.

Waldstein, F. A., & Reiher, T. C. (2001). Service-learning and students' personal

and civic development. *The Journal of Experiential Education, 24*(1), 7-13.

Wang, Y., Ye, F., Jackson, G., Rodgers, R., & Jones, S. (2005). Development of

    student service-learning course survey (SSLCS) to measure service-

    learning course outcomes. *Association for Institutional Research, 3*, 1-15.

Yates, M.,& Younnis, J. (1996). Community service and political—moral identity

    in adolescents. *Journal of Research on Adolescence, 6*(3), 271-284

Yates, M. & Younnis, J. (1998). Community service and political identity

    development in adolescence. *Journal of Social Issues, 54*(3), 495-512.

Zlotkowski, E. (1999). Pedagogy and engagement. In R. G. Bringle, R. Games, &

    E. A. Malloy (Eds.), *Colleges and universities as citizens* (pp. 96-120).

    Boston, MA: Allyn and Bacon.

Appendix A

UNIVERSITY of LOUISVILLE

dare to be great

Monday, December 12, 2005

Gerard Barber, PhD
(Amy Doolittle, MSSW)
Kent School of Social Work

RE: 635.05: Service-Learning Outcomes Study at Lee University

Dear Doctor Barber:

This study has been reviewed by the chair of the Institutional Review Board (IRB) and approved through the Expedited Review Procedure, according to 45 CFR 46.110(b), since (7) Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

This study was also approved through 45 CFR 46.117(c), which means that an IRB may waive the requirement for the investigator to obtain a **signed** informed consent form for some or all subjects if it finds either:

- That the only record linking the subject and the research would be the consent document and the principal risk would be potential harm resulting from a breach of confidentiality. Each subject will be asked whether the subject wants documentation linking the subject with the research, and the subject's wishes will govern; or

- That the research presents no more than minimal risk of harm to subjects and involves no procedures for which written consent is normally required outside of the research context.

The following items have been approved:

- Research Protocol
- Pre-Test Preamble and Questionnaire, dated 1/2/2006
- Post-Test Preamble and Questionnaire, dated 3/1/2006

Your study now has final IRB approval through 12/8/2006. You should complete and return the Progress Report/Continuation Request Form EIGHT weeks prior to this date in order to ensure that no lapse in approval occurs. The committee will be advised of this action at their next full board meeting.

Please note that the IRB follows the principles of the Belmont Report, is in compliance with Good Clinical Practice Guidelines as defined by the U.S. Food and Drug Administration and the Department of Health and Human Services under the Code of Federal Regulations (21 CFR Parts 50 and 56; 45 CFR 46) and International Conference on Harmonization (ICH) Guidelines (Section E6).

Best wishes for a successful study. Please send all inquires and electronic revised/requested items to our office email address at hsppofc@louisville.edu.

Sincerely,

Patricia K Leitsch

Patricia K. Leitsch, Ph.D., Chair,
Behavioral/Social/Educational Institutional Review Board

PKL/elp

LEE UNIVERSITY

HUMAN SUBJECTS REVIEW FORM

Completion of this form is required for each research project using human subjects. This document acts as a statement by the investigator that the project complies with The Public Health Service Act (P.L. 93-348) as implemented by HHS regulation 45 CFR 46 and Lee policies.

Principal Investigator: __ **Gerard Barber, Ph.D.**
(If a student, please list faculty advisor as co-investigator)
Department: University of Louisville; Kent School of Social Work
Address: University of Louisville
     426 W. Bloom St.
     Louisville, KY 40208
Tel No.__ 502-852-8316

Co-Investigator: **Amy Doolittle, MSSW**

Department: University of Louisville; Kent School of Social Work Box No.
Home address: 1618 Benjamin Cr., NW   Cleveland, TN 37312
Tel No.: 423-339-2098 or 502-551-4628

Estimated Period for This Project: _Approximately 5 month to collect data; requesting approval for 1 year to allow sufficient time to analyze data._

Source of Funds/Funding Agency: _none - This is a dissertation project_

Project Title: __ **Service-learning Outcomes Study at Lee University**

Please check one of the following:

1. __ **X** __ This project meets the requirements of Paragraph 46.101(b) and is exempt.
     (Please complete sections A[check the appropriate exemption category] and B and
     attach a copy of the survey if applicable).

2. _____ This project does not meet the requirements of Paragraph 46.101(b) and is
     not exempt from committee review. (Please complete Section B and C and
     attach a copy of the survey and/or Informed Consent form if applicable.)

Signature:

Principal Investigator

EXPEDITED REVIEW

Protocol No. _C 6 – 1_____   Date Received: _12/13/05_
This project does____X_____ does not _____meet requirements for exemption.
Comments:

Chairperson of IRRB (or assigned representative) [Signature if approved]

Michael Greaice   _M. g. Feele_

FULL REVIEW

Committee Review

Date of Disposition:
Approved _____   Modified_____   Disapproved
Comments:

Reviewers:

Chairperson: _____

LEE ⚬ UNIVERSITY

Vice President for Academic Affairs

PERMISSION TO CONDUCT STUDY

November 21, 2005

To Whom It May Concern:

This letter signifies that Amy Doolittle, a doctoral degree candidate at the University of Louisville, has permission to collect the data for her dissertation on the outcomes of our service-learning program. We understand that she will be collecting survey data in the following courses: The Freshman Seminar: Gateway to University Success (GST 101) and Biblical and Theological Foundations for Benevolence (REL 200). She will be coordinating the data collection with Dr. Mike Hayes, Director of the Leonard Center.

We look forward to working with Amy on this project. If you have any questions related to her permission to conduct this study, please feel free to contact me.

Sincerely,

Carolyn Dirksen

Carolyn Dirksen, Ph.D.
Vice President for Academic Affairs
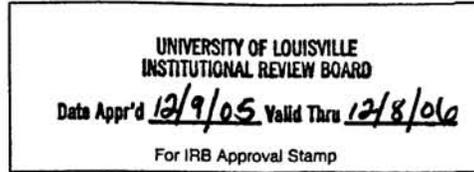
Service-Learning Outcomes Study at Lee University – Pre-test

Date: January 2, 2006

Dear Student:

You are being invited to participate in a research study by answering the attached survey about service-learning and its anticipated outcomes. There are no known risks for your participation in this research study. The information collected may not benefit you directly. The information learned in this study may be helpful to others. The information you provide will used to look at the outcomes and changes that students experience as a result of the service-learning experience. Your completed survey will be stored at the researcher's office under lock and key. The survey will take approximately 15 – 20 minutes to complete.

Individuals from the Kent School of Social Work at the University of Louisville, the Institutional Review Board (IRB), the Human Subjects Protection Program Office (HSPPO), and other regulatory agencies may inspect these records. In all other respects, however, the data will be held in confidence to the extent permitted by law. Should the data be published, your identity will not be disclosed.

Taking part in this study is voluntary. By completing this survey you agree to take part in this research study. You do not have to answer any questions that make you uncomfortable. You may choose not to take part at all. If you decide to be in this study you may stop taking part at any time. If you decide not to be in this study or if you stop taking part at any time, you will not lose any benefits for which you may qualify.

If you have any questions, concerns, or complaints about the research study, please contact: Gerard Barber, Ph.D. at 502-852-8316 or Amy Doolittle, MSSW, doctoral student at 423-339-2098.

If you have any questions about your rights as a research subject, you may call the Human Subjects Protection Program Office at (502) 852-5188. You can discuss any questions about your rights as a research subject, in private, with a member of the Institutional Review Board (IRB). You may also call this number if you have other questions about the research, and you cannot reach the research staff, or want to talk to someone else. The IRB is an independent committee made up of people from the University community, staff of the institutions, as well as people from the community not connected with these institutions. The IRB has reviewed this research study.

