

THE IMPACT OF SERVICE-LEARNING ON COMMUNITY INVOLVEMENT
ATTITUDE IN CAREER AND TECHNICAL EDUCATION STUDENTS

by

Christopher Allen Daniel

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Education

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ABSTRACT

Service-Learning is a teaching methodology, which incorporates community service and classroom learning. Students take the skills and techniques gained in the classroom into the community to address real world problems. The basis for this methodology comes from the theories of John Dewey and more recently the Experiential Education Theory of D.A. Kolb. The three phases of preparation, action, and reflection move service-learning beyond other models of experiential education to build a reciprocally beneficial model for all stakeholders. This quantitative study examines the effect service-learning has on attitudes toward community involvement among community college, career and technical education students of eastern Kentucky. This study uses a non-equivalent control group design. During the spring 2012 semester, the 25 students in the experimental group completed the pretest, treatment, and posttest. The control group, consists of 19 new students enrolled in the same programs and they completed the pretest and posttest during the fall 2012 semester. The study explored the student's awareness of community issues and their feelings of responsibility to become involved in community service. The ANCOVA analysis shows a significant difference between the groups. The results suggest the value of service-learning activities as a contributor to both awareness and responsibility toward community involvement.

Descriptors: service-learning, community engagement, career and technical education

Dedication

I would like to thank my Lord and Savior, Jesus Christ for His love, mercy and grace. Anything that I am is through and by Him. His ways is beyond our understanding. When I started this journey, I asked for His guidance in finding a school and He pointed me to Liberty University.

To my wife who is certainly my better half. Thank you for all your support and encouragement. You are always there to lift me up and say the right thing just when I need it. God knew what He was doing when he brought you into my life. You are my partner and I love you.

To my son who is my best friend, thank you for supporting me throughout all my college education. As I started my college career late in life, you have been a shining example for me to follow.

To my Daughter-in-Law, thank you for all your encouragement and I am so glad that you are a part of this family.

To my dad and mom, Joshua and Lois Daniel, thank you for instilling in me the values that I have. You are my heroes and without your guidance and up-bringing, I could have never accomplished this journey.

To Dr. Johnson, you have been my supervisor, mentor, encourager, but most of all you have been my friend. Thank you for believing in me and encouraging me to continue with my education and professional growth.

To Dr. Blackburn, very seldom do you find a kindred spirit. We have traveled the highways together. In the short time that we worked together, I gained so much insight

into service-learning. However, the most important thing is your friendship, thank you for always being there to ask questions and just to have someone to talk with.

To Dr. Watson, you have been a constant influence and guide. Thank you for all your assistance, encouragement and prayers. I would also like to thank, Dr. Garzon and Dr. Edwards for their dedication as committee members. It has been a blessing to have this committee as a resource.

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List of Abbreviations

AACTE – American Association of Colleges for Teacher Education

ACT – American College Testing

ABET – Accreditation Board for Engineering and Technology

ANCOVA – Analysis of Covariance

CAS – Civic Action Scale

CASQ – Civic Attitudes and Skills Questionnaire

CNCS – Corporation for National and Community Service

CSAS – Community Service Attitudes Scale

CTE – Career and Technical Education

HEW – Health Education and Welfare

ISU – Iowa State University

IT – Industrial Technology

IUPUI – Indiana University-Perdue University Indianapolis

LUIRB – Liberty University’s Institutional Review Board

NASB – New American Standard Bible

NSLC – National Service-Learning Clearinghouse

TVA – Tennessee Valley Authority

UNCC – University of North Carolina at Charlotte

VISTA – Volunteers in Service to America

CHAPTER ONE: INTRODUCTION

Preparing students to become contributing citizens who understand their responsibility to become involved in the community has been one of the driving principles of education since the founding of the United States (Guttek, 2005, p. 226; Sarkees-Wircenski & Scott, 2003, p. 61). It is this principle that allows this nation to sustain the democracy. Martinez (2007) arranged Copa and Wolf's 13 principles for experiential theory of hands-on education with Miller's categories of people, programs, and processes and added a new category for values. Martinez lists responsibility toward community in three of his four categories (p. 77) .

Service-Learning is a teaching methodology, which incorporates skills learned in the classroom with service in the community. This study uses the Learn and Serve America definition for service-learning, "a teaching and learning strategy that integrates meaningful community service with instruction and reflection to enrich the learning experience, teach civic responsibility, and strengthen communities" (National Service-Learning Clearinghouse, 2008). This study seeks to examine the inclusion of service-learning in career and technical education programs. The research drawn from this study explores the effects of service-learning on the attitudes toward community involvement of career and technical education students. Furthermore, this study examines two research questions. Do students involved in service-learning activities have a greater awareness of community needs? Does the inclusion of service-learning affect students' feeling of responsibility to become involved with the community?

Background

In order for learning to take place, the individual must experience some type of intervention to bring about a change in their thinking or actions. This is the basis of the experiential educational philosophy. Proponents of service-learning have used the basis of experiential education as the foundation of this methodology. Dewey (1938) addresses this philosophy and says planning is essential for the experience to produce the desired effect upon its students (p. 27). It is this belief of quality experience and the positive benefits toward developing true citizenship, which is the foundation of service learning. Kolb's model of experiential learning is cylindrical and includes "abstract conceptualization, active experimentation, concrete experience, and reflective observation" (Atherton, 2010, para 1). Service-learning utilizes each of the four processes outlined by Kolb in his model for experiential learning in the preparation, action, and reflection of the service-learning cycle (Seifer & Connors, 2007, p. 6).

The evolution of the service-learning teaching methodology has its roots in the experiential educational philosophy. However, service-learning attempts to provide a quality experience with community through reflection. Service-learning seeks to build citizenship through service directly connected to classroom learning objectives. There is a mutual benefit for the student and the community partners. This type of reciprocity sets this pedagogy apart from other methods of experiential learning. Service-learning promotes interaction of the students with the community by addressing real world issues and solving problems using classroom skills. The three phases of service-learning; preparation, action, and reflection give students the connection to community and allow them to see avenues where they can make a difference.

Problem Statement

The belief that education should produce the complete citizen who is prepared to be an active member in the workforce and community has long been the goal of education (Sarkees-Wircenski & Scott, 2003, p. 61). Plato and Aristotle both promoted an education system which shaped students in learning as well as community involvement (Rocheleau, 2004). Service-Learning is a teaching methodology that strives to address this age old belief of education and community service combined to reinforce classroom competencies while instilling the need for community involvement (National Service-Learning Clearinghouse, 2008). The roots of service-learning are grounded in the experiential education theory (J. C. Kielsmeier, 2010). Current research in service-learning is not at a level that allows for decisions as to planning and design. There is not enough evidence and more research is needed in this area (Eyler, 2002, p. 5). Kielsmeier (2010) quotes President Obama, “What these students come to discover through service is that by befriending a senior citizen, or helping the homeless, or easing the suffering of others, they can find a sense of purpose and renew their commitment to this country that we love.... Because we must prepare our young Americans to grow into active citizens, this bill makes new investments in service-learning” (p. 14).

The philosophy of career and technical education also ties into the theory of experiential education. These programs are designed around field experience with the goal of producing a real life experience tied directly to the specific discipline being taught (Eyler, 2009). Current research in career and technical education shows an emphasis in service-learning to the extent of reinforcing classroom skills. Many programs are including service-learning in secondary education with few reports existing in higher

education. Burr (2001) states, “While many universities are beginning to incorporate service-learning activities, the full potential of combining service and progressive experiential learning situations for a specific area of study lies, in most cases, still untapped” (para. 6). Current trends in career and technical education research according to Rojewski, Kim, & Asunda (2008) are focused upon, “accountability, articulation and transition, career pathways and course sequencing, integration of academic and career-technical education, and recruitment and retention of career and technical education professionals” (p. 61).

The problem this study addresses is the need for well-designed experimental research in the field of service-learning. This study expands service-learning research in career and technical education disciplines. This quantitative study utilizes a non-equivalent control group design. The study took place during the spring and fall semesters of 2012. Each group consists of carpentry and electricity students and has the same instructors for their respective disciplines. This study asks, what is the impact of service-learning on community involvement attitudes?

Purpose Statement

The purpose of the study is to research the impact of service-learning on the attitude toward community involvement of community college students enrolled in career and technical education (CTE) programs in rural Appalachia. The study consists of students enrolled in carpentry and electricity programs at one community and technical college, with a five county service area located in the Appalachian region of eastern Kentucky. This quantitative study utilizes a non-equivalent control group design. This design is commonly used in educational research when randomization is not possible

(Gall, Gall, & Borg, 2007, p. 416). This study compares two groups of students enrolled in the carpentry and electricity programs of a rural community college in eastern Kentucky. The experimental group consists of students enrolled in each program during the spring 2012 semester. The control is made of new students enrolling in each program during the fall 2013 semester. The independent variable for the study is the inclusion of service-learning as a teaching methodology during the spring 2013 semester.

The pretest for this study is the Civic Action Scale (CAS) (see Appendix A). This survey measures intent of future involvement in community service and was developed by Moely, Mercer, Ilustre, Miron, & McFarland (as cited in Bringle, Phillips, & Hudson, 2004, p. 169). The posttest for this study is the Community Service Attitudes Scale (CSAS) (see Appendix B). This survey measures attitudes toward community service and was developed by Shiarella, McCarthy, & Tucker (as cited in Bringle, et al., 2004, p. 177). Dr. Robert Bringle, Executive Director of IUPUI's Center for Service and Learning and Author of *The Measure of Service Learning: Research Scales to Assess Student Experience*, addresses permission to use these instruments for this particular study in a personal email (see Appendix C).

Significance of the Study

It is the intent of this study to extend existing knowledge in the utilization of service-learning as a teaching methodology. Bringle & Hatcher (2000) found that there is a need for research in this area that explores the outcomes of service-learning in regard to students and communities (p. 68). In discussing the present state of service-learning implementation and research, the implementation of service-learning activities has well surpassed quality research. Service-learning practitioners have an overwhelming passion

and belief in the benefits of service-learning on the individuals involved, but there is not enough research to support their claims to guide the decision making process (Eyler, 2002, p. 4).

Service-learning implementation and research has been limited to traditional courses of academia to promote civic growth (Steinberg, Bringle, & Williams, 2010, p. 1). This study attempts to expand upon this goal through the study of service-learning within career and technical programs. A review of current research in career and technical education from 2002 through 2004 shows that one quarter of the research dealt with teacher issues and less than twenty percent covered alternative instructional delivery (Rojewski, et al., 2008, p. 63). However, the alternative topics did not include service-learning. It is this gap in which this study hopes to contribute and extend the research in service-learning and career and technical education. The experiential components of service-learning and career and technical education make this study and others like it significant. The results of this study contribute to the knowledge base of service-learning research and the future design of service-learning programs.

Research Question(s)

Research Question #1:

Do students involved in service-learning activities have a greater awareness of community needs?

Research Question # 2:

Does the inclusion of service-learning affect the students' feelings of responsibility to become involved with the community?

Hypotheses

Null Hypothesis 1 H₀:

There is no statistical difference in awareness of community needs between community college students enrolled in carpentry and electrical technology programs that incorporate service-learning from students enrolled in those same programs that do not incorporate service-learning as shown by scores of the Community Service Attitudes Scale.

Null Hypothesis 2 H₀:

There is no statistical difference in feelings of responsibility to become involved with the community between community college students enrolled in carpentry and electrical technology programs that incorporate service-learning from students enrolled in those same programs that do not incorporate service-learning as shown by scores of the Community Service Attitudes Scale.

Identification of Variables

For the purpose of this study, the independent variable, service-learning, is defined using the Learn and Serve American definition, “a teaching and learning strategy that integrates meaningful community service with instruction and reflection to enrich the learning experience, teach civic responsibility, and strengthen communities” (National Service-Learning Clearinghouse, 2008). This definition is also consistent with Bringle and Hatcher (2009) who state that service-learning should be a part of a college course, address a community need, and incorporate reflection that gives a deeper understanding of content skills, and community (p. 38).

The purpose of this study is to explore the effect service-learning may have on attitudes toward community involvement. The dependent variable for this study will use the Community Service Attitude Scale, (see Appendix B) developed by Shiarella, McCarthy & Tucker to measure community involvement. This assessment breaks community service attitude down into four phases - perception of need, moral obligation, reassessment of potential responses, and engagement in helping behavior (Bringle, et al., 2004, p. 178).

Research Summary

This study is quantitative in nature and utilizes a quasi-experimental, non-equivalent control group design. This design is appropriate for this study because of the pre-existing groups in the career and technical programs in which this study explores. A common problem with many service-learning research attempts is self-selection bias. Institutions typically list courses as having a service-learning component and are not required for graduation. As a result, students typically enrolling in these courses have a pre-disposed opinion about service (Steinberg, et al., 2010, p. 2). The career and technical programs in this study do not list the classes as a service-learning course. Each group consists of carpentry and electricity students and has the same instructors for their respective disciplines. Service-learning for this study is purely a teaching methodology and is treated no different from a lecture, group discussion or lab assignment. Using pre-existing groups allows for the study of the effects of service-learning without self-selection bias.

This study examines the effect service-learning has on attitudes toward community involvement. After Liberty University's Institutional Review Board

(LUIRB) approval, the first step was to administer the pre-test to both the control and experimental group. The mean scores were examined for an acceptable level of equivalency. The treatment, service-learning consisted of three phases - preparation, action, and reflection. Preparation took place in the various programs making up the experimental group as students in each program gained their specific skills in their field of study. Action took place with each program coming together to participate in a home construction project with Habitat for Humanity. Reflection took place after project completion with all students taking part in a reflection workshop conducted by a consultant for the Kentucky Campus Compact. Once the reflection activities were completed the posttest was given and statistical analysis run using ANCOVA (Steinberg, et al., 2010, p. 48).