If you have concerns or complaints about the research or research staff and you do not wish to give your name, you may call 1-877-852-1167. This is a 24 hour hot line answered by people who do not work at the University of Louisville.

Sincerely,

Gerard Barber, Ph. D
Principal Investigator

Amy Doolittle, MSSW, Doctoral Student
Co-Investigator

Service-learning Outcomes Study at Lee University (Pre-test)

1. To help us coordinate surveys for a pre and post-test analysis please provide the following information:

2. Last 4 digits of your SSN: ___ ___ ___ ___

3. Your date of birth (Month/Day/Year): ___ ___ / ___ ___ / ___ ___ ___ ___

4. Country of origin (if born outside of the U.S.) OR the County and State of origin (if born within the U.S.):

_____

●●●

Please complete the following demographic items by filling in the blanks or circling your response:

5. Gender . . . .   Male   Female   7. College Rank . . . . .   Freshman
                                                                                    Sophomore
6. Race . . . . .   White   Other
                     African-   8. College GPA (if
                     American   known) . . . . .   _____
                     Asian   9. Major (If
                                                         undecided please
                                                         indicate) . . .   _____

                     Hispanic
                     Other

10. Did you transfer to Lee from another institution of higher education? _____

11. If so, how many credit hours did you transfer to Lee? _____

12. Please estimate the total number of hours that you have spent in past volunteer experience during the past year (such as: political activities, church activities, community or agency activities service, volunteer service or service-learning)? _____

13. Please provide an estimate of how many hours you spent, per week, doing service through the service-learning activities prior to this class: _____

14. Reflection: Thinking about your current and previous service experiences, How much time would you estimate that you spent, per week, reflecting about your service experiences with the following individuals:
Peers:_____   Instructors:_____   Site Supervisors _____

15. Types of Reflection Activities: Please provide an estimate of how much time, per week, you spent in each of the types of reflection listed:
Writing: _____   Discussion: Inside Class - _____   Outside of class - _____

16. Please describe you prior volunteer experience: _____
_____

17. Please describe your current volunteer experience: _____
_____

18. What is the likelihood that you would be doing some type of volunteer service if you were not required to do so as part of this class?

Not at all Likely			Neither Likely nor Unlikely			Very Likely
1	2	3	4	5	6	7

201

19. To what extent were your parents involved in community service or volunteer activities (such as scouting, PTA, church activities, political activities, community or agency activities, etc.)?

Not at all Involved						Very Involved
1	2	3	4	5	6	7

The following are some general opinion statements. Please indicate the level to which you Agree or Disagree with each statement.   Disagree   Agree

20. I feel responsible for my community.	1	2	3	4	5	6	7
21. I believe I should make a difference in my community	1	2	3	4	5	6	7
22. I believe that I have a responsibility to help the poor and the hungry.	1	2	3	4	5	6	7
23. I am committed to serve in my community.	1	2	3	4	5	6	7
24. I believe that all citizens have a responsibility to their community.	1	2	3	4	5	6	7
25. I believe that it is important to be informed of community issues.	1	2	3	4	5	6	7
26. I believe that it is important to volunteer.	1	2	3	4	5	6	7
27. I believe that it is important to financially support charitable organizations.	1	2	3	4	5	6	7

For the following statements please indicate the level to which you have participated on a scale from Never to Always.   Never   Always

28. I am involved in structured volunteer position(s) in the community.	1	2	3	4	5	6	7
29. When working with others, I make positive changes in the community.	1	2	3	4	5	6	7
30. I help members of my community.	1	2	3	4	5	6	7
31. I stay informed of events in my community.	1	2	3	4	5	6	7
32. I participate in discussions that raise issues of social responsibility.	1	2	3	4	5	6	7
33. I contribute to charitable organizations within the community.	1	2	3	4	5	6	7

For the following statements please indicate the level to which you Agree or Disagree.   Disagree   Agree

34. I plan to do some volunteer work.	1	2	3	4	5	6	7
35. I plan to become involved in my community.	1	2	3	4	5	6	7
36. I plan to participate in a community action program.	1	2	3	4	5	6	7
37. I plan to become an active member of my community.	1	2	3	4	5	6	7
38. In the future, I plan to participate in a community service organization.	1	2	3	4	5	6	7
39. I plan to help others who are in difficulty.	1	2	3	4	5	6	7
40. I am committed to making a positive difference.	1	2	3	4	5	6	7
41. I plan to become involved in programs to help clean up the environment.	1	2	3	4	5	6	7

For the following statements please indicate the level to which you Agree or Disagree.   Disagree   Agree

42. It is important to help people in general	1	2	3	4	5	6	7
43. Improving communities is important to maintaining a quality society	1	2	3	4	5	6	7
44. I can make a difference in the community	1	2	3	4	5	6	7
45. Our community needs good volunteers	1	2	3	4	5	6	7
46. All communities need good volunteers	1	2	3	4	5	6	7
47. Volunteer work at community agencies helps solve social problems	1	2	3	4	5	6	7
48. Volunteers in community agencies make a difference, if only a small difference	1	2	3	4	5	6	7
49. College student volunteers can help improve the local community	1	2	3	4	5	6	7
50. Volunteering in community projects can greatly enhance the community's resources	1	2	3	4	5	6	7
51. Contributing my skills will make the community a better place	1	2	3	4	5	6	7
52. My contribution to the community will make a real difference	1	2	3	4	5	6	7

	For each statement, please indicate the level to which you Agree or Disagree.	Disagree						Agree
53.	I will act to work for social justice changes in society.	1	2	3	4	5	6	7
54.	We should create programs and public policies to address social issues.	1	2	3	4	5	6	7
55.	I am confident that I can help in promoting equal opportunities for all people.	1	2	3	4	5	6	7
56.	I have a responsibility to help efforts directed at social justice changes in society.	1	2	3	4	5	6	7
57.	I know how to organize efforts for social change.	1	2	3	4	5	6	7
58.	I have a good understanding of the social justice issues in the community where I am going to provide services.	1	2	3	4	5	6	7
59.	This society needs to increase social and economic equality.	1	2	3	4	5	6	7

	Please indicate the level to which you Agree or Disagree with each statement.	Disagree						Agree
60.	I can listen to other people's opinions.	1	2	3	4	5	6	7
61.	I can work cooperatively with a group of people.	1	2	3	4	5	6	7
62.	I can think logically in solving problems.	1	2	3	4	5	6	7
63.	I can communicate well with others.	1	2	3	4	5	6	7
64.	I can easily get along with people.	1	2	3	4	5	6	7
65.	I try to find effective ways of solving problems.	1	2	3	4	5	6	7
66.	When trying to understand the position of others, I try to place myself in their position.	1	2	3	4	5	6	7
67.	I find it easy to make friends.	1	2	3	4	5	6	7
68.	I can think analytically in solving problems.	1	2	3	4	5	6	7
69.	I try to place myself in the place of others in trying to assess their current situation.	1	2	3	4	5	6	7
70.	I tend to solve problems by talking them out.	1	2	3	4	5	6	7

	Please indicate the level to which you Agree or Disagree	Disagree						Agree
71.	It is hard for a group to function effectively when the people involved come from very diverse backgrounds	1	2	3	4	5	6	7
72.	I prefer the company of people who are very similar to me in background and expressions	1	2	3	4	5	6	7
73.	I find it difficult to relate to people from a different race or culture	1	2	3	4	5	6	7
74.	I enjoy meeting people who come from backgrounds very different from my own	1	2	3	4	5	6	7
75.	Cultural diversity within a group makes the group more interesting and effective	1	2	3	4	5	6	7

	For each statement, please indicate the level to which you Agree or Disagree.	Disagree						Agree
76.	Adults should give some time for the good of their community or country	1	2	3	4	5	6	7
77.	It is important to help others even if you do not get paid for it.	1	2	3	4	5	6	7
78.	People, regardless of whether they have been successful, or not, ought to help others.	1	2	3	4	5	6	7