Definitions

Career and Technical Education - Programs that use classrooms, labs, and field-based experiences to create a learning environment that introduces real-world, situations allowing students the experiences needed to be successful in the workplace and life in general (Sarkees-Wircenski & Scott, 2003, p. 59).

Kolb's Model of Experiential Learning - A cycle which includes abstract conceptualization, active experimentation, concrete experience, and reflective observation (Atherton, 2010, para 1).

Non-equivalent Control Group Design - A quasi-experimental design involving at least two groups, both of which are pretested, one group receives the experimental treatment, and both groups are posttested (Gall, et al., 2007, p. 416).

Reflection - The framework in which students/youth process and synthesize the information and ideas they have gained through their entire service experience” (p. 7).

Service-learning - A teaching and learning strategy that integrates meaningful community service with instruction and reflection to enrich the learning experience, teach civic responsibility, and strengthen communities” (National Service-Learning Clearinghouse, 2008).

CHAPTER TWO: REVIEW OF THE LITERATURE

Introduction

With its various philosophies and approaches, education continues to provoke heated debate from all sides of the argument. Some defend the cultural education one gains through a liberal arts curriculum. Others argue for a technical/career focused education, preparing one for work. There is a movement to bring these two opposing sides closer together. Sarkees-Wircenski and Scott (2003) reveal, “Educational Leaders of today are advocating a new pedagogy that combines academic and experiential education in a system of lifelong learning in school, community, and work” (p. 61). In any democratic society, education must serve to develop the citizen while allowing each individual the opportunity to attain his or her educational goals. Gutek (2005) in his discussion of Horace Mann says, “His ideology, however, did not seek to merely preserve the socioeconomic status quo but saw education as a means of effecting the gradual, non-revolutionary, transformative improvement of society” (p. 226). Educators in a democratic society must adopt teaching methodologies that allow for the development of the student’s skills and gives them opportunities to realize and cultivate their role as an active member in his or her community.

Career and Technical Education by its nature is rooted in the philosophies of experiential education. The move in education to balance career and technical education with a liberal arts education is reflective of the beliefs of education philosophers such as Plato and Aristotle as each of these men advocated an educational experience to produce individuals who could contribute to their communities (Rocheleau, 2004). There is a growing awareness for the need to engage students in the learning process. Field

experiences are those that get students outside the traditional classroom and involved in activities that reinforce the learning process. These types of experiences provide real world settings, allow for the development of the required skills, foster critical thinking, and promote civic responsibility (Atkinson, 2009, p. 10). In recent years, one such methodology, which utilizes the concepts and framework of experiential education, is service-learning. O’Conner (2006) states, “service-learning is best-known and most popular way for the academy to encourage greater civic engagement and community participation. Part of its success stems from the ways in which service promotes conventional academic learning while building upon the current generation’s interest in volunteerism. A fundamental component of effective service-learning is students’ reflection upon the service experience” (p. 54)

Learn and Serve America defines service-learning as “a teaching and learning strategy that integrates meaningful community service with instruction and reflection to enrich the learning experience, teach civic responsibility, and strengthen communities” (National Service-Learning Clearinghouse, 2008). Service-Learning has roots running back to John Dewey and his studies on experiential education (J. C. Kielsmeier, 2010).

Conceptual or Theoretical Framework

Experiential education is an educational philosophy, which suggests for learning to take place; one must have an experience of some sort to produce the desired change in personality or thinking. While Plato argues against technical education, he very clearly agrees with the premise of experiential education. Plato defends general knowledge as the educational vehicle which allows one to become contributing citizens ready to navigate any of life’s situations (Guttek, 2005, p. 40). Proponents of service-learning

have used the basis of experiential education as the foundation of this methodology. In order for education to fulfill its purpose in a democratic society, it must develop citizens. Citizens are people who understand what it means to be a part of the community. Aristotle believed education should produce people prepared to fulfill their full potential as human beings (Gutek, 2005, p. 55). John Dewey (1938) in his discussion of experience and education says in order for experience to have the desired effect to bring about a positive change one must design an experience of high quality (p. 27). Kielsmeier (2011) adds, “in high-quality service-learning, students collaboratively solve real world problems, directly developing cognitive academic skills critical for success in college and in career in the 21st century” (p. 4). Jacobs and Archie (2008) states, “Experiential education, both as a methodology and philosophy, is well suited to potentially have a positive influence on a learner’s sense of community” (p. 284). “The plans of the diligent lead surely to advantage, but everyone who is hasty comes surely to poverty” (NASB, 1995, Proverbs 21:5). Solomon teaches that planning will result in success. This principle applies in all facets of our lives. There is no doubt that in Solomon’s life he has certainly seen the results of good planning. Solomon following God’s instruction chose the finest of building materials to build the temple. In order to carry out a construction project of this magnitude Solomon ordered workers to follow his instructions and plans. It is only through Solomon’s planning and obedience to God that the temple project succeeded (NASB, 1995, 2nd Chronicles 3). Service-learning in order to produce the desired effects of academic learning and connections to the community must have a quality design and support of the institution, faculty, students, and community. Andrews (2007), in a study of service-learning in business programs, found

“Integration into business curricula is also challenging because institutions’ achievement of academic goals is critical to maintaining their business accreditation and enabling them to succeed with the requisite technical skills in placing students in professional positions. Accomplishment of service goals can come at the sacrifice of learning outcomes and vice versa (p. 19). Eyler (2009) states, “Students who were involved in intensive, highly reflective service-learning courses showed significant increases in reflective judgment over the course of their study as compared to those in less-intensive service-learning courses and those with no service-learning experience at all” (p. 27). Issues such as this may cause faculty to not use service-learning as a teaching methodology. Faculty may see service-learning as a strain on time. Some may see it as taking more time to design than other traditional classroom teaching strategies (Andrews, 2007, p. 21). Atkinson, (2009) writes, “Regardless of how much classroom preparation, reading, philosophy, and theory a student may have, there is no substitute for experience to learn one’s field of work. As an educational strategy field experience flows out of the experiential learning theory popularized by....John Dewey” (p. 11). Eyler (2000) states, “ One of the particular strengths of service-learning is ... it engages the students in worthwhile activity ... it is likely to create social arrangements which lead to motivation and a sense of agency”(p. 13). It is this belief of quality experience and the positive benefits toward developing true citizenship, which is the foundation of service learning.

Kolb’s model of experiential learning is a cycle which includes “abstract conceptualization, active experimentation, concrete experience, and reflective observation” (Atherton, 2010, para 1). During the concrete phase, an experience takes place. This experience can be in a traditional classroom, field-based project, or at home.

The next phase is reflection. The learner examines the experience, exploring what has taken place, what about this experience changes their perspective on the situation, and is there anything they could change about the experience in the event the experience should happen again. The third phase, abstract conceptualization, allows the learner to synthesize what the experience tells them about the world around them in connection to the experience itself. The final phase is active experimentation. The learner uses what is learned from the experience in new situations and adapts the experience to form new experiences to further the learning process (Atkinson, 2009, p. 13).

Since the model is cylindrical, one can begin at any point (Smith, 2001). It is Kolb's experiential learning model which gives service-learning its theoretical foundation. Kolb's theory suggests the creation of learning comes from experiences. It is a cycle comprised of the actions of the individual learner, their reflection because of those actions, an exploration of one's feelings, and thinking about the process. This cycle allows the individual to construct knowledge (Avery, Neumann, & Bergsteiner, 2010). Eads (1994) lists six factors of experiential learning found by Kolb in his studies of educational philosophers such as Lewin, Dewey, and Piaget.

Learning is best conceived as a process, not in terms of outcomes.

Learning is a continuous process grounded in experience.

The process of learning requires the resolution of conflicts between dialectically opposed modes of adaptation to the world.

Learning is a holistic process of adaptation to the world.

Learning involves transactions between the person and the environment.

Learning is the process of creating knowledge (p. 38).

Experiential learning has a long history; its origin can be seen in the books of the Old Testament (Atkinson, 2009, p. 9). However, Jesus provides some excellent examples of experiential learning in his teaching of the disciples. In the ninth chapter of Luke, Jesus is talking to his disciples. He is getting ready to send them out to do great works. He instructs them in verses 3-5 to take nothing with them and to stay wherever people will receive them. Later in the chapter, Jesus allows the disciples to experience just what He was talking about earlier in verses 3-5. Toward the end of the day, the disciples have concerns for the crowd and the logistics of everyone getting dinner and a place to stay. Jesus tells the disciples to give them food. Knowing the size of the crowd and the amount of food on hand, the disciples see no way to feed the large crowd. Jesus then instructs the disciples to have the crowd sit down. He gives thanks for the five loaves and two fishes. When it is all over, the disciples gather up twelve baskets of leftover food (NASB, 1995, Luke 9:1-17).

In looking at Kolb's experiential learning model, the disciples had a concrete experience (Atherton, 2010, para 1; Atkinson, 2009, p. 13) with the loaves and the fishes. Jesus later takes the disciples into the reflective stage (Atherton, 2010, para 1; Atkinson, 2009, p. 13) when He asks them "but who do you say that I am"(NASB, 1995, Luke 9:20) giving the disciples time to think about what they had just experienced, how that experience changed their thoughts about Jesus, their thoughts about Jesus sending them out and instructing them not to worry about provisions. Peter's reply shows the disciples have moved into the abstract conceptualization phase (Atherton, 2010, para 1; Atkinson, 2009, p. 13). Peter answers, "the Christ of God" (NASB, 1995, Luke 9:20). The disciples are synthesizing the experience and what it is showing them about Jesus and

their world. The final phase active experimentation (Atherton, 2010, para 1; Atkinson, 2009, p. 13) is seen as the disciples grow in the teachings of Jesus and begin to spread His word after the day of Pentecost (NASB, 1995, Acts 2). The rich learning experience of the disciples agrees with Kolb's theory. Kolb and Kolb (2005) found, "A growth-producing experience in the philosophy of experiential learning refers not only to a direct experience related to a subject matter under study but also to the total experiential life space of the learner. This includes the learner's physical and social environment and quality of relationships" (p. 207).

Service-learning has its roots in experiential learning and fully embraces Kolb's model by making a deeper connection with the community through the increased focus toward meaningful reflection. Kielsmeier (2011) states, "Service-learning is rooted primarily in the philosophy of experiential and progressive education. School proponents believe that by combining required classroom academics with an element of service, students develop a real understanding of the knowledge, skills, and attitudes they are supposed to acquire (p. 4) Service-learning has an emphasis toward building citizenship through significant service that reinforces course specific content. There is a mutual benefit for the student and the community partners. This type of reciprocity sets this pedagogy apart from other typically used methods of experiential learning that only include the experience or hands-on learning component. Atkinson (2009) states, "While experiential learning activities and field education serve as valid options for teaching techniques, not everything is best learned through experience. Experience alone does not transmit truth, nor is experience always a reliable indicator as to whether something is right or not. Thus, experiential learning methods must be carefully integrated with other

educational techniques such as lecture, discussion, case studies, and modeling” (p. 13). Service-learning uses the model of preparation, action, and reflection to design quality activities. It is this design which incorporates the traditional classroom activities and utilizes each of the four processes outlined by Kolb in his model for experiential learning (Seifer & Connors, 2007, p. 6). Eyler (2009) acclaims, “Service learning is distinguished from other approaches to experiential education by its commitment to certain values as well as its inclusion of continuous, structured reflection. From the outset, service learning has been oriented to the achievement of academic goals in all fields” (p. 26).

In critique of Kolb’s model of experiential learning, the author suggests learning comes from concrete and abstract typologies. Traditional classroom learning practices are examples of abstract learning. The learning in this mode occurs from reading and discussion. Concrete learning occurs through the incorporation of an experience (Avery, et al., 2010). Service-Learning takes the academic theories and skills being taught in the classroom and moves them out into the real world, giving students an opportunity to interact within their environment. Kinsley (1999) states, “Service-Learning is a way for students to both complement and implement their learning. They learn in an environment where they are making a positive difference in someone else’s life, or meeting someone else’s need, or meeting some need of the community as a whole” (p. 3).

Dewey believed learning should involve an interacting of the student with his/her environment. He stresses the connection with learning and the scientific method (Guttek, 2005, p. 345). The Standards of Quality for School-Based and Community Based Service-Learning by the Alliance for Service-Learning Education Reform (1997) states in standard three that “Preparation and reflection are essential elements in service-learning”

(p. 7). Alliance for Service-Learning Education Reform (1997) also states, “Preparatory study of the context, problems, history, and policies enriches student/youth learning as do deliberate discussion and other classroom or related activities” (p. 7). In addressing reflection, the Alliance for Service-Learning Education Reform (1997) states, “Reflection is the framework in which students/youth process and synthesize the information and ideas they have gained through their entire service experience” (p. 7).

Historical Background

The belief that education produces strong citizens, resulting in a sustainable democracy, presents itself throughout the history of the United States. The Land Ordinance of 1785 gives the United States in their infancy a way to establish new states into the union in a fair and equitable fashion. It also establishes a mandate for public education. This process of dividing land into ranges, tiers, and townships made up of thirty-six equal sections reserves the sixteenth section for public education (Ohio History Central, 2010, para. 4).

The Morrill Act of 1862 provides more evidence of the United States’ position on the importance of education and its link toward sustaining a healthy and democratic society. This act, sponsored by Justin Smith Morrill, gives each state at least 90,000 acres of land with monies from the sale of the land going to establish institutions of higher education in each of the states. While the enactment of this act and the versions that would follow fall short in providing education to all citizens due to issues of segregation, it serves as the tipping point in American higher education (Lightcap, n.d.). Leland Stafford affirms this in his inaugural address at Stanford University in 1885. He states, “The objectives of the university are to qualify students for personal success and

direct usefulness in life and to promote the public welfare by exercising an influence on behalf of humanity and civilization” (as cited in Schoenfeld, 2004, p. 3).