	For each statement, please indicate the level to which you Agree or Disagree.	Disagree						Agree
79.	I will learn about the community.	1	2	3	4	5	6	7
80.	I will learn how to work effectively with others.	1	2	3	4	5	6	7
81.	I will learn to appreciate different cultures.	1	2	3	4	5	6	7
82.	I will learn to see social problems in a new way.	1	2	3	4	5	6	7
83.	I will become more aware of the community of which I am a part	1	2	3	4	5	6	7

	Please indicate the level to which you Agree or Disagree with the following statements.	Disagree						Agree
84.	It is important for me to learn what is being taught in this course	1	2	3	4	5	6	7
85.	I dislike most of the work in this course	1	2	3	4	5	6	7
86.	I like what I am learning in this course	1	2	3	4	5	6	7
87.	I think I will be able to use what I am learning in this class or in other classes later on	1	2	3	4	5	6	7
88.	I think that what we are learning in this course is useful for me to know	1	2	3	4	5	6	7
89.	It is important for me to really understand the materials covered in this class	1	2	3	4	5	6	7
90.	My coursework is relevant to everyday life	1	2	3	4	5	6	7

	For each statement, please indicate the level to which you Agree or Disagree.	Disagree						Agree
91.	I would be contributing to the betterment of the community	1	2	3	4	5	6	7
92.	I would experience personal satisfaction knowing that I am helping others	1	2	3	4	5	6	7
93.	I would be meeting other people who enjoy community service	1	2	3	4	5	6	7
94.	I would be developing new skills	1	2	3	4	5	6	7

	Please indicate how important each of the following possible reasons for volunteering are for you.	Not at all Important						Extremely Important
95.	I am concerned about those less fortunate than myself	1	2	3	4	5	6	7
96.	I am genuinely concerned about the particular group I am serving	1	2	3	4	5	6	7
97.	I feel compassion toward people in need	1	2	3	4	5	6	7
98.	I feel it is important to help others	1	2	3	4	5	6	7
99.	I can do something for a cause that is important to me	1	2	3	4	5	6	7

	Please indicate how important each of the following possible reasons for volunteering are for you.	Not at all Important						Extremely Important
100	I can learn more about the cause for which I am working	1	2	3	4	5	6	7
101	Volunteering allows me to gain a new perspective on things	1	2	3	4	5	6	7
102	Volunteering lets me learn through direct "hands on" experience	1	2	3	4	5	6	7
103	I can learn how to deal with a variety of people	1	2	3	4	5	6	7
104	I can explore my own strengths	1	2	3	4	5	6	7

105. Rate yourself, compared to others, on your current ability to analyze and solve problems.

Much Less			About Average			Much More
1	2	3	4	5	6	7

106. Rate yourself, compared to others, on your current ability to apply and use critical thinking skills.

Much Less			About Average			Much More
1	2	3	4	5	6	7

Thank you for participating!!!
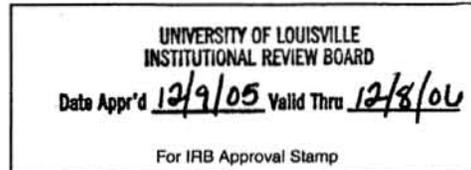
Service-Learning Outcomes Study at Lee University – Post-test

Date: March 1, 2006

Dear Student:

You are being invited to participate in a research study by answering the attached survey about service-learning and its anticipated outcomes. There are no known risks for your participation in this research study. The information collected may not benefit you directly. The information learned in this study may be helpful to others. The information you provide will used to look at the outcomes and changes that students experience as a result of the service-learning experience. Your completed survey will be stored at the researcher's office under lock and key. The survey will take approximately 15 – 20 minutes to complete.

Individuals from the Kent School of Social Work at the University of Louisville, the Institutional Review Board (IRB), the Human Subjects Protection Program Office (HSPPO), and other regulatory agencies may inspect these records. In all other respects, however, the data will be held in confidence to the extent permitted by law. Should the data be published, your identity will not be disclosed.

Taking part in this study is voluntary. By completing this survey you agree to take part in this research study. You do not have to answer any questions that make you uncomfortable. You may choose not to take part at all. If you decide to be in this study you may stop taking part at any time. If you decide not to be in this study or if you stop taking part at any time, you will not lose any benefits for which you may qualify.

If you have any questions, concerns, or complaints about the research study, please contact: Gerard Barber, Ph.D. at 502-852-8316 or Amy Doolittle, MSSW, doctoral student at 423-339-2098.

If you have any questions about your rights as a research subject, you may call the Human Subjects Protection Program Office at (502) 852-5188. You can discuss any questions about your rights as a research subject, in private, with a member of the Institutional Review Board (IRB). You may also call this number if you have other questions about the research, and you cannot reach the research staff, or want to talk to someone else. The IRB is an independent committee made up of people from the University community, staff of the institutions, as well as people from the community not connected with these institutions. The IRB has reviewed this research study.

If you have concerns or complaints about the research or research staff and you do not wish to give your name, you may call 1-877-852-1167. This is a 24 hour hot line answered by people who do not work at the University of Louisville.

Sincerely,

Gerard Barber, Ph.D
Principal Investigator

Amy Doolittle, MSSW, Doctoral Student
Co-Investigator

Service-learning Outcomes Study at Lee University (Post-test)

1. **To help us coordinate surveys for a pre and post-test analysis please provide the following information:**

2. Last 4 digits of your SSN: ___ ___ ___ ___

3. Your date of birth (Month/Day/Year): ___ ___ / ___ ___ / ___ ___ ___ ___

4. Country of origin (if born outside of the U.S.) OR the County and State of origin (if born within the U.S.):

_____

5. Please circle your response for Gender . . .   MALE   FEMALE
▪▪

6. Reflection: Thinking about your current experiences, how many *hours* would you estimate that you have spent, per week, reflecting about your service experiences with the following individuals:
Peers:_____   Instructors: _____   Site Supervisors: _____

7. Types of Reflection Activities: Please provide an estimate of how many *hours*, per week, you spent in each of the types of reflection listed:
Writing: _____   Discussion: Inside Class - _____   Outside of class - _____

8. Please describe your current service-learning experience:

_____
_____

9. How much do I think I have changed as a result of the service-learning experience?

None at all						A Great Deal
1	2	3	4	5	6	7

10. Please briefly describe the changes that you have experienced in your orientation towards service

_____
_____
_____

11. Compared to others university learning experiences, how much knowledge and learning do you think you obtained as a result of the service-learning experience?

Much Less			About Average			Much More
1	2	3	4	5	6	7

12. How would you describe the changes that you have experienced in your attitudes, knowledge, and learning as a result of the service-learning experience?

_____
_____
_____

13. I believe that participating in service-learning deepened my interest in the subject matter of this course.

Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7

Please continue to the next page.

14. Compared to other university learning experience, how much do you feel that your faith has developed as a result of this service-learning experience?

Much Less			About Average			Much More
1	2	3	4	5	6	7

15. Which of the following provided the greatest amount of content and guidance in your class sessions (for REL 200-Lecture sessions)? Place a **check** by your choice.

A. Instructor _____
B. Peer Leader _____
C. Student Teaching Assistant _____

16. Which of the following facilitated the greatest amount of discussion in your class sessions (for REL 200 – Lab sessions)? Place a **check** by your choice.

A. Instructor _____
B. Peer Leader _____
C. Student Teaching Assistant _____

The following section contains the same statements as the previous survey that you completed. Please take a few moments to respond to the following items to help us to better understand your service-learning experience. The items are numbered as they were in the original survey.

	The following are some general opinion statements. Please indicate the level to which you Agree or Disagree with each statement.	Strongly Disagree						Strongly Agree
20.	I feel responsible for my community.	1	2	3	4	5	6	7
21.	I believe I should make a difference in my community	1	2	3	4	5	6	7
22.	I believe that I have a responsibility to help the poor and the hungry.	1	2	3	4	5	6	7
23.	I am committed to serve in my community.	1	2	3	4	5	6	7
24.	I believe that all citizens have a responsibility to their community.	1	2	3	4	5	6	7
25.	I believe that it is important to be informed of community issues.	1	2	3	4	5	6	7
26.	I believe that it is important to volunteer.	1	2	3	4	5	6	7
27.	I believe that it is important to financially support charitable organizations.	1	2	3	4	5	6	7

	For the following statements please indicate the level to which you have participated on a scale from Never to Always.	Never						Always
28.	I am involved in structured volunteer position(s) in the community.	1	2	3	4	5	6	7
29.	When working with others, I make positive changes in the community.	1	2	3	4	5	6	7
30.	I help members of my community.	1	2	3	4	5	6	7
31.	I stay informed of events in my community.	1	2	3	4	5	6	7
32.	I participate in discussions that raise issues of social responsibility.	1	2	3	4	5	6	7
33.	I contribute to charitable organizations within the community.	1	2	3	4	5	6	7

	For the following statements please indicate the level to which you Agree or Disagree.	Strongly Disagree						Strongly Agree
34.	I plan to do some volunteer work.	1	2	3	4	5	6	7
35.	I plan to become involved in my community.	1	2	3	4	5	6	7
36.	I plan to participate in a community action program.	1	2	3	4	5	6	7
37.	I plan to become an active member of my community.	1	2	3	4	5	6	7
38.	In the future, I plan to participate in a community service organization.	1	2	3	4	5	6	7

		Strongly Disagree						Strongly Agree
39.	I plan to help others who are in difficulty.	1	2	3	4	5	6	7
40.	I am committed to making a positive difference.	1	2	3	4	5	6	7
41.	I plan to become involved in programs to help clean up the environment.	1	2	3	4	5	6	7

	For the following statements please indicate the level to which you Agree or Disagree.	Strongly Disagree						Strongly Agree
42.	It is important to help people in general	1	2	3	4	5	6	7
43.	Improving communities is important to maintaining a quality society .	1	2	3	4	5	6	7
44.	I can make a difference in the community	1	2	3	4	5	6	7
45.	Our community needs good volunteers	1	2	3	4	5	6	7
46..	All communities need good volunteers	1	2	3	4	5	6	7
47.	Volunteer work at community agencies helps solve social problems . .	1	2	3	4	5	6	7
48.	Volunteers in community agencies make a difference, if only a small difference	1	2	3	4	5	6	7
49.	College student volunteers can help improve the local community . . .	1	2	3	4	5	6	7

		Strongly Disagree						Strongly Agree
50.	Volunteering in community projects can greatly enhance the community's resources	1	2	3	4	5	6	7
51.	Contributing my skills will make the community a better place	1	2	3	4	5	6	7
52.	My contribution to the community will make a real difference	1	2	3	4	5	6	7

	For each statement, please indicate the level to which you Agree or Disagree.	Strongly Disagree						Strongly Agree
53..	I will act to work for social justice changes in society.	1	2	3	4	5	6	7
54..	We should create programs and public policies to address social issues.	1	2	3	4	5	6	7
55.	I am confident that I can help in promoting equal opportunities for all people.	1	2	3	4	5	6	7
56.	I have a responsibility to help efforts directed at social justice changes in society.	1	2	3	4	5	6	7
57.	I know how to organize efforts for social change.	1	2	3	4	5	6	7
58..	I have a good understanding of the social justice issues in the community where I am going to provide services.	1	2	3	4	5	6	7
59..	This society needs to increase social and economic equality.	1	2	3	4	5	6	7

	Please indicate the level to which you Agree or Disagree with each statement.	Strongly Disagree						Strongly Agree
60.	I can listen to other people's opinions.	1	2	3	4	5	6	7
61.	I can work cooperatively with a group of people.	1	2	3	4	5	6	7
62.	I can think logically in solving problems.	1	2	3	4	5	6	7
63.	I can communicate well with others.	1	2	3	4	5	6	7
64.	I can easily get along with people.	1	2	3	4	5	6	7
65.	I try to find effective ways of solving problems.	1	2	3	4	5	6	7
66.	When trying to understand the position of others, I try to place myself in their position.	1	2	3	4	5	6	7
67.	I find it easy to make friends.	1	2	3	4	5	6	7
68.	I can think analytically in solving problems.	1	2	3	4	5	6	7
69.	I try to place myself in the place of others in trying to assess their current situation.	1	2	3	4	5	6	7
70..	I tend to solve problems by talking them out.	1	2	3	4	5	6	7

	Please indicate the level to which you Agree or Disagree	Strongly Disagree						Strongly Agree
71.	It is hard for a group to function effectively when the people involved come from very diverse backgrounds	1	2	3	4	5	6	7
72.	I prefer the company of people who are very similar to me in background and expressions	1	2	3	4	5	6	7
73.	I find it difficult to relate to people from a different race or culture ...	1	2	3	4	5	6	7
74.	I enjoy meeting people who come from backgrounds very different from my own	1	2	3	4	5	6	7
75.	Cultural diversity within a group makes the group more interesting and effective	1	2	3	4	5	6	7

	For each statement, please indicate the level to which you Agree or Disagree.	Strongly Disagree						Strongly Agree
76.	Adults should give some time for the good of their community or country	1	2	3	4	5	6	7
77.	It is important to help others even if you do not get paid for it.......	1	2	3	4	5	6	7
78.	People, regardless of whether they have been successful, or not, ought to help others.	1	2	3	4	5	6	7

	For each statement, please indicate the level to which you Agree or Disagree.	Strongly Disagree						Strongly Agree
79.	I learned about the community.	1	2	3	4	5	6	7
80.	I learned how to work effectively with others.	1	2	3	4	5	6	7
81.	I learned to appreciate different cultures.	1	2	3	4	5	6	7
82.	I learned to see social problems in a new way.	1	2	3	4	5	6	7
83.	I became more aware of the community of which I am a part	1	2	3	4	5	6	7

	Please indicate the level to which you Agree or Disagree with the following statements.	Strongly Disagree						Strongly Agree
84.	It is important for me to learn what is being taught in this course	1	2	3	4	5	6	7
85.	I dislike most of the work in this course	1	2	3	4	5	6	7
86.	I like what I am learning in this course	1	2	3	4	5	6	7
87.	I think I will be able to use what I am learning in this class or in other classes later on	1	2	3	4	5	6	7
88.	I think that what we are learning in this course is useful for me to know	1	2	3	4	5	6	7
89.	It is important for me to really understand the materials covered in this class	1	2	3	4	5	6	7
90.	My coursework is relevant to everyday life	1	2	3	4	5	6	7

	For each statement, please indicate the level to which you Agree or Disagree.	Strongly Disagree						Strongly Agree
91.	I would be contributing to the betterment of the community	1	2	3	4	5	6	7
92.	I would experience personal satisfaction knowing that I am helping others.	1	2	3	4	5	6	7
93.	I would be meeting other people who enjoy community service	1	2	3	4	5	6	7
94.	I would be developing new skills	1	2	3	4	5	6	7

	Please indicate how important each of the following possible reasons for volunteering are for you.	Not at all Important						Extremely Important
95.	I am concerned about those less fortunate than myself	1	2	3	4	5	6	7
96.	I am genuinely concerned about the particular group I am serving	1	2	3	4	5	6	7
97.	I feel compassion toward people in need	1	2	3	4	5	6	7
98.	I feel it is important to help others	1	2	3	4	5	6	7
99.	I can do something for a cause that is important to me	1	2	3	4	5	6	7

	Please indicate how important each of the following possible reasons for volunteering are for you.	Not at all Important						Extremely Important
100	I can learn more about the cause for which I am working	1	2	3	4	5	6	7
101	Volunteering allows me to gain a new perspective on things	1	2	3	4	5	6	7
102	Volunteering lets me learn through direct "hands on" experience	1	2	3	4	5	6	7
103	I can learn how to deal with a variety of people	1	2	3	4	5	6	7
104	I can explore my own strengths	1	2	3	4	5	6	7

105. Rate yourself, compared to others, on your ability to analyze and solve problems.

Much Less			About Average			Much More
1	2	3	4	5	6	7

106. Rate yourself, compared to others, on your ability to apply and use critical thinking skills.

Much Less			About Average			Much More
1	2	3	4	5	6	7

Thank you for your participation!