With the growth of universities across the United States, the University of Cincinnati continued the notion of learning tied to service with their Cooperative Education Movement (National Service-Learning Clearinghouse, 2008). Following the progression of learning and its connection to service, there are no better examples than Alice Lloyd College and Berea College. Alice Lloyd came to Eastern Kentucky in the early 1900’s and in 1923 created Caney Junior College along with June Buchanan. It was their goal to make education available to the residents of Appalachia. They established the school as a work-study institution, and it is still in operation today serving the students of Eastern Kentucky while allowing the students to serve in the community (Alice Lloyd College, 2008). Berea College dates back to 1855 and follows the beliefs of tying service to learning. The college does not charge tuition and requires students to complete service hours as part of their agreement for admission to the college (Berea College, 2010).

During the years of the Great Depression, service programs were a way to boost the economy while providing revitalization projects, which included the construction of roads, buildings, and bridges along with programs dedicated to the improvement of our parks and recreational areas. In keeping with the service projects, Lyndon Johnson created the Volunteers in Service to America (VISTA) program allowing students to serve as part of the War on Poverty (National Service-Learning Clearinghouse, 2008).

The Corporation for National Community Service’s historical timeline lists three foundational events in the 1960’s that launched the term Service-Learning:

- a. **1965** — College work-study programs established.
- b. **1966-1967** — "Service-learning" phrase used to describe a TVA-funded project in East Tennessee with Oak Ridge Associated Universities, linking students and faculty with tributary area development organizations
- c. **1969** — Atlanta Service-Learning Conference (sponsors included Southern Regional Education Board, U.S. Department HEW, City of Atlanta, Atlanta Urban Corps, Peace Corps, and VISTA) (National Service-Learning Clearinghouse, 2008).

In 1990, President George Bush signed the National and Community Service Act. This act as part of his "Thousand Points of Light" movement calls for the creation of the Commission on National and Community Service. According to the Corporation for National and Community Service (2010), the Commission was charged with supporting four streams of service:

- a. Service-learning programs for school-aged youth,
- b. Higher education service programs,
- c. Youth corps, and
- d. National service demonstration models (Corporation for National and Community Service, 2010).

Since President George H.W. Bush, all Presidents have supported legislation aimed to strengthen the United States commitment to service by giving educational incentives for students to serve in their communities. President Bill Clinton signed The National and Community Service Trust Act of 1993. According to the Corporation for National and Community Service (2010), it creates, "Senior Corps, AmeriCorps, and

Learn and Serve America with the responsibility of mobilizing Americans into service” (Corporation for National and Community Service, 2010). President George W. Bush created the U.S. Freedom Corps. The Corporation for National and Community Service (2010) reports, “On April 21, 2009, President Barack Obama signed the Edward M. Kennedy Serve America Act at an elementary school in Washington DC. The Serve America Act reauthorizes and expands national service programs administered by the Corporation for National and Community Service” (Corporation for National and Community Service, 2010).

Kielsmeier (2010) states, “This legislation also did something new: it recognized service-learning not only as a gateway to national service, but also as a strategy for school improvement. The new law calls for high-quality service-learning practice and curriculum that is rooted in evidence-based standards and encourages ongoing professional development” (p. 14). Kielsmeier (2010) quotes President Obama, “What these students come to discover through service is that by befriending a senior citizen, or helping the homeless, or easing the suffering of others, they can find a sense of purpose and renew their commitment to this country that we love.... Because we must prepare our young Americans to grow into active citizens, this bill makes new investments in service-learning” (p. 14).

Service-Learning Information

In order for students to gain the true benefits of service-learning, several things must take place. Instructors who wish to incorporate service-learning as a teaching methodology should look to best practices of others who have created successful and

sustainable service-learning programs and/or courses. Howard (1993) lists the following best practices from his research:

Principle 1: Academic credit is for learning, not for service.

Credit in academic courses is assigned to students for the demonstration of academic learning. Since academic credit is for academic learning, the credit must not be for the performance of service.

Principle 2: Do not compromise academic rigor.

Academic standards in a course are based on the challenge that readings, presentations, and assignments present to students. These standards ought to be sustained when adding a community service-learning component.

Principle 3: Set learning goals for students.

It is a service-learning maxim that one cannot develop a quality service-learning course without first setting very explicit learning objectives. With the addition of the community as a learning context, there occurs a multiplication of learning paradigms and learning topics.

Principle 4: Establish criteria for the selection of community service placements.

To optimally utilize community service on behalf of course learning requires more than merely directing students to find a service placement. Faculty who are deliberate about establishing criteria for selecting community service placements will find that the learning that students extract from their experiences will be more beneficial than if placement criteria are not established.

Principle 5: Provide educationally sound learning strategies to harvest community learning and realize course learning objectives.

Learning in any course is realized by the proper mix and level of learning formats and assignments. Course assignments and learning formats must be carefully developed to facilitate the students' learning from their community agency. Course assignments and learning formats are, within themselves, insufficient to contribute to course learning. A mechanism for harvesting the learning must be in place.

Principle 6: Provide supports for students to learn how to harvest community learning.

Faculty can help students realize their potential of community learning by either assisting students with the acquisition of skills necessary for gleaning the learning from the community and/or by providing examples of how to successfully do so.

Principle 7: Minimize the distinction between the students' community learning role and the classroom-learning role.

The more we can make consistent students' learning role in the classroom with her/his learning role in the community, the better the chances that the learning potential within each context will be realized.

Principle 8: Rethink the faculty instructional role.

Exclusive or even primary use of the traditional instructional model interferes with the promise of learning fulfillment available in community service-learning courses.

Principle 9: Be prepared for uncertainty and variation in student learning outcomes.

In community service-learning courses, the variability in community service placements necessarily leads to less certainty and homogeneity in student learning outcomes.

Principle 10: Maximize the community responsibility orientation of the course.

If one of the objectives of a community service-learning course is to cultivate students' sense of community and social responsibility, then designing course learning formats and assignments that encourage a communal rather than an individual learning orientation will contribute to this objective (Howard, 1993, pp. 16-19; Mullen, 2010, pp. 164, 165).

There are various agencies available to assist schools in their efforts to build sustainable service-learning programs. One such agency is Campus Compact. Dr. Eugene Blackburn, Program Director for Kentucky Campus Compact states, "Campus Compact is an organization that exists to help institutions of higher education in their efforts to build partnerships with the community through service-learning. Campus Compact provides support to their member institutions through training, grant opportunities, and other resources" (personal communication, November 2010).

The Corporation for National and Community Service (CNCS) is a federal agency which houses Senior Corps, AmeriCorps and Learn and Serve America (Corporation for National and Community Service, 2010). Each of these divisions has its own charge. Learn and Serve America is dedicated to the advancement of service-learning and has sub units that deal with k-12, higher education, community based, and native American programs (Learn and Serve America, 2010). Other organizations too numerous to mention can be found on the National Service-Learning Clearinghouse (NSLC) webpage.

These organizations offer resources, project examples, best practices, grant opportunities, conferences, and workshops (National Service-Learning Clearinghouse, 2008).

Related Research

All stakeholders benefit from Service-learning. According to the Corporation for National Community Service, “Community members, students, and educators everywhere are discovering that service-learning offers all its participants a chance to take part in the active education of its youth while simultaneously addressing the concerns, needs, and hopes of their community” (National Service-Learning Clearinghouse, 2008).

A Brandeis University study shows “over 60% of students reported their service involved real responsibilities, a chance to do things themselves, a variety of tasks, opportunities for discussion, and opportunities to develop and use their own ideas. Nearly 80% reported feeling they had made a contribution” (as cited in Krebs, 2006, p. 28). Williams (1998) lists the following benefits for students:

Personal Growth: Increased self-esteem, confidence, personal responsibility, and a sense of personal efficacy.

Career Development: Active exploration of career interests, understanding of the world of work, specific job skills, hiring advantage and a greater confidence in career choice.

Social Development: Increased interpersonal skills, tolerance for diversity, engagement in other volunteer activities and an indication of future community participation.

Academic/Cognitive: Belief that service is a positive learning experience, better grades, persistence to graduation and problem solving and critical thinking skills (p. 11).

Simons, Hirschinger-Blank, and Kenyon (2009) conducted a study with undergraduate students enrolled in social science programs. This study investigates the service-learning experience of these students using the Civil Attitudes and Skills Questionnaire (CASQ). Students in the criminal justice, psychology, and other social science courses partnered with the local detention center and local alternative high schools. They spent 15 hours per week over a period of 15 weeks. This program serves as dual learning experience for the college students; they get a hands-on experience and insight into the juvenile detention system, and for the youths; they receive a chance to have a relationship with a positive role model (Simons, Hirschinger-Blank, & Kenyon, 2009, p. 63). The results indicate sixty-nine percent of the students felt the service-learning activities validated their career choice (Simons, et al., 2009, p. 70). Service-Learning places students in real-life situations, allowing them to apply skills learned in the classroom. Simons, et al. (2009) found, “Forty-one percent (n = 13) of the students offered comments that revealed a view of oneself as part of the solution to addressing juvenile delinquency and that demonstrated the need for change” (p. 71). Dr. Blackburn states, “In relation to community responsibility, students can identify with the community and understand they are a partner in helping address real issues” (personal communication, November 2010). Dugan and Komives (2010) study of students and the development of socially responsible leadership skills includes 14,000 students with an average age of 24 years, 50 schools, and 25 states (p. 525). Involvement in service-based

pedagogies influenced the development of community conscious leaders. This study found that college service activities serve to influence a sense of group and belonging to the broader community. However, many times these programs lack the design to explore the individual sense of self. The study suggests that practitioners should continue to incorporate community service activities into their classes and use guided reflection to allow students to examine their personal feeling of self in connection with their interaction in society (Dugan & Komives, 2010, p. 539).

A study of freshmen engineering students compared 214 students over two semesters. This quasi-experimental study looks at students in the same introductory engineering courses. The difference being one section of the course has a service-learning component and the other section utilizes a traditional hand-on lab. In each section, the course projects are team based. The service-learning section projects incorporate a community partner and the non-service-learning section projects are instructor designed and take place in the lab (Sevier, Chyung, Callahan, & Schrader, 2012, p. 57).

The curriculum for each section is the same with the only difference being the service-learning component. The Engineering Accreditation Commission of ABET accredits the program. Sevier, et al. (2012) states, “the technical focus of both service-learning and non-service-learning projects is for students to understand and apply the engineering design process and perform the design, modeling, and analysis tasks, which are an integral part of the engineering design process” (p. 58). One example of a service-learning project completed by this freshmen class is a door opener. The project involved a partner who was disabled and bound to a wheel chair. The team was able to work

together and design an opener that allowed the man's dog to assist him in the daunting task of opening doors not equipped with automatic openers (Sevier, et al., 2012, p. 59).

For this study, the researchers developed the Motivational Attitudes Survey. The survey consists of 19 questions on a seven point Likert scale. Sevier, et al. (2012) reports, "our study has revealed that a service-learning method is significantly more effective than a non-service-learning method in influencing introductory engineering students' interests, recognition of relevance, and satisfaction in learning" (Sevier, et al., 2012, p. 65).

In a study of Human Services students, Fudge, Fuss, Burton, McClam, and Diambra (2008) report, "The confirmation of career choice as a result of service-learning was significant. One factor that supported this confirmation was the opportunity to apply skills, proving to students that they did know how to use their acquired skills to work with a client" (p. 246). This study consisting of students in a baccalaureate program allowed them to utilize the case management skills in a working with clients in a family treatment center. Their duties with this service-learning activity were to conduct interviews, administer assessments, and create case files. These students also work side by side with the clients in a greenhouse. This gave the student caseworkers an opportunity to get to know their clients. The student caseworkers also met with their clients on a weekly basis. This design of the service-learning activity also allowed for a weekly reflection with the student caseworkers meeting as a group to discuss issues and experiences (Fudge, et al., 2008, p. 239). Fudge, et al. (2008) state, "Results suggest that students exposed to well-planned experiential learning activities overcome initial

concerns, develop professional confidence, and demonstrate learning at an advanced level when confronted by real and meaningful workplace challenges” (p. 247)

Another study from Liberty University follows the partnership with the teacher education program and Liberty Christian Academy. Liberty University students serve as academic coaches to the students from Liberty Christian Academy. These coaches serve at various times and settings as tutors for the students from Liberty Christian Academy. Parker, Ackerman, & Parker (2007) indicate, “One hundred percent of the coaches would participate in the program again or recommend it to others and 97% responded positively that their coaching experience was a valuable part of their education” (p. 8).

Communities also gain from becoming partners in the service-learning activities. Dr. Blackburn states, “The community will become aware of what the schools and students can offer. There will be more opportunities because of the increase in human capital to address community needs. Service-learning will strengthen the jobs already available and open up new opportunities that may not have existed. In looking at the benefits for communities, Williams (1998) found the following:

Students contribute to community development and renewal; Recipients benefit from the direct aid; Students become invested in their communities; Agencies receive an infusion of creativity and enthusiasm from participating youth; Youth are seen as one of the community’s greatest resources; Communities and schools build links (p. 12).

Richards and Novak (2010) state, “Service-Learning sets the stage for a lifelong commitment to civic duty, social awareness, and engagement while providing unique learning experiences that focus on building citizenship, cultural diversity, community

partnerships, knowledge of community resources, critical thinking skills, and respect for humankind” (p. 1). This study follows the activities of nursing students from Purdue University. These students participated in relief efforts from Hurricane Katrina in Biloxi Mississippi and in health service activities in South Africa. The students spent three years working in Mississippi with Katrina victims. Richards & Novak (2010) state, “Over the course of three years, students utilized their baccalaureate nursing education skills to show their care and compassion to the Gulf Coast region’s vulnerable and displaced residents. Overall, 33 Purdue nursing students and five faculty members worked at eight different clinic locations, which extended from Pascagoula, Mississippi on the east to Pass Christian, Mississippi on the west”(p. 46). In 2009, the nursing team collaborated with four different international health agencies and began working in Cape Town, South Africa. Student worked under the supervision of these international agencies and conducted health assessments and immunizations. Their efforts ended with the planning and presentation of a health fair. Richards & Novak (2001) report, “this health fair focused on school and family health promotion and included the following station: prenatal and newborn care and parenting; prevention of tuberculosis; HIV/AIDS, and malaria; healthcare careers; science experiments (with premed students); health screening including height, weight, blood pressure, glucose, and cholesterol” (p. 48). Student reflections from these activities show the development of strong relationships and benefits for both the students and the community partners (Richards & Novak, 2010, p. 50). Service-learning can give students confidence to step out of their comfort zone and take part in activities they may not have chosen otherwise.

In 2008 the University of North Carolina at Charlotte (UNCC), began a partnership with the city of Charlotte's Room in the Inn program. This program was a city initiative to help with the homeless problem. This program offers lodging and meals for the homeless. In a two-year period, the program helped over 1400 individuals (Buch & Harden, 2011, p. 49). In the first year that UNCC students helped, they provided service for 45 individuals. Moreover, in the second year the students took the initiative to create a university program called "Niner Neighbors and were able to gain university support. Niner Neighbors is a program that totally embraces the service-learning teaching methodology as it is directly linked to the academic course that requires an experiential learning credit (Buch & Harden, 2011, p. 50). Buch & Harden (2011) report, "Although the primary purpose of Niner Neighbors is to provide a warm place for homeless neighbors in the community, the goals also focus on students who participate in the program. These include (1) raising awareness about homelessness; (2) changing stereotypes and attitudes toward homeless individuals; and (3) promoting positive civic attitudes" (p. 51).

From 2008 through 2010, students enrolling in citizenship courses linked to the Niner Neighbor program completed an end of semester survey. This retrospective study included 114 students. The study consisted of questions designed to measure the program's goals (Buch & Harden, 2011, p. 54). Buch & Harden (2011) said, "the finding showed that through real-world engagement...Niner Neighbors promoted positive civic attitudes and students desire to 'make a difference'"(p. 58).

Dr. Blackburn, states, "Service-learning is the most effective teaching methodology I have ever seen. It gives instructors opportunities to see what the students

can do with the knowledge they are getting in the classroom. It allows students to see for themselves what they can do, through hands on learning and reflections built in throughout the process of the project” (personal communication, November 2010). A national study of the characteristics of students found, through the student’s involvement in service-learning activities, that they had more confidence to take part in community issues. They also saw how the student perceived the world and their ability to influence change (Eyler, Giles, & Barton, 1997, p. 6).

Prentice & Robinson (2007) conducted a study of community college students and their involvement with service-learning and its link to civic engagement. They point out in the study the narrow definition of civic engagement as political behavior fails to produce a connection with service-learning practices. However, they go on to say, when civic engagement means community involvement there is evidence of service-learning’s influence (p. 1). This study found the following themes for a connection with service-learning and civic engagement:

Service learning participation was perceived to increase students’ knowledge of civic and community needs as well as where to go for solutions.

Service learning participation was perceived to increase students’ commitment to continue being involved in the community.

Service learning participation helped students have a better understanding of their role as community members (Prentice & Robinson, 2007).

Kiltz (2010) reports that numbers from the Corporation for National and Community Service that shows nearly one-third of the college students enrolled in 2005 were involved in service-learning activities (p. 18). Colleges and Universities are in a

wonderful situation. They stand on the cutting edge as the organizations able to build tomorrow's leaders while helping communities solve the problems they face today. Career and technical education programs are seeing an increase in enrollment at the community college level. Students are finding lower tuition and very good jobs upon graduation.

Technical programs, sometimes called occupational training, have been part of the two-year college mission since the 1960s when many of the nation's community colleges were founded. However, in the last five years, the growth in enrollment shifted to academic and transfer programs as the rising cost of a four-year degree led many to complete their first two years of the baccalaureate at their local community college. Now, new groups of students are finding their way on to campus to train or retrain for a specific skill. They are taking classes in air conditioning and refrigeration, electronics, carpentry, welding and fabrication, hospitality, culinary arts, plumbing and computer technology. These areas are expected to be in demand when an economic recovery begins and as the ranks of the skilled work force are reduced through the inevitable retirement of the baby boomers (Gilroy, 2009, p. 1).

In his presentation at the 54th annual meeting of the American Association of Colleges for Teacher Education (AACTE), North Carolina Governor James Hunt stated, "Teachers have worked hard with their students to turn their concern and energy into action that helped heal our communities. The result is that we now have a greater number of students who understand the meaning and value of what they learn in school as well as the meaning and value of community service and civic engagement. And (sic) teachers

have seen that they are preparing students not just for making a living but also for making a life and contributing to the common life of their communities (Hunt, 2002, p. 11).

Well-designed service-learning programs can have lasting impressions on the students involved, building lasting relationships with communities to improve our present situations and our future.

Career and Technical Education Information

The American system of career and technical education has a mission of preparing individuals for entry into the workforce. Career and technical education proponents accomplish this by designing curricula that develops specific occupational skills, reinforces critical thinking, and builds personal qualities to assist the learner throughout life. Career and technical education programs use classrooms, labs, and field-based experiences to create a learning environment that introduces real-world situations allowing students the experiences needed to be successful in the workplace and life in general (Sarkees-Wircenski & Scott, 2003, p. 59). Eyler (2009) states, “The process by which students develop the capacity to use advanced formal reasoning processes involves confronting dissonant information and making sense of it. It requires students to monitor their own understanding and to recognize and grapple with alternative perspectives. This process of intellectual growth can be promoted through experiential education, which fully engages students and commits them to resolving the challenges they address” (p. 27). The career and technical education philosophy builds upon the notion of hands-on learning. This belief is at the core of the experiential learning theory. According to Connors and Mundt (2001), “Experiential education or ‘learning by doing’ has been a part of vocational agricultural education since before the Smith-Hughes Act of 1917.

Teachers in the early 1900s recognized the importance of experiences outside of the formal school classroom. Early agricultural education programs included gardening and farm projects for students” (p. 6).

This time in history was the beginning of a shift in how practitioners viewed the educational process. The Smith-Hughes Act of 1917 placed an emphasis on taking the school outside the traditional classroom and using resources within the workplace and community. Educators during this time in history realized in order to create true experiences related to real-world situations, they must work with their communities to form partnerships in the learning experience (Connors & Mundt, 2001, p. 6). According to Connors and Mundt (2001), the Smith-Hughes Act of 1917 called for hands-on learning in agricultural programs. Under this piece of legislation, students would work on a farm under the supervision of a qualified adult for six months each year (p. 6). The threads of learning by experience are in the history of career and technical education. Atkinson (2009) states, “Experiential learning has a long history dating back to the Old Testament Hebrews” (p. 9). The value of work is a very important part of how God instructs men and women to teach their children. Work is a means to instill moral values. It is an experience, which produces citizens who understand the meaning of contribution for self, family, village, and world. “Do you see a man skilled in his work? He will stand before kings; He will not stand before obscure men” (NASB, 1995, Proverbs 22:29). This attention to the value of work and the necessity to teach our children to be contributing members in society has carried forward in the early apprenticeship systems. The apprenticeship system of Europe and the United States shows a basis for learning by experience.

The early colonists imported the concept of apprenticeship to America and adjusted the concept to meet their needs. Two forms of apprenticeship emerged: voluntary and involuntary or compulsory. Voluntary apprenticeship involved an individual agreeing to be bound to a master to learn a trade or craft. Involuntary or compulsory apprenticeship involved a master becoming responsible for poor children and orphans, thus providing a means of meeting their personal and occupational needs (Sarkees-Wircenski & Scott, 2003, p. 63)

Atkinson (2009) states, “The apprenticeship system is another example of experiential learning and is one in which career and technical education is rooted. This system would place young boys 7 and up with craftsmen in order to learn the trade. The apprenticeship system can be seen up through the early years of the United States” (p. 16).

Eyler (2009) comments, “within professional programs, there is a long tradition of including field experiences as a way to build practitioner skills and facilitate the move from theory to practice” (p. 24). Career and technical educators attempt to produce citizens who are ready to enter the workforce not only as the labor force but also as civically responsible men and women. Martinez (2007) explores the principles, which guide career and technical education. Over time and through various studies, individuals present these guiding principles in an assortment of ways. In this study, the author combines Miller’s (1985) three categories with Copa and Wolf’s (2002) thirteen principles and adds his own fourth category of value.

People:

- a. Individual and nation – Career and technical education serve the needs and interests of individuals and the nation as a whole;

- b. Work, family and community – Career and technical education place high worth and importance on work, family and community roles and responsibilities and their interrelationship in contributing to quality of life and the human endeavor;
- c. Learner-centeredness - Career and technical education provide learning and support services that are personalized to the needs of the learner;
- d. Lifelong opportunity – Career and technical education provides learning opportunities across the lifespan;

Programs:

- e. Innovation – Career and technical education is innovative and creative in providing learning services;
- f. Adding value – Career and technical education adds value to the comprehensive educational enterprise in the United States by providing learning for work, family and community roles and responsibilities;

Processes:

- g. Futuristic orientation – Career and technical education orients to the future needs of work, family and community roles, and responsibilities;
- h. Collaboration – Career and technical education seeks opportunities to work with other organizations and agencies to improve learning;
- i. Integration – Career and technical education blends with and makes contributions to other dimensions of education and support services;

Values:

- j. Inclusiveness – Career and technical education includes all learners who can benefit;
- k. Accessibility – Career and technical education strives to have no barriers to its learning services;
- l. Quality – Career and technical education uses high learning standards and continuous quality improvement, and
- m. Diversity – Career and technical education advocates for and responds to diversity in learners and staff (Martinez, 2007, p. 77).

Experiential education takes the learner from concrete experiences, to reflection, abstract conceptualization, and to active experimentation (Kolb & Kolb, 2005, p. 194). Eyler (2009) states, “Experiential education has been commonplace in vocationally or professionally oriented programs for many years” (Eyler, 2009, p. 26).

Career and technical education programs utilize both classroom and lab settings. Lecture, class discussion, demonstration, and other classroom methodologies comprise classroom techniques used to cover discipline-specific competencies. Instructors utilize the laboratory for realistic real-world experiences.

Students learn concepts or theories in the classroom and form the basis for other types of work experiences, including supervised instruction in the laboratory, which is characterized by problem-solving and hands-on experiences in application of the theory knowledge learned. Educators often refer to this as the use of authentic experiential learning in a career and technical education setting. Additional real-life experiences are offered by performing specific skills and gaining employment experience at an on-the-job location in the industry for

which the program provides learners career and technical (Clark, Threeton, & Ewing, 2010, p. 52).

Kolb's experiential theory is the most utilized teaching theory within career and technical education. Experiential learning provides the process needed to bring about substantive change in the students to produce learning. Typically, career and technical education programs teach program specific theory within the classroom. Students who enroll in various programs start with courses covering the most basic principles of their chosen discipline. Instructors cover the theory within the classroom and design laboratory tasks that imitate real-world situations as closely as possible. While career and technical educators embrace this process as experiential education, it does not include all the steps in the experiential learning theory (Clark, et al., 2010, p. 53).

Kolb and Kolb (2005) states the experiential learning process involves four modes of learning. The value of this learning process is that it allows the learner to take his/her experience from the point of fruition through reflection to thinking and ending with action upon what is learned. This process is recurring as the learning can start at any one of the four steps. Students, through these steps, take their experiences and reflect upon what has taken place. From this point, the student synthesizes these reflections in new realizations and from this point the student uses this new learning in new applications (p. 194). Eyler (2009) found the following:

The most critical factor for achieving powerful learning outcomes from experiential-learning programs is the inclusion of opportunities for feedback and reflection. Challenging, continuous, context-appropriate reflection turns work experience into learning experience. It is easy to underestimate how intensive

reflection must be in order for it to have an impact; it is not unusual to find faculty members who believe their program provides adequate reflection even though the effects on students fall short (p. 30).

Typically, career and technical educators stress the importance of experiential learning. This is in the classroom, lab, and hands-on activities designed to provide real-life experiences for the students. Another area in which career and technical students gain experience is through student organizations. Clark, et al. (2010) state, “Additionally, multiple career and technical student organizations express their commitment to the benefits of learning through experience via many activities of a truncated version of authentic experiential learning; however, it is questionable as to the level of experiential learning that is taking place. Many of those learning activities are mostly application or activity based without alignment to a theoretical model of experiential education” (p. 53). Through competitions, students show their skills in their various disciplines. Practitioners design these events to cover the various skills and practices found in the latest industry standards without occasion for reflection to produce a deeper learning experience for the student. Clark, et al. (2010) states, “Many of those learning activities are mostly application or activity based without alignment to a theoretical model of experiential education such as Kolb’s four modalities.... For example, career development events in career and technical student organizations provide challenging activities for students and are often labeled as authentic experiential learning activities, yet important areas [such as reflection on learning] are not part of the expectations for students” (p. 53).

Current research in career and technical education shows an emphasis in service-learning to the extent of reinforcing classroom skills. Many programs are including service-learning in secondary education with few reports existing in higher education. Burr (2001) states, “While many universities are beginning to incorporate service-learning activities, the full potential of combining service and progressive experiential learning situations for a specific area of study lies, in most cases, still untapped” (para. 6).

Rojewski, et al. (2008), in their review of current research in career and technical education from 2002 through 2004, found 129 articles (p. 59).

The 129 articles included in our review were sorted into 5 pre-determined categories reflecting the general trends, priorities, and themes emanating from federal policy and legislation pertaining to secondary career and technical education. These categories were accountability, articulation and transition, career pathways and course sequencing, integration of academic and career-technical education, and recruitment and retention of career and technical education professionals. During the sorting process (and accounting for our simultaneous review of postsecondary articles), a category containing articles on online/distance education and instructional methods and strategies was added (Rojewski, et al., 2008, p. 61).