APPENDIX B

Mean and Standard Deviation for the Subscale and all Subscale Items for the Pretest Group (n = 43) and the Analysis Group at the Pretest (n = 210)

Subscale and Items	Pretest Mean (*n* = 43)	Analysis Group Mean (*n* = 210)
Civic Attitudes	**5.6**	**5.5**
Q20 I feel responsible for my community.	5.1	4.8
Q21 I believe I should make a difference in my community.	5.9	5.7
Q22 I believe that I have a responsibility to help the poor and the hungry.	5.9	5.9
O23 I am committed to serve in my community.	5.2	5.0
Q24 I believe that all citizens have a responsibility to their community.	5.6	5.7
Q25 I believe that it is important to be informed of community issues.	5.6	5.6
Q26 I believe that it is important to volunteer.	6.0	5.9
Q27 I believe that it is important to financially support charitable organizations.	5.4	5.5
Civic Behaviors	**4.3**	**4.1**
Q28 I am involved in structured volunteer position(s) in the community.	3.6	3.8
Q29 When working with others, I make positive changes in the community.	5.1	5.1
Q30 I help members of my community.	4.9	4.8
Q31 I stay informed of events in my community.	4.2	4.0
Q32 I participate in discussions that raise issues of social responsibility.	3.8	3.6
Q33 I contribute to charitable organizations within the community.	4.0	3.7

Appendix B (Con't.)

Mean and Standard Deviation for the Subscale and all Subscale Items for

the Pretest Group (n = 43) and the Analysis Group at the Pretest (n = 210)

Subscale and Items	Pretest Mean (N = 43)	Analysis Group Mean (N = 210)
Civic Action	**5.4**	**5.4**
Q34 I plan to do some volunteer work.	6.1	6.1
Q35 I plan to become involved in my community.	5.4	5.6
Q36 I plan to participate in a community action program	4.8	4.7
Q37 I plan to become an active member of my community.	5.0	5.2
Q38 In the future, I plan to participate in a community service organization.	5.3	5.4
Q39 I plan to help others who are in difficulty.	5.7	5.8
Q40 I am committed to making a positive difference.	5.8	6.2
Q41 I plan to become involved in programs to help clean up the environment.	4.7	4.6
Importance of Helping	**6.0**	**6.0**
Q42 It is important to help people in general.	6.5	6.5
Q43 Improving communities is important to maintaining a quality society.	5.8	6.1
Q44 I can make a difference in the community.	6.1	6.0
Q45 Our community needs good volunteers.	6.1	6.2
Q46 All communities need good volunteers.	6.1	6.3
Q47 Volunteer work at community agencies help solve social problems.	5.6	5.6
Q48 Volunteers in community agencies make a difference, if only a small difference.	6.0	6.0
Q49 College student volunteers can help improve the local community.	6.1	6.1
Q50 Volunteering in community projects can greatly enhance the community's resources.	5.8	6.0
Q51 Contributing my skills will make the community a better place.	5.6	5.7
Q52 My contribution to the community will make a real difference.	5.6	5.6

Appendix B (Con't.)

Mean and Standard Deviation for the Subscale and all Subscale Items for the Pretest Group (n = 43) and the Analysis Group at the Pretest (n = 210)

Subscale and Items	Pretest Mean ($n = 43$)	Analysis Group Mean ($n = 210$)
Social Justice Responsibility	**4.8**	**4.6**
Q53 I will act to work for social justice changes in society.	4.7	4.7
Q54 We should create programs and public policies to		
address social issues.	5.3	5.0
Q55 I am confident that I can help in promoting equal		
opportunities for all people.	5.3	4.8
Q56 I have a responsibility to help efforts directed at		
social justice changes in society.	4.9	4.8
Q57 I know how to organize efforts for social change.	4.0	3.8
Q58 I have a good understanding of the social justice		
issues in the community where I am going to		
provide services.	4.3	3.8
Q59 This society needs to increase social and economic		
equality.	5.2	5.1
Interpersonal Skills	**6.3**	**6.1**
Q60 I can listen to other people's opinions.	6.5	6.3
Q61 I can work cooperatively with a group of people.		
Q63 I can communicate well with others.	6.3	6.3
Q64 I can easily get along with people.	6.3	6.1
Q66 When trying to understand the position of others, I try	6.5	6.4
to place myself in their position.		
Q67 I find it easy to make friends.	6.3	6.1
	5.8	5.8
Diversity Attitudes**	**2.8**	**3.3**
Q74 I enjoy meeting people who come from backgrounds		
very different from my own.	6.3	5.7
Q75 Cultural diversity within a group makes the group		
more interesting and effective.	6.1	5.8
Importance of Community Service	**6.0**	**6.1**
Q76 Adults should give some time for the good of their		
community or country.	5.8	6.0
Q77 It is important to help others even if you do not get		
paid for it.	6.1	6.2
Q78 People, regardless of whether they have been		
successful, or not, ought to help others.	6.2	6.2

Mean and Standard Deviation for the Subscale and all Subscale Items for the Pretest Group (n = 43) and the Analysis Group at the Pretest (n = 210)

Subscale and Items	Pretest Mean (*n* = 43)	Analysis Group Mean (*n* = 210)
Learning About the Community	**5.6**	**5.7**
Q79 I will learn about the community.	5.0	5.3
Q80 I will learn how to work with others effectively.	5.8	5.8
Q81 I will learn to appreciate different cultures.	5.8	6.0
Q82 I will learn to see social problems in a new way.	5.7	5.7
Q83 I will become more aware of the community of which I am a part.	5.6	5.6
Personal Benefits of Service	**5.8**	**5.8**
Q91 I would be contributing to the betterment of the community.	5.7	5.8
Q92 I would experience personal satisfaction knowing that I am helping others.	5.8	6.0
Q93 I would be meeting other people who enjoy community service.	5.7	5.7
Q94 I would be developing new skills.	5.9	5.9
Motivation for Service	**6.3**	**6.2**
Q95 I am concerned about those less fortunate than myself.	6.3	6.1
Q96 I am genuinely concerned about the particular group I am serving.	6.0	5.9
Q97 I feel compassion toward people in need.	6.4	6.3
Q98 I feel it is important to help others.	6.5	6.3
Q99 I can do something for a cause that is important to me.	6.3	6.2
Personal Enrichment	**6.2**	**6.0**
Q100 I can learn more about the cause for which I am working.	6.1	5.9
Q101 Volunteering allows me to gain a new perspective on things.	6.1	6.0
Q102 Volunteering lets me learn through direct "hands on" experience.	6.2	6.2
Q103 I can learn how to deal with a variety of people.	6.3	6.0
Q104 I can explore my own strengths.	6.3	6.1

** Items from these subscales were removed for the final analysis

Mean and Standard Deviation for the Subscale and all Subscale Items for

the Analysis Group Pretest and Posttest (n = 210)

Subscale and Items	Pretest Mean	Posttest Mean	Change between Pretest and Posttest
Civic Attitudes	**5.5**	**5.7**	**.2**
Q20 I feel responsible for my community.	4.8	5.4	.4
Q21 I believe I should make a difference in my community.	5.7	5.8	.1
Q22 I believe that I have a responsibility to help the poor and the hungry.	5.9	6.0	.1
O23 I am committed to serve in my community.	5.0	5.5	.5
Q24 I believe that all citizens have a responsibility to their community.	5.7	5.8	.1
Q25 I believe that it is important to be informed of community issues.	5.6	5.7	.1
Q26 I believe that it is important to volunteer.	5.9	5.9	0
Q27 I believe that it is important to financially support charitable organizations.	5.5	5.6	.1
Civic Behaviors	**4.1**	**4.5**	**.3**
Q28 I am involved in structured volunteer position(s) in the community.	3.8	4.3	.5
Q29 When working with others, I make positive changes in the community.	5.1	5.3	.2
Q30 I help members of my community.	4.8	5.0	.2
Q31 I stay informed of events in my community.	4.0	4.2	.2
Q32 I participate in discussions that raise issues of social responsibility.	3.6	4.3	.7
Q33 I contribute to charitable organizations within the community.	3.7	4.1	.4

Mean and Standard Deviation for the Subscale and all Subscale Items for

the Analysis Group Pretest and Posttest (n = 210)

Subscale and Items	Pretest Mean	Posttest Mean	Change between Pretest and Posttest
Civic Action	**5.4**	**5.6**	**.2**
Q34 I plan to do some volunteer work.	6.1	6.1	0
Q35 I plan to become involved in my community.	5.6	5.8	.2
Q36 I plan to participate in a community action program.	4.7	5.1	.4
Q37 I plan to become an active member of my community.	5.2	5.4	.2
Q38 In the future, I plan to participate in a community service organization.	5.4	5.6	.2
Q39 I plan to help others who are in difficulty.	5.8	6.4	.6
Q40 I am committed to making a positive difference.	6.2	6.0	-.2
Q41 I plan to become involved in programs to help clean up the environment.	4.6	4.9	.3
Importance of Helping	**6.0**	**6.0**	**0**
Q42 It is important to help people in general.	6.5	6.4	-.1
Q43 Improving communities is important to maintaining a quality society.	6.1	6.1	.0
Q44 I can make a difference in the community.	6.0	6.0	0
Q45 Our community needs good volunteers.	6.2	6.2	0
Q46 All communities need good volunteers.	6.3	6.2	-.1
Q47 Volunteer work at community agencies help solve social problems.	5.6	5.5	.1
Q48 Volunteers in community agencies make a difference, if only a small difference.	6.0	5.9	-.1
Q49 College student volunteers can help improve the local community.	6.1	6.2	.1
Q50 Volunteering in community projects can greatly enhance the community's resources.	6.0	5.7	.3
Q51 Contributing my skills will make the community a better place.	5.7	5.7	0
Q52 My contribution to the community will make a real difference.	5.6	5.6	0

Mean and Standard Deviation for the Subscale and all Subscale Items for

the Analysis Group Pretest and Posttest (n = 210)

Subscale and Items	Pretest Mean	Posttest Mean	Change between Pretest and Posttest
Social Justice Responsibility	**4.6**	**5.1**	**.5**
Q53 I will act to work for social justice changes in society.	4.7	5.2	.5
Q54 We should create programs and public policies to address social issues.	5.0	5.3	.3
Q55 I am confident that I can help in promoting equal opportunities for all people.	4.8	5.2	.3
Q56 I have a responsibility to help efforts directed at social justice changes in society.	4.8	5.4	.5
Q57 I know how to organize efforts for social change.	3.8	4.7	.9
Q58 I have a good understanding of the social justice issues in the community where I am going to provide services.	3.8	4.7	.9
Q59 This society needs to increase social and economic equality.	5.1	5.5	.4
Interpersonal Skills	**6.1**	**6.1**	**0**
Q60 I can listen to other people's opinions.	6.3	6.2	-.1
Q61 I can work cooperatively with a group of people.	6.3	6.3	0
Q63 I can communicate well with others.	6.1	6.1	0
Q64 I can easily get along with people.	6.4	6.3	-.1
Q66 When trying to understand the position of others, I try to place myself in their position.	6.1	6.1	0
Q67 I find it easy to make friends.	5.8	6.0	.2
Diversity Attitudes**	**3.3**	**6.0**	**.2**
Q74 I enjoy meeting people who come from backgrounds very different from my own.	5.7	5.9	.2
Q75 Cultural diversity within a group makes the group more interesting and effective.	5.8	6.0	.2
Importance of Community Service	**6.1**	**6.1**	**0**
Q76 Adults should give some time for the good of their community or country.	6.0	6.0	0
Q77 It is important to help others even if you do not get paid for it.	6.2	6.2	0
Q78 People, regardless of whether they have been successful, or not, ought to help others.	6.2	6.3	.1

Mean and Standard Deviation for the Subscale and all Subscale Items for

the Analysis Group Pretest and Posttest (n = 210)

Subscale and Items	Pretest Mean	Posttest Mean	Change between Pretest and Posttest
Learning About the Community	**5.7**	**5.3**	**-.4**
Q79 I will learn about the community.	5.3	5.2	-.1
Q80 I will learn how to work with others effectively.	5.8	5.3	-.5
Q81 I will learn to appreciate different cultures.	6.0	5.3	-.7
Q82 I will learn to see social problems in a new way.	5.7	5.6	-.1
Q83 I will become more aware of the community of which I am a part.	5.6	5.4	-.2
Personal Benefits of Service	**5.8**	**5.9**	**.1**
Q91 I would be contributing to the betterment of the community.	5.8	5.8	.0
Q92 I would experience personal satisfaction knowing that I am helping others.	6.0	6.1	.1
Q93 I would be meeting other people who enjoy community service.	5.7	5.9	.2
Q94 I would be developing new skills.	5.9	6.0	.1
Motivation for Service	**6.2**	**6.3**	**.1**
Q95 I am concerned about those less fortunate than myself.	6.1	6.2	.1
Q96 I am genuinely concerned about the particular group I am serving.	5.9	6.1	.2
Q97 I feel compassion toward people in need.	6.3	6.4	.1
Q98 I feel it is important to help others.	6.3	6.4	.1
Q99 I can do something for a cause that is important to me.	6.2	6.3	.1
Personal Enrichment	**6.0**	**6.1**	**.1**
Q100 I can learn more about the cause for which I am working.	5.9	6.0	.1
Q101 Volunteering allows me to gain a new perspective on things.	6.0	6.1	.1
Q102 Volunteering lets me learn through direct "hands on" experience.	6.2	6.2	0
Q103 I can learn how to deal with a variety of people.	6.0	6.2	.2
Q104 I can explore my own strengths.	6.1	6.2	.1

** Items from these subscales were removed for the final analysis

Learning Perceptions Correlation Matrix

	LP Post	CA pre	CA change	CAct pre	CAct change	SJ pre	LAC pre	LAC change
LPpost	1.00	0.20	0.18	0.28	0.14	0.34	0.29	0.40
CApre		1.00	-0.52	0.71	-0.24	0.44	0.48	-0.12
CAchange			1.00	-0.24	0.53	-0.22	-0.06	0.24
CAcpre				1.00	-0.48	0.56	0.58	-0.17
CAcchange					1.00	-0.10	-0.08	0.34
SJpre						1.00	0.57	-0.12
LACpre							1.00	-0.41
LACchange								1.00