Gemici and Rojewski (2007), reviewed research from 2001 through 2005, looking into the amount of experimental studies being conducted in career and technical education. Their study explores 64 articles in 15 issues (p. 149).

A majority of these studies was directed at student achievement and persistence, as well as aspects of curriculum design. While most research explored

characteristics of domestic students, several studies offered an international perspective, involving participants from Canada, Germany, Taiwan, and Thailand. Research involving or directed at CTE teachers represented approximately one-fourth of all sample articles and included a variety of topics such as technical teacher preparation, performance, attrition, motivation, and stress. Publications directed at CTE professionals revolved around issues of policy, CTE research frameworks, school-to-work transitions, statistical methods in CTE research, and future directions of the field in general. The remainder of the studies was classified as miscellaneous and featured a broad spectrum of topics from women entrepreneurs in Zimbabwe to the environmental sustainability of school-based enterprises (Gemici & Rojewski, 2007, p. 150).

In a study with Iowa State University's Industrial Technology program, Freeman, Field, and Dyrenfurth (2001) found, "Internships and/or coops have long been a required experiential learning component within the IT curriculum at ISU. Students meet this requirement with a 400 hour paid industrial internship experience. However, the authors have recently added cooperative-based service learning activities into the upper-division courses they teach. The term *service learning* is used to describe these activities because students are working with Iowa businesses to solve real-life problems they are facing, or they are actively working with faculty to strengthen introductory courses within the curriculum by focusing the application of more advanced material within the introductory courses" (para, 15).

Recent research in career and technical education does not include a significant number of studies in the area of service-learning and the benefits toward building socially

responsible citizens. In some cases, community activities are taking place with an absence of reflection. Clark, et al. (2010) states, “For the cycle of experiential learning to be unbroken between experience and future application, a learner needs a valid context in which to reflect upon what has happened in the experience. If the reflection component is omitted, then students are not engaging in theory-based experiential learning and are being denied the opportunity for greater learning through experience” (p. 54). Without reflection, the experience does not connect with the learning. Connors and Mundt (2001) state, “Perhaps the most important point in experiential learning is that the action of the learners is followed by a reflective process. Through the reflective process, insights are generated” (p. 7). Service-learning is a natural fit into the curricula of career and technical education. Clark, et al. (2010) states, “Kolb’s Experiential Learning Theory perhaps has the greatest potential within a career and technical educational setting and the potential to enhance the teacher education process” (p. 48). Eyler (2009) states, “Experiential education, which takes students into the community, helps students both to bridge classroom study and life in the world and to transform inert knowledge into knowledge-in-use. It rests on theories of experiential learning, a process whereby the learner interacts with the world and integrates new learning into old constructs” (p. 24). She goes on to say that in order to produce responsible citizens, the principle of experiential education engages students in activities and produces problem-solving skills for application in all facets of life (Eyler, 2009, p. 24).

Summary

The purpose of education in the United States has always been to develop our next generation of citizens. The early apprentice systems of the colonial age support the

development of future citizens. Thomas Jefferson supported this in his development of the first mandated call for public education in the passing of the Northwest Ordinance of 1785. This educational mandate was seen again during the administration of Abraham Lincoln and the passing of the Morrill Act of 1862. It is easy to trace the legislative history in our nation's belief that an educated citizen is one who works, supports, and sustains the democracy. The Smith-Hughes act of 1917 urges our educational system to include the resources of the community to assist in the education of our citizens.

In exploring what it takes to be an educated citizen, it is not enough to receive an education where skills to perform a chosen occupation are the end all means. It is also not enough to add to this education an appreciation and knowledge of arts and humanities. While all this is good, and it certainly adds to the character of the individual, an educated citizen must also have a sense of belonging to the community in which they live.

This is something that Horace Mann understood when he spoke of the need for our education system to produce men and women who could improve our society. John Dewey understood this when he spoke of the need to give students something to do, and the learning would take place. This sense of community members working together to solve their problems is not new, and it is not something that suddenly appeared during the creation of the United States. Neighbor serving neighbor is at the very heart of God's teachings.

The proponents of service-learning as well as career and technical education would argue the roots of their movements go back to the beliefs of experiential education. The mission of service-learning and the guiding principles of career and technical

education place great value and worth on producing the next generation of responsible citizens. Service-learning has proven to be a teaching methodology which instills a sense of citizenship in those who participate. Career and technical education strives to give its students the necessary skills to assist society with its needs as applied to work, family, and community. Career and technical education and service-learning are working toward the same goals.

CHAPTER THREE: METHODOLOGY

Service-Learning is a teaching methodology that incorporates skills learned in the classroom with service in the community. This study uses the Learn and Serve America definition for service-learning, “a teaching and learning strategy that integrates meaningful community service with instruction and reflection to enrich the learning experience, teach civic responsibility, and strengthen communities” (National Service-Learning Clearinghouse, 2008). Technical education’s foundational philosophy exists to produce young men and women who have the skills to form a quality work force. Thirteen principles drive career and technical education. Educators place these principles into four categories – people, programs, process, and values (Martinez, 2007, p. 77). Community responsibility is prominent in the notion of what career and technical educators teach their students concerning interacting with people, designing and planning programs, and the values they strive to instill in their students. This study explores how the incorporation of service-learning as a teaching methodology complements career and technical education’s principle of community responsibility.

The purpose of the study is to research the impact of service-learning on the attitude toward community involvement of community college students enrolled in career and technical education (CTE) programs. The study examines students enrolled in carpentry, and electricity programs at one community and technical college, with a five county service area located in the Appalachian region of eastern Kentucky. This quantitative study utilizes the non-equivalent control group design (Gall, et al., 2007, p. 416). The study compares programs that incorporate service-learning as a teaching methodology with like programs that have not adopted service-learning. The pretest for

this study is the Civic Action Scale (CAS) (see Appendix A). This survey measures intent of future involvement in community service and was developed by Moely, Mercer, Ilustre, Miron, & McFarland (as cited in Bringle, et al., 2004, p. 169). The posttest for this study is the Community Service Attitudes Scale (CSAS) (see Appendix B). This survey measures attitudes toward community service and was developed by Shiarella, McCarthy, & Tucker (as cited in Bringle, et al., 2004, p. 177). Dr. Robert Bringle, Executive Director of IUPUI's Center for Service and Learning and Author of *The Measure of Service Learning: Research Scales to Assess Student Experience*, addresses permission to use these instruments for this particular study in a personal email (see Appendix C).

Design

This quantitative study utilizes a non-equivalent control group design. The groups each take a pretest and posttest. This design is commonly used in educational research when randomization is not possible (Gall, et al., 2007, p. 416). The carpentry and electricity programs participating in the study has the same college entrance requirements. In addition, each program shares a common statewide curriculum. Service-learning is not advertised as part of the programs participating in the study. Therefore, students are not predisposed as to a preference of service-learning being a part of the courses and programs chosen. Both the control and the experimental groups consist of students enrolled in the same programs. Since the make-up of each group has multiple programs and multiple instructors, teacher bias will not affect the study.

Programs making up the control group conducted their technical core courses in their usual manner. These courses consist of regular lab assignments to achieve the

course competencies established within the program curriculum. Programs making up the experimental group incorporated the service-learning methodology into the curriculum. The treatment, service-learning consisted of three phases - preparation, action, and reflection. Preparation took place in the various programs making up the experimental group as students in each program gained their specific skills in their field of study. Action took place with each program coming together to participate in a home construction project with Habitat for Humanity. Reflection took place after project completion with all students taking part in a reflection workshop conducted by a consultant for the Kentucky Campus Compact.

Questions and Hypotheses

Research Question 1:

Do students involved in service-learning activities have a greater awareness of community needs?

Research Question 2:

Does the inclusion of service-learning affect the students' feeling of responsibility to become involved with the community?

Null Hypothesis 1 H_0 :

There is no statistical difference in awareness of community needs between community college students enrolled in carpentry and electrical technology programs that incorporate service-learning from students enrolled in those same programs that do not incorporate service-learning as shown by scores of the Community Service Attitudes Scale.

Null Hypothesis 2 H₀:

There is no statistical difference in feelings of responsibility to become involved with the community between community college students enrolled in carpentry and electrical technology programs that incorporate service-learning from students enrolled in those same programs that do not incorporate service-learning as shown by scores of the Community Service Attitudes Scale.

Participants

This study examines the incorporation of the service-learning teaching methodology in career and technical disciplines. The sample for this study is criterion based, which is appropriate for this quantitative study using the non-equivalent control group design in an educational setting (Gall, et al., 2007, p. 184). Courses being offered within the identified programs and utilizing the service-learning teaching methodology meets the criteria for the experimental group. Courses being offered within the identified programs not adopting the service-learning teaching methodology meet the requirements for the control group. The experimental group is made up of students in these programs from the community and technical college, in the 2011/2012 school year. The control group is made up of students in these programs from the community and technical College, in the 2012/2013 school year. The community and technical college is located within rural Appalachia. All students within the study share a commonality as to admission requirements.

The state community and technical college system (2010/2011) catalog lists the following assessment and placement policy.

The skills for which the Assessment and Placement Policy applies are

mathematics, reading, and writing. An ACT® score of at least 19 in mathematics, 20 in reading or 18 in writing allows the student to enroll in entry-level courses for those areas. A student who scores less than a 19 in mathematics, less than a 20 in reading or less than an 18 in writing is required to take an additional test and will be placed into classes according to her/his score on the second test (p. 47).

The students in this study and the academic programs involved all have the same minimum college entrance requirements for the system. In addition, each program in the study requires its students to maintain a C or better in all technical courses.

In order to meet the criterion necessary for this study, convenient sampling procedures were used. The intact groups enrolled in the career and technical programs, the fact that the service-learning methodology is being used in some courses and not in others courses, and the ability to isolate two distinct groups meeting the sample size requirements for the experimental and control groups all worked together to justify the use of convenient sampling (Gall, et al., 2007, p. 175). Initially the study had 51 participants. However, due to outliers seven participants were eliminated. For this study outliers were set at 1.75 standard deviations from the mean. After investigating survey responses, the seven subjects eliminated from the study gave inconsistent responses when compared to the 44 subjects included in the study. Using 1.75 standard deviations to define outliers retains 86% of the total participants completing the pretest and posttest surveys. This decision was made based on, Ratcliff (1993), where it was found to be acceptable to eliminate up to 15% of the data when outliers are present (p. 517). The experimental group for this study was made up of 25 students enrolled in the carpentry

and electricity programs at the community and technical college during the 2011/ 2012 school year. The control group for this study was made up of 19 students enrolled in the carpentry and electricity programs at the community and technical college during the 2012/2013 school year. The sample size for this quantitative study using the non-equivalent control group design is above the minimum of 15 participants per group, suggested for experimental research (Gall, et al., 2007, p. 176).

Each student completed the Civic Action Scale (CAS) (see Appendix A) as a pretest and the Community Service Attitudes Scale (CSAS) (see Appendix B) as a posttest (Bringle, et al., 2004, p. 169 & 177). The pretest was given to the experimental group prior to work beginning on the Habitat for Humanity home build during the spring 2012 semester. The experimental group worked approximately two weeks on the build. The administration of the posttest took place immediately after the reflection workshop, which was conducted by a consultant of the Kentucky Campus Compact. The pretest was given to the control group at the beginning of the fall 2012 semester. In approximately two weeks after the administration of the pretest the posttest was given. Demographic questions such as age range, education level, and program area are included in both the pretest and posttest (see Appendices A and B for complete list of demographic questions). Table 1 gives the responses to the demographics of each group.

Table 1 Demographics

DEMOGRAPHICS	CONTROL (n 19)	EXPERIMENTAL (n 25)
RACIAL BACKGROUND		
Caucasian	18	25
African American	1	0
AGE GROUP		
Under 25	16	23
25-34	1	0

35-44	0	1
45-54	2	0
Over 55	0	1
SEX		
Male	19	25
Female	0	0
CLASS LEVEL		
Freshmen	11	10
Sophomore	8	10
Other	0	5
JOB HOURS PER WEEK		
1-10	1	1
11-20	0	2
21-30	1	8
31-40	3	5
41+	2	2
Not Working	12	7
PROGRAM OF STUDY		
Carpentry	2	4
Electricity	17	21
PRIOR COMMUNITY SERVICE		
Yes	10	16
No	9	9

Setting

This study took place within the carpentry and electricity programs at one community and technical college, with a five county service area located in the Appalachian region of eastern Kentucky. The control group setting consists of courses that are part of the technical core of each program. Each of courses has lab components and utilizes experiential teaching methods within the lab setting. The control group did not take part in any service-learning activities. The experimental group setting consists of courses from the technical core of each program. These courses did use the service-

learning teaching methodology. The actual lab setting took place in realistic work settings for a non-profit organization.

The community and technical college is located in the coalfields of eastern Kentucky. The state community and technical college system, Fact Book reports the enrollment for the 2009/2010 year for the community and technical college at 7044 (Whitfield, 2011).

Instrumentation

This quantitative study utilizes a non-equivalent control group design. One concern with this design is pretest sensitization. Dimitrov & Rumrill (2003) explains, “Interaction of pretesting and treatment comes into play when the pretest sensitizes participants so that they respond to the treatment differently than they would with no pretest” (p. 160). However, with a non-random design a pretest is given to account for group differences in dealing with intact groups (Gall, et al., 2007, p. 417). Pretest sensitization cannot be ruled out in any study and should always be viewed suspect in non-random studies where selection is a threat to internal validity (Wilson & Putnam, 1982, p. 256). This study uses different scales for the pretest and posttest in an attempt to address issues of selection.

The pretest used is the Civic Action Scale (CAS) (see Appendix A) developed by Moely, Mercer, Ilustre, Miron, & McFarland, (Bringle, et al., 2004, p. 169). The Civic Action scale has a reliability alpha coefficient of .86 and the convergent validity correlated at .35. This scale is suitable for pretest as a covariate toward selection issues with existing groups (Bringle, et al., 2004, pp. 170 -171).