	IH pre	IH change	InSK pre	DIV Pre	ICS Pre	BEN Pre	MOT Pre	PE pre
LPpost	0.26	0.18	0.20	0.15	0.26	0.27	0.23	0.27
CApre	0.63	-0.08	0.51	-0.33	0.58	0.52	0.56	0.54
CAchange	-0.20	0.53	-0.14	-0.01	-0.07	-0.06	-0.11	-0.10
CAcpre	0.63	-0.08	0.46	0.29	0.61	0.58	0.57	0.57
CAcchange	-0.19	0.57	-0.04	-0.01	-0.21	-0.06	-0.12	-0.15
SJpre	0.50	-0.40	0.34	0.17	0.44	0.50	0.41	0.51
LACpre	0.61	-0.03	0.53	0.20	0.60	0.64	0.58	0.64
LACchange	-0.20	0.37	-0.16	-0.02	-0.23	-0.12	-0.18	-0.16
IHpre	1.00	-0.39	0.60	0.29	0.74	0.74	0.67	0.62
IHchange		1.00	0.03	0.06	-0.19	-0.08	-0.07	-0.02
InSKpre			1.00	0.29	0.53	0.59	0.63	0.57
DIVpre				1.00	0.29	0.29	0.42	0.34
ICSpre					1.00	0.67	0.63	0.59
BENpre						1.00	0.65	0.74
MOTpre							1.00	0.75
PEpre								1.00

Learning Perceptions Correlations Matrix

	REF Indiv Post	REF Discout post	Parents Pre
LPpost	0.15	0.22	0.16
CApre	0.05	0.14	0.25
CAchange	-0.04	-0.05	-0.09
CAcpre	-0.01	0.14	-0.20
CAcchange	-0.00	-0.03	-0.05
SJpre	0.01	0.07	0.14
LACpre	0.11	0.15	0.19
LACchange	0.04	0.03	0.34
IHpre	0.06	0.18	0.22
IHchange	-0.05	0.01	-0.60
InSKpre	0.09	0.20	0.20
DIVpre	0.10	0.10	0.27
ICSpre	0.09	0.23	0.23
BENpre	0.07	0.20	0.20
MOTpre	0.03	0.19	0.19
PEpre	0.05	0.22	0.22
REFindivpost	1.00	0.50	0.15
REFdiscoutpost		1.00	0.22
Parentspre			1.00

LPpost – Learning Perceptions; CApre – Civic Attitudes pretest; CAchange – Civic Attitudes change; CActpre – Civic Actions pretest; CAcchange – Civic Actions change score; SJpre – Social Justice pretest; LACpre – Learning about the Community pretest; LACchange – Learning about the Community change; IH pre – Importance of Helping pretest, IHchange – Importance of Helping change, InSKpre – Interpersonal Skills pretest; DIV pre – Diversity Awareness pretest; ICSpre – Importance of Community Service pretest, BENpre - Personal Benefits pretest; MOT pre - Personal Motivation pretest; PE pre – Personal Enrichment pretest; REFindivpost – Reflection with Individuals posttest; REFdiscoutpost – Reflection in Discussion Outside of Class posttest; Parents pre – Perceptions of Parents Involvement in Community Service pretest .

Critical Thinking Correlation Matrix

	CT Post	CB pre	CAct pre	CAc change	SJ pre	LAC pre	IH pre	InSk pre
CTpostsum	1.00	0.21	0.16	0.17	0.20	0.21	0.16	0.31
CBpre		1.00	0.66	-0.32	0.51	0.47	0.41	0.33
CActpre			1.00	-0.42	0.56	0.58	0.63	0.46
CAcchange				1.00	-0.10	-0.08	-0.199	-0.04
SJpre					1.00	0.57	0.50	0.34
LACpre						1.00	0.61	0.53
IHpre							1.00	0.59
InSKpre								1.00
InSKchange								
DIVpre								
BENpre								
MOTpre								
PEpre								

	InSk change	DIV pre	BEN pre	MOT pre	PE pre
CTpostsum	0.14	0.19	0.19	0.20	0.15
CBpre	-0.06	0.23	0.42	0.40	0.42
CActpre	-0.13	0.29	0.58	0.57	0.57
CAcchange	0.39	-0.01	-0.61	-0.15	-0.15
SJpre	-0.07	0.17	0.49	-0.41	0.51
LACpre	-0.17	0.20	0.64	0.58	0.64
IHpre	-0.23	0.29	0.74	0.67	0.63
InSKpre	-0.41	0.30	0.59	0.63	0.57
InSKchange	1.00	0.06	-0.17	-0.15	-0.18
DIVpre		1.00	0.28	0.42	0.34
BENpre			1.00	0.65	0.74
MOTpre				1.00	0.75
PEpre					1.00

CTpostsum – Critical Thinking; CBpre – Civic Behaviors pretest; CActpre – Civic Actions pretest; CAcchange – Civic Actions change score; SJpre – Social Justice pretest; LACpre – Learning about the Community pretest; IHpre – Importance of Helping pretest; InSkpre – Interpersonal Skills pretest; InSkchange – Interpersonal Skills change score; DIVpre – Diversity Attitudes pretest; BENpre – Personal Benefits pretest; MOTpre – Personal Motivations pretest; PEpre – Personal Enrichment pretest.

CURRICULUM VITAE

Amy L. Doolittle, Ph.D., MSSW, LCSW
1618 Benjamin Cr., NW   Cleveland, TN 37312
423-339-2098 or 502-551-4628 (Cell)
doolittleamy@hotmail.com

EDUCATIONAL HISTORY

Ph. D., University of Louisville, Kent School of Social Work   2006
Dissertation: Service-learning Outcomes at a Faith-based Institution of Higher
Education
- Received a Graduate Dean's Citation

MSSW, University of Louisville, Kent School of Social Work   1997
 Administration emphasis
- Regional Youth Services, Student Placement
- Jefferson County Family Court, Student Placement

BA, Psychology, University of Louisville   1995
- Golden Key Honor Society
- Psi-Chi Honor Society

PROFESSIONAL HISTORY

UNIVERSITY OF LOUISVILLE   2003-2006
Graduate Teaching Assistant
- Assigned to work with faculty member, Wanda Collins, Ph.D. compiling
    literature reviews and assist in teaching the graduate level class
    Spirituality and Social Work (SW 684-01) (2005-2006).
Graduate Research Assistant
- Worked in the Field Practicum Office on a research project that was
    presented at the 51st APM that examined how a student's past history
    impacted their practicum performance (2003-2004).
- Worked as an assistant to faculty member, Wanda Collins, Ph.D. compiling
    literature reviews on the topics of "The Influence of the African American
    Church in Fostering Self-regulating Behaviors Among African American
    Youth: A Practice Perspective;" Hospice Care and It's Utilization Among

African American Families;" and "Grief Practices Among African American Families." Substituted for Dr. Collins in the graduate level courses of Social Work Practice I (SW 604) and Social Work Practice II (SW. 605) (2004-2005).

FAMILIES IN TRANSITION   2003
- Facilitated divorce education groups for a court mandated program.

SEVEN COUNTIES SERVICES, INC.   2001-2003
Principal Social Worker
Further Horizons (2002-2003)
- Worked in a Therapeutic Rehabilitation program for adults with Severe Mental Illness.
- Facilitated groups, crisis interventions, and assisted clients in creating a Rehabilitation Plan for recovery, worked with individuals to learn social skills.
- Co-facilitated a training at the Mental Health Institute, "Hearing Voices," October 2002.
- Presented in-service training, with colleagues, at the University Of Louisville School Of Medicine for Psychiatric Residents on the benefits of Therapeutic Rehabilitation in a Community Health Setting, September 2002.
Rural – Shepherdsville Office (2001-2002)
- Worked in the New Challenge Clubhouse & therapeutic rehabilitation program for adults with Severe Mental Illness.
- Served as Interim Program Director for the Clubhouse.
- Field Practicum Supervisor for a Masters level student from the Kent School of Social Work, University of Louisville.
- Provided outpatient service to adults that are not Severely Mentally Ill.
- Completed psychosocial assessments, diagnosis and treatment plans.
- Developed an innovative 8-week group-based curriculum for anxiety disorders which created new revenue and shifted focus from individual to group-based therapy.
- Facilitated parenting groups.

CARITAS HEALTH SERVICES – PEACE   1999-2000
Social Worker
- Worked as a therapist in an Outpatient/Partial Hospitalization Program with adults that are Severely Mentally Ill, providing group and individual therapy.

SEVEN COUNTIES SERVICES, INC.   1997-1999
Social Worker
- Worked as therapist as Acute Child Psychiatric Service to divert psychiatric hospitalization.
- Completed psychosocial assessments, individual therapy, and treatment plans.

TEACHING AND RELATED ACTIVITIES

Fall Semester 2006   Dalton State College
SOWK 2101 (Undergraduate)   3 credit hours
Introduction to the Social Work Profession

Fall Semester 2006   Dalton State College
SOWK 4400 (Undergraduate)   3 credit hours
Senior Social Work Research Methods

Fall Semester 2006   Lee University
SOC/ANTH 325 (Undergraduate)   3 credit hours
 Research Methods and Statistics I

Fall Semester 2005   Lee University
SOC 200 (Undergraduate)   3 credit hours
Understanding Contemporary Society

November 10, 2005   Spirituality and Social Work (SW 684-01)
University of Louisville
Health, Religion, and Spirituality (Graduate level course)

October 25, 2005   Leadership and Ministry (PAS 415)
Lee University
Myers-Briggs Workshop on Leadership (Part 2) (Undergraduate level course).

October 18, 2005   Leadership and Ministry (PAS 415)
Lee University
Myers-Briggs Workshop on Leadership (Part 1) (Undergraduate level course).

October 13, 2005   Spirituality and Social Work (SW 684-01)
University of Louisville
Spiritual Sensitive Group Work (Graduate level course).

April 5, 2005   Social Work Practice II (SW 605-01)
University of Louisville
Participatory Action Research (Graduate level course).

March 29, 2005   Social Work Practice II (SW 605-01)
University of Louisville
Elements of Participatory Action Research (Graduate level course).

October 26, 2004   Social Work Practice I (SW 604-01)
University of Louisville
Planning and Implementing Change-Oriented Strategies: Developing General
Tasks, Initial Phase of Crisis Intervention (Graduate level course).

October 5, 2004   Social Work Practice I (SW 604-01)
University of Louisville
Verbal Following Skills; Focusing Skills; Summarizing Responses;
Communication Patterns: Non-verbal Barriers (Graduate level course).

November 16, 2004   Social Work Practice I (SW 604-01)
University of Louisville
Domestic Violence, HIV, Elder Abuse, End-of-Life Decisions (Graduate level
course).

September 16, 2004   Ministry and Leadership (PAS 415)
Lee University
Myers-Briggs Type Indicator; Your Personality and Team Building
(Undergraduate level course). (Part 2).

September 14, 2004   Ministry and Leadership (PAS 415)
Lee University
Myers-Briggs Type Indicator; Your Personality and Team Building
(Undergraduate level course). (Part 1).

May 21, 2004   Mental Health (SW 615-75)
University of Louisville
The History of Mental Health (Graduate level course).

March 29, 2004   Special Topics for Youth and Family Ministry
Lee University
Myers-Briggs Type Indicator; Your Personality and Leadership (YFM 543;
Graduate level course).

March 6, 2004   Social Work Practice II (SW 605-81)
University of Louisville
Ethics and Social Work (Graduate level course).

RESEARCH AND SCHOLARLY ACTIVITIES

Collins, W. & Doolittle, A. (2006). Personal reflections of funeral rituals and
     spirituality in a Kentucky African American family. *Death Studies*, *30*(10),
     957-969.

Doolittle, A. & Tully, C. (Under Review). *Students as work horses and guinea
     pigs: Ethical implications.*

OTHER PROFESSIONAL ACTIVITIES

- **Presentations:**
- October 16, 2006. 6th Annual International Service-Learning Research
  Conference, Portland, OR.
    Doolittle, A. (2006). Service-learning at a faith-based institution of higher
    education.

- June 3, 2006. Faith, Traditions, and Service-learning Conference, Messiah
  College, Grantham, PA.
    Doolittle, A. (2006). The ins and outs of required service-learning: Insights
    and outcomes.

- April 2006, Kentucky Association of Social Work Educators (KASWE)
  Conference, Spalding University, Louisville, KY.
    Doolittle, A. (2006). Students and work horses and guinea pigs: Ethical
    implications.

- February 19, 2006. 52nd Annual Program Meeting for the Council on Social
  Work Education (CSWE), Chicago, IL.
    Doolittle, A. & Tully, C. (2006). Students as work horses and guinea pigs:
    Ethical implications.

- March 1, 2005   51st Annual Program Meeting for the Council on Social Work
  Education   (CSWE), New York, NY.
   Lead presenter for: Pooler, D. K., Doolittle, A., Faul, A. C., Barbee, A., &
    Fuller, M. (2005). New challenges facing social work educators: Students'
    past histories affect practicum performance.

PROFESSIONAL MEETINGS (Past five years)

October 2006. The 6th Annual International Conference Service-learning Research Conference. Portland, OR.

June 2006. Faith, Traditions, and Service-learning Conference. Messiah College, Grantham, PA.

April 2006. Kentucky Association of Social Work Educators Conference. Spalding College, Louisville, KY.

February 2006. 52nd Annual Program Meeting for the Council on Social Work Education (CSWE), Chicago, IL.

November 2005.   Exploring the Premise: Advancing Knowledge and Transforming Lives. 5th Annual International Conference: Advances in Service-Learning Research. I was awarded one of two graduate scholarships to attend conference.

May 2005. Engaging Students for Success. One Mission: Better Lives. 2005 Faculty Development Conference. Kentucky Council on Postsecondary Education.

March 1, 2005. 51st Annual Program Meeting for the Council on Social Work Education (CSWE) in New York City.

PROFESSIONAL EXPERIENCES; LICENSURE; and TRAINING

- License Clinical Social Worker (LCSW) provisional status in the state of TN 2006.
- License Clinical Social Worker (LCSW) in the state of KY; November 2000, renews 2006.
- Myers-Briggs Type Indicator Training and Certification; December 2000

MEMBERSHIPS IN PROFESSIONAL AND HONOR SOCIETIES

- National Association of Christian Social Workers (NACSW); student member
- National Association of Social Workers (NASW); student member
- Council for Social Work Education (CSWE); student member

HIGHLIGHTS OF SERVICE ACTIVITIES

- Memory Walk to benefit the Alzheimer's Association with the School of Religion (Fall 06).
- One of four faculty members at Lee University to lead a group of students to New Orleans, LA to work in Hurricane Katrina Relief Efforts (October 2005).
- Memory Walk to benefit the Alzheimer's Association with the School of Religion (Fall 05).
- Great Strides Walk to benefit the Cystic Fibrosis Foundation with Lee students (Spring 05).
- Memory Walk to benefit the Alzheimer's Association with the School of Religion (Fall 04).
- Organized the collection and delivery of toiletries (December. 2004) and hats, gloves, and scarves (December 2003) for children who are medically fragile. Sponsored by the University of Louisville Family and Community Medicine Department.
- Hunger Walk in Louisville, KY. This walk serves to raise monies for local food banks such as Dare to Care Food Bank and for a selected international project to feed the hungry. I personally led a team of walkers 1999; 2000; 2001; 2002. This team was compiled from my local church and became one of the top ten contributors of funds from churches that participated. Sat on the Planning Board for the walk 2002-2003.
- Church of God State Ladies Ministries Board Member (KY) 2002-2003.
- Church liaison to the Fern Creek/Highview United Ministries for the Solid Rock Church of God (1998-2003).

University Related Service

- Served as a graduate student representative on the Dean Search Committee at the Kent School of Social Work, University of Louisville. Spring 1997.
- Served as a graduate student representative on the Grievance Committee at the Kent School of Social Work, University of Louisville. Academic year 1996-1997.