The study used the Community Service Attitudes Scale (CSAS) (see Appendix B) as the posttest, developed by Shiarella, McCarthy, and Tucker, which is based on Schwartz's model of altruistic helping behavior (Shiarella, McCarthy, & Tucker, 2000, p. 287). The survey assesses community service attitudes among college students on a seven point Likert scale and has forty-six questions (Bringle, et al., 2004, p. 178).

This instrument has been assessed for validity. Shiarella, McCarthy, and Tucker conducted a study in the fall of 1997 and spring of 1998 with students from Western University. There were 769 students in the study. The alpha reliability for the eight subscales of the assessment range from .72 to .93 (Shiarella, et al., 2000, p. 296). The validity study for the Community Service Attitudes Scale (see Appendix B) shows that students in liberal arts majors score higher. The validity study also shows a positive relationship with prior community service. There was no significant relationship due to age differences. However, females score higher than males (Bringle, et al., 2004, p. 179). Shiarella, McCarthy, and Tucker (2000) states, "Structure /pattern coefficients all exceeded .40" (p. 293).

Procedures

In order to ensure ethical treatment of the participants for this study, no research took place until there was approval through the Liberty University Institutional Review Board. Since this study involves students enrolled in the state community and technical college system, full approval was granted prior to submitting the application to Liberty University Institutional Review Board. Upon receipt of approval, the administration of the Civic Action scale (see Appendix A) took place with the experimental group. Times and dates were scheduled with the instructors of each program in the experimental group.

During the scheduled dates, meetings took place with the students to explain the nature of the study and to extend an invitation to complete the pretest-posttest assessments. The administration of all pretests and posttests took place in the classrooms of the various programs participating in the experimental group. In order to insure continuity between all participants, the researcher administered and gathered all pretests and posttests. A second round of times and dates were scheduled after the treatment to administer the Community Service Attitudes Scale (see Appendix B) to the experimental group.

At the beginning of the fall 2012 semester, the Civic Action Scale (see Appendix A) was administered to the control group. Times and dates were scheduled with the instructors of each program in the control group. During the scheduled dates, meetings took place with the students to explain the nature of the study and to extend an invitation to complete the pretest-posttest assessments. The administration of all pretests and posttests took place in the classrooms of the various programs participating in the control group. In order to insure continuity between all participants, the researcher administered and gathered all pretests and posttests. A second round of times and dates were scheduled to administer the Community Service Attitudes Scale (see Appendix B) to the control group. No monetary sum or extra credit was offered for participation in this study. The hands-on nature of gathering the data in face-to face settings will insure a timely process in this portion of the study.

Each participant's survey was assigned a unique number. These numbers were used to develop a codebook for data entry into the SPSS software. Once the pretest was administered, the mean scores were compared for group equivalency based on the dependent variable, and ANCOVA statistical analysis was run (Gall, et al., 2007, p. 417).

Data Analysis

This study measures the impact of service-learning on attitudes toward community service. The experimental design is the non-equivalent control group design (Gall, et al., 2007, p. 416). Once the pretest was administered for each group, the mean scores were compared for group equivalency based on the dependent variable.

Preliminary analysis requirements were run to check for missing data, normality and outliers (Pallant, 2007, p. 302).

The study utilizes the analysis of covariance (ANCOVA). Gall, Gall and Borg (2007) states, "ANCOVA is used to control for initial differences between groups before a comparison of the within-groups variance and between-groups variance is made" (p. 320). Gall, Gall and Borg (2007) suggest a minimum of 15 in each group; this study exceeded this suggestion with 19 in the control and 25 in the experimental groups (p. 176).

Once data were entered in the statistical software, the first step was to run the preliminary analysis. Once this was accomplished the following assumptions were met prior to running ANCOVA.

1. Measurement of the covariate,
2. Reliability of the covariate,
3. Correlations among the covariates,
4. Linearity, and
5. Homogeneity of regression slopes (Pallant, 2007, p. 302).

The rule for Levene's test is that p should be greater than .05; this test determines the t values (Pallant, 2007, p. 302). The analysis of the data for this study shows the mean

difference, the 95% confidence level, and the effect size using the eta-squared formula (Pallant, 2007, p. 302).

CHAPTER FOUR: FINDINGS

The purpose of the study is to research the impact of service-learning on the attitude toward community involvement of community college students enrolled in career and technical education (CTE) programs in rural Appalachia. Service-Learning is a teaching methodology that incorporates skills learned in the classroom with service in the community.

This quantitative study utilizes a non-equivalent control group design. This design is commonly used in educational research when randomization is not possible (Gall, et al., 2007, p. 416). The study uses the Civic Action Scale (CAS) (see Appendix A). This survey measures intent of future involvement in community service and was developed by Moely, Mercer, Ilustre, Miron, & McFarland (as cited in Bringle, et al., 2004, p. 169). The posttest for this study is the Community Service Attitudes Scale (CSAS) (see Appendix B). This survey measures attitudes toward community service and was developed by Shiarella, McCarthy, & Tucker (as cited in Bringle, et al., 2004, p. 177). Dr. Robert Bringle, Executive Director of IUPUI's Center for Service and Learning and Author of *The Measure of Service Learning: Research Scales to Assess Student Experience*, addresses permission to use these instruments for this particular study in a personal email (see Appendix C).

Pretest and Posttest Results

In order to meet the criterion necessary for this study, convenience sampling procedures were used. The intact groups enrolled in the career and technical programs, the fact that the service-learning methodology is being used in some courses and not in others courses, and the ability to isolate two distinct groups meeting the sample size

requirements for the experimental and control groups all worked together to justify the use of convenient sampling (Gall, et al., 2007, p. 175). Initially the study had 51 participants. However, due to outliers seven participants were eliminated. For this study outliers were set at 1.75 standard deviations from the mean. After investigating survey responses, the seven subjects eliminated from the study gave inconsistent responses when compared to the 44 subjects included in the study. Using 1.75 standard deviations to define outliers retains 86% of the total participants completing the pretest and posttest surveys. In addressing outliers, in a study of reaction times, Ratcliff (1993) found it acceptable to eliminate up to 15% of the data when outliers are present (p. 517).

The experimental group for this study was made up of 25 students enrolled in the carpentry and electricity programs at the community and technical college during the 2011/ 2012 school year. The control group for this study was made up of 19 students enrolled in the carpentry and electricity programs at the community and technical college during the 2012/2013 school year. The independent variable, service-learning, is defined using the Learn and Serve American definition, “a teaching and learning strategy that integrates meaningful community service with instruction and reflection to enrich the learning experience, teach civic responsibility, and strengthen communities” (National Service-Learning Clearinghouse, 2008). The dependent variable for this study will use the Community Service Attitude Scale, (see Appendix B) developed by Shiarella, McCarthy & Tucker to measure community involvement. The covariate for this study is the Civic Action scale (see Appendix A) developed by Moely, Mercer, Ilustre, Miron, & McFarland, (2002). Table 2 and table 3 show descriptive statistics for the pretest and posttest.

Table 2: Descriptive Statistics Pretest

Descriptive Statistics for the Pretest			
Group	n	Mean	Std. Deviation
Control	19	31.68	3.606
Experimental	25	32.88	4.136
Total	44	32.36	3.918

Table 3: Descriptive Statistics Posttest

Descriptive Statistics for the Posttest			
Group	n	Mean	Std. Deviation
Control	19	253.84	24.468
Experimental	25	280.24	23.94
Total	44	268.84	27.303

Preliminary statistics were run with the pretest and posttest and the results show normality using the Kolmogorov-Smirnov and Shapiro-Wilk tests (Pallant, 2007, p. 302). The evidence showed normality between the control and experimental groups with the pretest and posttest scores being greater than 0.05. Table four shows the scores for normality.

Table 4: Tests of Normality

Tests of Normality						
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
PRETEST	.128	44	.068	.955	44	.084
POSTTEST	.079	44	.200*	.981	44	.693

a. Lilliefors Significance Correction
 *. This is a lower bound of the true significance.

In order to run the ANCOVA, the preliminary assumptions must be met. Assumption one addresses the measurement of the covariate. The covariate must be

measured before treatment begins (Pallant, 2007, p. 302). In this study, the pretest was administered prior to any service-learning activities taking place. The second assumption is the reliability of the covariate (Pallant, 2007, p. 296). The covariate for this study has an internal consistency coefficient alpha of 0.86 and 0.88 on two prior studies (Bringle, et al., 2004, p. 169 & 177). Table five shows the internal consistency for this study.

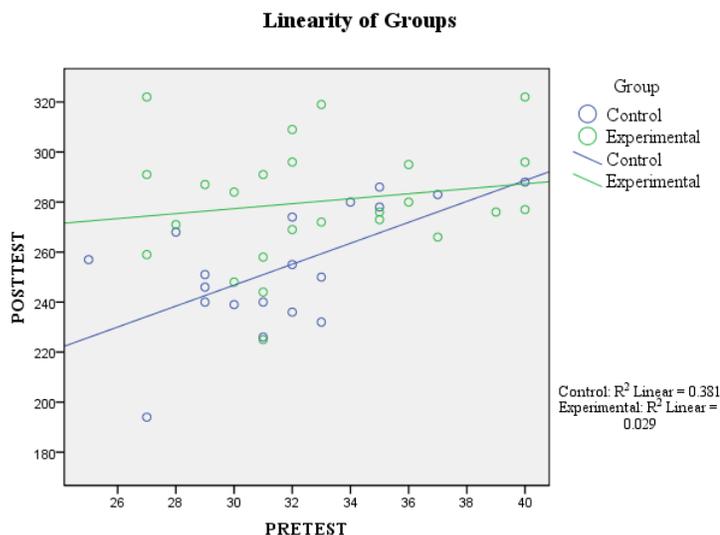
Assumption three addresses correlations between covariates. Since this study is

Table 5: Reliability Statistics

Reliability Statistics		
Cronbach's Alpha Based on Cronbach's Standardized Items		
Alpha	Items	N of Items
.907	.905	8

using one covariate, this is not applicable for this study. The fourth assumption is linearity for each group (Pallant, 2007, p. 296). Figure one shows linearity. The

Figure 1: Linearity of Groups



fifth preliminary assumption to be met prior to running the ANCOVA is for homogeneity of regression slopes. This assumption checks for an interaction between the covariate and the treatment (Pallant, 2007, p. 298). The results show $F(1, 41) = 2.45, p = 0.125$, which is greater than the required 0.05 needed to meet this assumption.

Once all preliminary assumptions were met, ANCOVA was run to examine the differences between the control groups and the experimental group while controlling for the covariate (Gall, et al., 2007, p. 416). In this study, the covariate is the pretest, which measures intent to do community service. The dependent variable is the posttest, which measures attitudes toward community service. Levene's Test of Equality of Error Variances shows $F(1, 43) = 0.34, p = 0.56$, indicating no violation of the assumption of equality of variance as shown in table six.

Table 6: Levene's Test of Equality Total Posttest

Levene's Test of Equality of Error Variances			
Dependent Variable: Pretest			
F	df1	df2	Sig.
.343	1	43	.561
Tests the null hypothesis that the error variance of the dependent variable is equal across groups.			
a. Design: Intercept + Pretest + Group			

The ANCOVA results show a significant difference between the two groups after adjusting for the covariate. The analysis showed $F(1, 42) = 11.52, p = 0.002$, partial eta squared = 0.22 and are shown in Table seven.

Table 7 ANCOVA / Dependent Variable: Total Posttest

Tests of Between-Subjects Effects						
Dependent Variable: Posttest						
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	10897.481 ^a	2	5448.741	10.58	0.000	0.335
Intercept	27021.052	1	27021.052	52.49	0.000	0.555
Pretest	3970.658	1	3970.658	7.713	0.008	0.155
Group	5928.872	1	5928.872	11.52	0.002	0.215
Error	21622.83	42	514.829			
Total	3273182	45				
Corrected Total	32520.311	44				

a. R Squared = .335 (Adjusted R Squared = .303)

Since the design of this study uses a different scale to measure the covariate, table eight reports the unadjusted and adjusted means.

Table 8: Unadjusted and Adjusted Means Total Posttest

Unadjusted and Adjusted Means						
Dependent Variable: Posttest						
Group	Mean	Std. Deviation	Adjusted Mean	Std. Error	N	Pretest
Control	253.84	24.468	254.870 ^a	5.219	19	31.68
Experimental	278.96	24.345	278.211 ^a	4.458	26	32.88

a. Covariates appearing in the model are evaluated at the following values: Pretest = 32.13.

Results Research Question One

Research Question #1:

Do students involved in service-learning activities have a greater awareness of community needs?

Null Hypothesis 1 H₀:

There is no statistical difference in awareness of community needs between community college students enrolled in carpentry and electrical technology programs that incorporate service-learning from students enrolled in those same programs that do not incorporate service-learning as shown by scores of the Community Service Attitudes Scale.

The Community Service Attitudes Scale is comprised of 54 questions covering nine areas. These areas are demographic information, normative helping attitudes, connectedness, costs, awareness, benefits, seriousness, career, and intentions. The areas measuring levels of awareness in the community that were used to answer research question #1 are, connectedness, costs, awareness, and seriousness. These 26 questions were analyzed using ANCOVA to measure awareness of community needs (Bringle, et al., 2004, p. 169 & 177).

Levene's Test of Equality of Error Variances shows $F(1, 43) = 0.01, p = 0.92$, indicating no violation the assumption of equality of variance as shown in table nine.

Table 9: Leven's Test of Equality Research Question #1

Levene's Test of Equality of Error Variances^a			
Dependent Variable: Attitude			
F	df1	df2	Sig.
0.01	1	43	0.923
Tests the null hypothesis that the error variance of the dependent variable is equal across groups.			
a. Design: Intercept + Pretest + Group			

Table ten reports the ANCOVA results showing a significant difference between the two groups after adjusting for the covariate. The analysis showed $F(1, 42) = 15.88$, $p = 0.000$, partial eta squared = 0.27. The results show that 27% of the variance in posttest questions associated with awareness of community issues can be accounted by the interaction, thereby rejecting the null hypothesis.

Table 10 ANCOVA / Dependent Variable: Awareness

Tests of Between-Subjects Effects						
Dependent Variable: Awareness						
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	6254.683 ^a	2	3127.34	13.235	0.000	0.387
Intercept	9896.234	1	9896.23	41.88	0.000	0.499
Pretest	1944.969	1	1944.97	8.231	0.006	0.164
Group	3752.438	1	3752.44	15.88	0.000	0.274
Error	9924.561	42	236.299			
Total	1312263	45				
Corrected Total	16179.244	44				

a. R Squared = .387 (Adjusted R Squared = .357)

Since the design of this study uses a different scale to measure the covariate, table eleven reports the unadjusted and adjusted means.

Table 11: Unadjusted and Adjusted Means Research Question #1

Unadjusted and Adjusted Means						
Dependent Variable: Awareness						
Group	Mean	Std. Deviation	Adjusted Mean	Std. Error	N	Pretest
Control	158.26	18.184	158.982 ^a	3.535	19	31.68
Experimental	178.08	15.386	177.551 ^a	3.020	26	32.88

a. Covariates appearing in the model are evaluated at the following values: Pretest = 32.13.

Results for Research Question Two

Research Question #2:

Does the inclusion of service-learning affect the students' feeling of responsibility to become involved with the community?

Null Hypothesis two H_0 :

There is no statistical difference in feelings of responsibility to become involved with the community between community college students enrolled in carpentry and electrical technology programs that incorporate service-learning from students enrolled in those same programs that do not incorporate service-learning as shown by scores of the Community Service Attitudes Scale.

The Community Service Attitudes Scale is comprised of 54 questions covering nine areas. These areas are demographic information, normative helping attitudes, connectedness, costs, awareness, benefits, seriousness, career, and intentions. The areas measuring levels of awareness in the community that were used to answer research question #2 are normative helping attitudes, connectedness, benefits, and seriousness. These 28 questions were analyzed using ANCOVA to measure awareness of community needs (Bringle, et al., 2004, p. 169 & 177).

Levene's Test of Equality of Error Variances shows $F(1, 43) = 2.55$, $p = 0.12$, we have not violated the assumption of equality of variance as shown in table ten.

Table 12: Levene's Test of Equality Research Question #2

Levene's Test of Equality of Error Variances^a			
Dependent Variable: Responsibility			
F	df1	df2	Sig.
2.553	1	43	0.117
Tests the null hypothesis that the error variance of the dependent variable is equal across groups.			
a. Design: Intercept + Pretest + Group			

Table thirteen reports the ANCOVA results showing a significant difference between the two groups after adjusting for the covariate. The analysis showed $F(1, 42) = 4.74$, $p = 0.035$, partial eta squared = 0.10. The results show that 10% of the variance in posttest questions associated with responsibility toward community issues can be accounted by the interaction, thereby rejecting the null hypothesis.

Table 13 ANCOVA / Dependent Variable: Responsibility

Tests of Between-Subjects Effects						
Dependent Variable: Responsibility						
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	2257.690 ^a	2	1128.85	5.676	0.007	0.213
Intercept	8291.171	1	8291.17	41.687	0.000	0.498
Pretest	1105.931	1	1105.93	5.56	0.023	0.117
Group	942.115	1	942.115	4.737	0.035	0.101
Error	8353.421	42	198.891			
Total	975680	45				
Corrected Total	10611.11	44				
a. R Squared = .213 (Adjusted R Squared = .175)						

Since the design of this study uses a different scale to measure the covariate, table thirteen reports the unadjusted and adjusted means.

Table 14: Unadjusted and Adjusted Means Research Question #2

Unadjusted and Adjusted Means						
Dependent Variable: Responsibility						
Group	Mean	Std. Deviation	Adjusted Mean	Std. Error	N	Pretest
Control	140.53	12.121	141.069 ^a	3.244	19	31.68
Experimental	150.77	16.510	150.373 ^a	2.771	26	32.88

a. Covariates appearing in the model are evaluated at the following values: Pretest = 32.13.

Summary

This study examines two research questions. Research Question #1: Do students involved in service-learning activities have a greater awareness of community needs. Research Question #2: Does the inclusion of service-learning affect the students' feeling of responsibility to become involved with the community? The results of the ANCOVA analysis indicate the inclusion of the treatment has an influence on the student's attitudes toward community service, resulting in the rejection of the null hypotheses for research questions one and two.

CHAPTER FIVE: CONCLUSIONS

This chapter consists of five sections. The first section is a summary of the findings of the study. The second section is a discussion of the findings exploring the implications based on the review of literature. The third section covers the study's limitations. The fourth section includes the study's implications and the fifth section gives recommendations for future research.

The purpose of the study is to research the impact of service-learning on the attitude toward community involvement of community college students enrolled in career and technical education (CTE) programs. The study examines students enrolled in carpentry and electricity programs at one community and technical college, with a five county service area located in the Appalachian region of eastern Kentucky. This quantitative study utilizes the nonequivalent control group design (Gall, et al., 2007, p. 416). The study compares programs that incorporate service-learning as a teaching methodology with like programs that have not adopted service-learning.

Summary of the Findings

This quantitative study utilizes the pretest-posttest nonequivalent control group design. This design is commonly used in educational research when randomization is not possible (Gall, Gall, & Borg, 2007, p. 416). The experimental group for this study was made up of 25 students enrolled in the carpentry and electricity Programs at the community and technical college during the 2011/ 2012 school year. The control group for this study was made up of 19 students enrolled in the carpentry and electricity Programs at the community and technical college during the 2012/2013 school year.

ANCOVA was conducted to examine the effectiveness of the intervention. The independent variable, service-learning, is defined using the Learn and Serve America definition, “a teaching and learning strategy that integrates meaningful community service with instruction and reflection to enrich the learning experience, teach civic responsibility, and strengthen communities” (National Service-Learning Clearinghouse, 2008). The dependent variable for this study will use the Community Service Attitude Scale, (see Appendix B) developed by Shiarella, McCarthy & Tucker to measure community involvement. The covariate for this study is the Civic Action scale (see Appendix A) developed by Moely, Mercer, Ilustre, Miron, & McFarland, (2002).

Preliminary analysis was run to ensure the assumptions of normality, linearity, homogeneity of variances, homogeneity of regression slopes and reliability of the covariate was met. After adjusting for scores on the Community Action Scale, there was a significant difference in the scores for the Community Service Attitude Scale. The analysis showed $F(1, 42) = 11.52, p = 0.002, \text{partial eta squared} = 0.22$.

Research Question #1:

Do students involved in service-learning activities have a greater awareness of community needs?

Null Hypothesis 1 H^0 :

There is no statistical difference in awareness of community needs between community college students enrolled in carpentry and electrical technology programs that incorporate service-learning from students enrolled in those same programs that do not incorporate service-learning as shown by scores of the Community Service Attitudes Scale.

The Community Service Attitudes Scale is comprised of 54 questions covering nine areas. These areas are demographic information, normative helping attitudes, connectedness, costs, awareness, benefits, seriousness, career, and intentions. The areas measuring levels of awareness in the community that were used to answer research question #1 are, connectedness, costs, awareness, and seriousness. These 26 questions were analyzed using ANCOVA to measure awareness of community needs (Bringle, Phillips, & Hudson, 2004, p. 182).

ANCOVA was run using the awareness questions. The analysis showed $F(1, 42) = 15.88, p = 0.000, \text{partial eta squared} = 0.27$. The results show that 27% of the variance in posttest questions associated with awareness of community issues can be accounted by the interaction. Therefore, null hypothesis one rejected. These results suggest value of service-learning activities as contributor toward greater awareness of community needs.

Research Question #2:

Does the inclusion of service-learning affect the students' feeling of responsibility to become involved with the community?

Null Hypothesis 2 H^0 :

There is no statistical difference in feeling of responsibility to become involved with the community between community college students enrolled in carpentry, and electrical technology programs that incorporate service-learning from students enrolled in those same programs that do not incorporate service-learning as shown by scores of the Community Service Attitudes Scale.

The Community Service Attitudes Scale is comprised of 54 questions covering nine areas. These areas are demographic information, normative helping attitudes,

connectedness, costs, awareness, benefits, seriousness, career, and intentions. The areas measuring levels of awareness in the community that were used to answer research question #2 are, normative helping attitudes, connectedness, benefits, and seriousness. These 28 questions were analyzed using ANCOVA to measure awareness of community needs (Bringle, Phillips, & Hudson, 2004, p. 182).

ANCOVA was run using the responsibility questions. The analysis showed $F(1, 42) = 4.74, p = 0.035, \text{partial } \eta^2 = 0.10$. The results show that 10% of the variance in posttest questions associated with responsibility toward community issues can be accounted by the interaction. Therefore, null hypothesis two was rejected. These results suggest the value of service-learning activities as a contributor toward students' feeling of responsibility to become involved with the community.

Discussion of the Findings

The Review of Literature in chapter two shows very little research in service-learning being done in the Career and Technical Education disciplines. Service-learning research is taking place in education programs as in Krebs (2006) study in K- 12 education programs (p. 28). Simons, et al., (2009) conducted a study with undergraduate students enrolled in social science programs. Students in the criminal justice, psychology, and other social science courses partnered with the local detention center and local alternative high schools (p. 63). Dugan and Komives (2010) study of students in leadership programs explores the development of socially responsible leadership skills and includes 14,000 students with an average age of 24 years, 50 schools, and 25 states (p. 525). The Sevier, et al. (2012) study explores how service-learning addresses the requirements of their ABET accreditation. This study involving 214 students compares a

service-learning section on an introduction to engineering course with a non-service-learning section of the same course (p. 57). Fudge, et al, (2008) study involves Human Services students. This study consisting of students in a baccalaureate program allowed them to utilize the case management skills in a working with clients in a family treatment center (p. 239). Richards and Novak (2010) study follows the activities of nursing students from Purdue University. These students participated in relief efforts from Hurricane Katrina in Biloxi Mississippi and in health service activities in South Africa (p. 46). The Buch & Harden (2011) study examines the partnership between the University of North Carolina at Charlotte and the city's homeless shelters. The study follows the students in designated experiential learning courses (p. 54). All of these studies report students having a greater awareness of community needs and a higher sense of responsibility toward community issues (Sevier, et al., 2012; Fudge, et al., 2008; Krebs 2006, Richards and Novak 2010; Buch & Harden, 2011; Simons, Hirschinger-Blank, and Kenyon 2009). Rojewski, et al. (2008) study reviews the research that is taking place in career and technical education disciplines. Their findings show the following categories "accountability, articulation and transition, career pathways and course sequencing, integration of academic and career-technical education, and recruitment and retention of career and technical education professionals" (Rojewski, et al., 2008, p. 61).

Research Question #1:

Do students involved in service-learning activities have a greater awareness of community needs?

The results suggest that there is a greater awareness of community needs among the students in the experimental group. The analysis showed $F(1, 42) = 15.88, p = 0.000$,

partial eta squared = 0.27. These results agree with Richards and Novak (2010) study, which consists of nursing students traveling to Mississippi to help with victims after Hurricane Katrina. Students in this student reported having a greater social awareness because of their service-learning activities (p. 1). Bush & Harden (2011) shows students had a greater awareness of the needs of the homeless in their community (p. 58). Sevier, et al. (2012) shows that the engineering student had a greater awareness of the relevance (p. 65). Fudge, et al. (2008) also report students having a greater awareness of needs of the people they worked with as part of the service-learning activities (p. 243). Krebs, (2006) study explores the incorporation of service-learning among K-12 teachers. Participants in this study report that service-learning broadened the student's awareness of community needs (p. 172). Prentice & Robinson (2007) explores the impact of service-learning in relation to civic engagement. They further define for their study that civic engagement included community involvement. Their study includes 12 community colleges including 279 pre and post surveys. The results show that students have a greater awareness of community needs as a result of being involved with service-learning activities (p. 7).

Research Question #2:

Does the inclusion of service-learning affect the students' feeling of responsibility to become involved with the community?

The results suggest that there is a greater feeling of responsibility to be involved with community activities among the students in the experimental group. The analysis showed $F(1, 42) = 4.74, p = 0.035$, partial eta squared = 0.10. These results agree with Fudge, Fuss, Burton, McClam, and Diambra (2008) report that students in human service

programs, working with clients in the community realized that many times society has pre-determined ideas about clients and they as future social workers have a responsibility to be advocates for their clients (p. 243). Richards and Novak (2010) found that nursing students working with victims after hurricane Katrina reported having a greater sense of their civic duty (p. 1). Prentice & Robinson (2007) study including 12 community colleges surveyed 279 students involved in service-learning activities. The study explores community engagement and reports that students have a commitment to continue to be involved within their communities (p.7).

This study suggests that incorporating service-learning into the curriculum of career and technical education programs has a significant impact on community awareness and responsibility. These results agree with Eylar (2000) comments, “One of the particular strengths of service-learning is ... it engages the students in worthwhile activity ... it is likely to create social arrangements which lead to motivation and a sense of agency” (p. 13). Jacobs and Archie (2008) states, “Experiential education, both as a methodology and philosophy, is well suited to potentially have a positive influence on a learner’s sense of community” (p. 284). The results of this study also reinforce the notion that career and technical education is grounded in the belief of producing a well-rounded student ready to enter the workforce. Sarkees-Wircenski and Scott (2003) reveal, “Educational Leaders of today are advocating a new pedagogy that combines academic and experiential education in a system of lifelong learning in school, community, and work” (p. 61).

Study Limitations

The most notable limitation affecting the internal validity of this study is the lack of random selection. This study takes place among fixed groups in the career and technical education programs. Students participating in the study were not aware of an included service-learning component. However, technical programs are known to have a hands-on approach to learning, which could result in selection bias with students having a mind-set toward courses with an experiential learning component (Steinberg, Bringle, & Williams, 2010, p. 17).

There are also limitations to external validity. The technical programs in this study do not have high numbers of enrollment. Therefore, the study is designed by incorporating two programs of study that participated in the same service-learning activity making up the experimental group and having the control group come from the same programs of study being made up of new students who enroll one semester later. The results of this study could be due to the participants and the study taking place at this particular time causing it to be limited to an interaction of history and treatment making it difficult to generalize to other groups past or future (Gall, et al., 2007, p. 392).

This study takes place in rural Appalachia, which may threaten population validity due to setting-treatment interaction (Gall, et al., 2007, p. 169). There may be cultural attitudes toward the results of this study that are inherent to this population. The results of this study may not generalize to other populations in other geographic settings.

Study Implications

This study suggests that service-learning as a true teaching methodology can influence student attitudes toward community awareness and responsibility toward

becoming involved in community activities. This study defines service-learning as “a teaching and learning strategy that integrates meaningful community service with instruction and reflection to enrich the learning experience, teach civic responsibility, and strengthen communities” (National Service-Learning Clearinghouse, 2008). This methodology could be a natural fit for career and technical education disciplines in that both are rooted in experiential education theory. These programs are designed to have lab components that include a real world experience. Many times instructors struggle to design a lab component that resembles the actual workplace experience. Because of this, educators step out into their communities to partner with outside agencies in an effort to provide a more real world situation. This is the design of service-learning. Educational leaders are looking for avenues that encourage students to gain knowledge not only in the classroom but also in their communities (Sarkees-Wircenski & Scott, 2003, p. 61).

Career and technical education professionals have long established principles that guide the curriculum, planning and philosophy of this branch of experiential education. Service-learning with its beginnings coming from a more liberal arts philosophy, also has established guiding principles. This study has brought those two philosophies together suggesting that each is striving to produce the same results. Instructors in these disciplines many times have already formed partnerships with agencies in their communities. They are doing service to reinforce the skills they are teaching in the classroom. The nature of many career and technical education programs include a service component that can easily be converted to a true service-learning experience simply by adding a reflective component. Eyler (2009) states, “The most critical factor

for achieving powerful learning outcomes from experiential-learning programs is the inclusion of opportunities for feedback and reflection” (p. 30).

Currently research in career and technical education programs that explore service-learning is focused toward discipline specific skills. This study moves toward an exploration of community involvement. The research shows that service-learning contributes to greater civic engagement. Past research in nursing, engineering, social science and other academic areas all agree that a well-designed service-learning activity can influence student’s feelings toward community. This study agrees with the others; however, a major difference in this study is that service-learning is not advertised or designed to a particular course. Service-learning in this study is a true teaching methodology. Service-learning in this study is treated no different from any other tool in the teacher’s toolbox. The treatment, service-learning consisted of three phases - preparation, action, and reflection. Preparation took place in the various programs making up the experimental group as students being taught by their program instructors gained specific skills in their field of study. Action took place with each program coming together to apply their discipline specific skills in a home construction project with Habitat for Humanity. Reflection took place after project completion with all students taking part in a reflection workshop conducted by a consultant for the Kentucky Campus Compact. By using this approach selection bias is not an issue. This study opens the door for further research that could advance service-learning as viable pedagogy in career and technical education. Career and technical educations guiding principles cover four categories People, Program, Processes, and Values. All four categories stress community involvement (Martinez, 2007, p. 77). This study implies that adopting the service-

learning teaching methodology may assist career and technical education programs in meeting the goals outlined in their guiding principles.

Recommendations for Future Research

While there is an abundant supply of research involving service-learning, the majority is qualitative in nature. The quantitative research available involves social science programs, health field areas, and general education courses (Simons, Hirschinger-Blank, and Kenyon, 2009; Dugan & Komives, 2010; Fudge, Fuss, Burton, McClam, and Diambra, 2008). Steinberg, Bringle, & Williams (2010) states, “There is an acute need for high quality research on service-learning outcomes across institutions, faculty, students, and communities” (p. 1). There is little or no service-learning research in career and technical education disciplines. Based on the results of this study the following recommendations for future research are suggestions:

Recommendation 1

In order to test interaction of setting and treatment, this study should be repeated in other institutions. The institutions should be in different geographic locations and involve the same career and technical education disciplines.

Recommendation 2

In order to test selection and treatment this study should be repeated among various career and technical education disciplines.

Recommendation 3

In order to test interaction of history and treatment, this study should be repeated. This should take place at the same institution and career and technical education disciplines.

Recommendation 4

A third group could be added to the design of this study. This second experimental group would do service and not participate in the reflection activities. Reflection is viewed as a necessary component in the philosophy of service-learning. This research could be used to explore the inclusion of reflection verses service followed no reflection.

Recommendation 5

This study uses service-learning as a teaching methodology that is not viewed by the instructor or student, as being extra to the classroom activities. The service activities were directly incorporated as part of the experiential components of the class. Research should be conducted that compares varying definitions and approaches of service-learning. This type of research should take place across the career and technical education disciplines, in order to see if other approaches to service –learning blend into the career and technical courses as in this study.

Summary

The purpose of education in the United States is grounded in the notion of educating a people with skills to achieve their individual goals. However, the deeper focus in the American education system is to educate a citizenry that understands the meaning of community. Our founding fathers saw education as an essential component in building and sustaining our nation (Gutek, 2005, p. 226). Career and technical education’s philosophy has the same goals in mind. These goals are evident in their guiding principles, which focus on the entire individual, preparing people for the world of work, lifelong learning, and community responsibility (Atkinson, 2009, p. 10). The

service-learning philosophy is also developed around principles that prepare individuals for academic success and community engagement (Jacobs and Archie 2008, p. 284).

The study explores the inclusion of the service-learning teaching methodology into career and technical education disciplines. The focus of the study investigates the impact of service and reflection upon the attitudes of technical students toward their awareness of community issues and their feeling of being responsible to become involved in their community. The research shows that service-learning does have an impact on the attitudes of the students in this study. This study suggests that the service-learning methodology is suited to be included in career and technical education curriculum and can assist these programs in meeting the guiding principles.

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APPENDICES

Appendix A: Civic Action Scale

Civic Action Scale

The data in this survey will be used in conjunction with a study to compare attitudes toward community service involvement among career and technical education students. Your voluntary participation in this survey is anonymous. No identifiable information is being collected. If you would like more information about this study please contact Chris Daniel via email at cadaniel@liberty.edu. Please take the next few minutes to answer the following questions.

Demographic Information:

1. What is your racial background? (circle one)

Caucasian	African American	Asian
Hispanic	Native American	Other

2. What is your age group? (circle one)

Under 25	25-34	35-44	45-54	Over 55
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3. What is your gender? (circle one)

Male	Female
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4. What is your class level? (circle one)

Freshmen	Sophomore	Other
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5. I have a job that requires me to work ... (circle one)

1-10 hr/wk	11-20 hr/wk	21-30 hr/wk
31-40 hr/wk	41 + hr/wk	I do not have a job

6. Where do you attend school? _____
7. What program are you enrolled? _____
8. Have participated in community service project in the past? Yes No

Please answer the following questions regarding your feelings toward community service projects. Answer questions 9-16 using the following scale:

- 1 = disagree completely 2 = disagree 3 = neither agree nor disagree
4 = agree 5 = agree completely

Questions 9-16

- _____ 9. I plan to do some volunteer work.
- _____ 10. I plan to become involved in my community.
- _____ 11. I plan to participate in a community action program.
- _____ 12. I plan to become an active member of my community.
- _____ 13. In the future, I plan to participate in a community service organization.
- _____ 14. I plan to help others who are in difficulty.
- _____ 15. I am committed to making a positive difference.
- _____ 16. I plan to become involved in programs to help clean up the environment.

Appendix B: Community Service Attitude Scale

Community Service Attitude Scale

The data in this survey will be used in conjunction with a study to compare attitudes toward community service involvement among career and technical education students.

Your voluntary participation in this survey is anonymous. No identifiable information is being collected. If you would like more information about this study please contact Chris Daniel via email at cadaniel@liberty.edu. Please take the next few minutes to answer the following questions.

Demographic Information:

1. What is your racial background? (circle one)

Caucasian African American Asian

Hispanic Native American Other

2. What is your age group? (circle one)

Under 25 25-34 35-44 45-54 Over 55

3. What is your gender? (circle one)

Male Female

4. What is your class level? (circle one)

Freshmen Sophomore Other

5. I have a job that requires me to work ... (circle one)

1-10 hr/wk 11-20 hr/wk 21-30 hr/wk

31-40 hr/wk 41 + hr/wk I do not have a job

6. Where do you attend school? _____

7. What program are you enrolled? _____

8. Have participated in community service project in the past? Yes No

Please answer the following questions regarding your feelings toward community service projects. Answer questions 9-20 using the following scale:

1 = extremely unlikely 2 = quite unlikely 3 = slightly unlikely
4 = neither likely nor unlikely 5 = slightly likely 6 = quite likely
7 = extremely likely

Questions 8-19

- _____ 9. I would be contributing to the betterment of the community.
- _____ 10. I would experience personal satisfaction knowing that I am helping others.
- _____ 11. I would be meeting other people who enjoy community service.
- _____ 12. I would be developing new skills.
- _____ 13. I would make valuable contacts for my personal career.
- _____ 14. I would gain valuable experience for my resume.
- _____ 15. I would have less time for my schoolwork.
- _____ 16. I would have forgone the opportunity to make money in a paid position.
- _____ 17. I would have less energy.
- _____ 18. I would have less time to work.
- _____ 19. I would have less free time.
- _____ 20. I would have less time to spend with my family.

Please answer the following questions regarding your feelings toward community service projects. Answer questions 21-54 using the following scale:

1 = strongly disagree 2 = disagree 3 = slightly disagree
4 = neither agree nor disagree 5 = slightly agree 6 = agree
7 = strongly agree

Questions 20-53

- _____21. I want to do this activity.
- _____22. Community groups need our help.
- _____23. It is important to help people in general.
- _____24. Improving communities is important to maintaining a quality society.
- _____25. I can make a difference in the community.
- _____26. Our community needs good volunteers.
- _____27. There are people in the community who need help.
- _____28. All communities need good volunteers.
- _____29. Volunteer work at community agencies helps solve social problems.
- _____30. Volunteers in community agencies make a difference, if only a small difference.
- _____31. College student volunteers can help improve the local community.
- _____32. Volunteering in community projects can greatly enhance the community's resources.
- _____33. I am responsible for doing something about improving the community.
- _____34. Contributing my skills will make the community a better place.
- _____35. It's my responsibility to take some real measures to help others in need.
- _____36. It is important to provide a useful service to the community though community service.
- _____37. It is important to me to have a sense of contribution and helpfulness through community service.
- _____38. It is important to me to gain an increased sense of responsibility from participating in community service.
- _____39. When I meet people who are having a difficult time, I wonder how I would feel if I were in their shoes.
- _____40. I will participate in a community service project in the next year.

- _____41. I feel bad that some community members are suffering from a lack of resources.
- _____42. I feel bad about the disparity among community members.
- _____43. I feel an obligation to contribute to the community.
- _____44. There are needs in the community.
- _____45. Lack of participation in community service will cause severe damage to our society.
- _____46. Without community service, today's disadvantaged citizens have no hope.
- _____47. Other people deserve my help.
- _____48. Community service is necessary to making our communities better.
- _____49. It is critical that citizens become involved in helping their communities.
- _____50. Community service is a crucial component of the solutions to community problems.
- _____51. The more people who help, the better things will get.
- _____52. There are people who have needs which are not being met.
- _____53. My contribution to the community will make a real difference.
- _____54. Would you seek out an opportunity to do community service in the next year?

Appendix C: Permission to Use PRETEST/POSTTEST

From: Bringle, Robert G. <rbringle@iupui.edu>
Sent: Thursday, April 21, 2011 9:34 AM
To: Daniel, Christopher A (Big Sandy)
Subject: RE: Question about using instruments in my dissertation

All scales that are presented in the book are in the public domain and do not require permission (as opposed to the proprietary scales, for which we could only report sample items).

The best to you and your research.

Bob

Robert G. Bringle, Ph.D. Phil.D.
Chancellor's Professor of Psychology and Philanthropic Studies
Executive Director, IUPUI Center for Service and Learning

From: Daniel, Christopher A (Big Sandy) [chris.daniel@kctcs.edu]
Sent: Thursday, April 21, 2011 9:20 AM
To: Bringle, Robert G.
Subject: Question about using instruments in my dissertation

I am a graduate student at Liberty University. I am finishing the coursework in the Doctor of Education program. My dissertation will explore service-learning and its effect on the attitudes toward community involvement in community college students enrolled in career and technical programs. I will be using a quasi-experimental design, non-equivalent groups with a pre and posttest.

The experimental group will consist of students from the carpentry, electricity and air-conditioning programs at the community college where I am employed. These students will participate in a Habitat for Humanity's Build using the skills they have acquired in their respective programs.

The control group will be made up of students from the same programs from sister colleges. These students will not participate in service-learning.

I have your book "The Measure of Service Learning: Research Scales to Assess Student Experiences". I would like to use the Civic Action Scale listed on page 169 as a pretest and the Community Service Attitude Scale listed on page 177 as the posttest.

I did not see a reference for contact information for permission to use this assessments. Are these particular instruments free to use or would you be able to point me in the right direction to gain permission to use these in my dissertation.

Sincerely

Chris Daniel
Associate Dean Academic Affairs
Big Sandy Community and Technical College
1 Bert T. Combs, Dr.
Prestonsburg, KY 41633
Phone: 606-888-7334

Higher Education Begins Here!