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The Relationship Between Service-learning And Civic Engagement In The 2-year College

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THE RELATIONSHIP BETWEEN SERVICE-LEARNING AND CIVIC ENGAGEMENT IN THE 2-YEAR COLLEGE

by

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ABSTRACT

This study examined the relationship between service-learning and civic engagement in the 2-year college and also investigated specific differences between service experiences to determine whether those differences moderated the relationship between service participation and civic engagement outcomes. The study yielded 110 matching pre- and post-Student Civic Engagement surveys from service-learners in five different course subject areas at a large southeastern community college. The findings of the paired-samples *t* tests suggest that students experienced significant gains in four of the seven dimensions of civic engagement after participating in service. Students in comparable courses in subject matter but without service-components were also surveyed, yielding 117 matching pre- and post-surveys. A comparison of the mean differences between pre- and post-responses of the non-service-learners and service-learners suggests that the service-learners had a higher tendency than the non-service-learners to participate in the majority of assessed civic engagement activities. The data were sorted by subject area to allow for an analysis of the service-learners and the non-service-learners in comparable courses. Those results, however, were inconclusive, and no clear trends emerged. ANOVAs and independent-samples *t* tests were used to determine the relationship between gains in civic outcomes and select variables. The findings suggest that the type of service-learning activity, the duration of the service experience, the participant-perceived quality of the service experience, the amount of required student reflection, and the teacher's frequency of use of active and passive instructional strategies significantly moderate the relationship between service participation and a number of measures of civic engagement.

I dedicate this dissertation to my loving and patient partner, Dona, who has not only put up with years of my whining and worry, but has also gently lured me off of the metaphorical ledge more times than I can count. Because of this dissertation, she had a terribly lonely Christmas in 2012. Dona has been my savior in so many more ways than I can express here, and I owe her one *very* good Christmas.

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LIST OF ACRONYMS / ABBREVIATIONS

CIRCLE	Center for Information and Research on Civic Learning and Engagement
NSL	Non-service-learning
SL	Service-learning

CHAPTER ONE: INTRODUCTION

"To make the forces of the 21st Century work for us, not against us, we must restore an ethic of citizenship and civic responsibility through service -- not as a form of charity or an alternative to government, but as an essential part of what it means to be an American."

– Former President, William J. Clinton (1997)

Problem Statement

Forty years have passed since Governor James Rhoads of Ohio called National Guardsmen to Kent State University due to the fear that a campus student strike protesting the U.S. invasion into Vietnam would erupt in violence. Today's quiet college campuses bear little resemblance to those of previous generations. Students today are overwhelmingly acquiescent and apolitical (Lembcke, 2001). The publication of the National Assessment of Educational Progress (NAEP) in Civics 1988 report, which showed that America's youth are sorely lacking in civic knowledge and skills, sparked a renewed interest in civics education. In the NAEP Civics report, 35% of twelfth graders were below the basic level of achievement (Anderson, Lee, and Others, 1990). Since the publication of the report, the literature has reflected a growing concern over young people's level of civic engagement (Colby, et al., 2003; Erlick, 2000; Girioux & Girioux, 2004; Putnam, 2000). Many fear that young adults have fallen victim to the radical individualism and materialism indicative of the 21st Century and have, in consequence, demonstrated less interest in the social good than previous generations (Giroux & Giroux, 2004). Some fear that students' lack of civic engagement can have potentially devastating effects on

society, as well as on democracy (Colby, et al., 2003; Erlich, 2000; Rahn & Transue, 1998). A number of recent empirical studies provide strong evidence to suggest that there is cause for concern (Flanagan, Levine, and Stetterson, 2009, as cited in Flanagan & Levine, 2010; Long, 2010; Sax, 2000). Arguably the most comprehensive research on the subject has been published by the Center for Information and Research on Civic Learning and Engagement (CIRCLE). In a 2006 CIRCLE report, a startlingly high percentage of young adults (75%), ranging in age between 15 and 25, met CIRCLE's criteria to be classified as civically disengaged or highly disengaged. Not only are the youth of today disengaged, but, as a study by Zukin and Others (2006) suggests, they cannot even "articulate a clear reason for their lack of participation" (Colby et al., 2007, p. 33).

Many colleges and universities have responded to this crisis in civic engagement by integrating into the curricula specific service-learning experiences designed to increase the likelihood that students will be civically engaged in their lives after graduation. A frequently cited definition of *service-learning* is the following:

> a course-based, credit bearing, educational experience in which students (a) participate in an organized service activity that meets identified community needs and (b) reflect on the service activity in such a way as to gain further understanding of course content, a broader appreciation of the discipline, and an enhanced sense of civic responsibility. (Bringle and Hatcher, 1995, p. 112, as cited in Butin, 2010, p. 4)

Similarly, Jacoby (1996) defines *service-learning* as "a form of experiential education in which students engage in activities that address human and community needs together with structured

opportunities intentionally designed to promote student learning and development" (as cited in Jacoby and Associates, 2009, p. 174). To meet these criteria, a service-learning activity must help students understand course content, must meet specific community needs, and must involve meaningful reflection. Types of service experiences, though, can and often do vary significantly.

Service-learning experiences can vary significantly in terms of emphasis and scope ranging from what Elizabeth Hollander describes as a "'drive by' community experience that does not address issues of power and privilege" (Hollander as cited in Butin, 2010, p. xv) to a year-long project that explores human rights, like Susan Dicklitch's political science course in which college students worked as researchers for asylum seekers at York County Prison (Butin, 2010, p. 59). Surprisingly, though, empirical research often generalizes the efficacy of service-learning in helping students achieve specific outcomes irrespective of the diversity within it.

A wealth of empirical research has focused on the relationship between service-learning and a variety of student outcomes, both cognitive and affective. While much of the research has been promising, showing a positive correlation between service-learning and a number of outcomes, for example, personal outcomes such as interpersonal skills, social outcomes such as racial understanding, and academic outcomes such as critical thinking (Eyler, et al., 2001), the majority of the research has ignored the diversity in service experiences in order to make generalizations about the efficacy of service-learning. It is no surprise, therefore, that a prominent scholar in the field of service-learning has recently argued that quantifying the relationship between service-learning and student outcomes like these is "methodologically impossible" because "there are simply too many variables commingling and interacting with each other to allow for valid and reliable conclusions" (Butin, 2010, p. 38). For not only can

service activities vary in terms of type of service, but they can also vary because of the teacher's teaching style or strategy, the duration of the activity or experience, and even the types and amount of reflection activities required. Thus, to conclude definitively that service-learning correlates to this or that based on an empirical study or even a number of empirical studies is to ignore the fact that no two service-learning experiences are the same.

The institution of higher learning is often viewed as both the cause of societal problems and the potential solution to those problems. Service-learning is considered by many to be the panacea for our disengaged citizenry. As we've seen, though, no two service-learning experiences are the same, nor should they necessarily be so. To draw reliable conclusions about the efficacy of service-learning as a pedagogy of civic engagement, we not only need to look at whether there is a correlation between civic engagement and service-learning but we must also analyze what aspects of the service-learning experience affected the outcomes that we observe. In this manner, we will begin to develop best practices for the discipline of civic engagement.

Rationale for the Study

The research on the relationship between service-learning participation and civic engagement is inconclusive. For every study that suggests that civic engagement is one of the possible benefits of service-learning participation (Campbell 2000; Eyler et al., 2001; Metz, McLellan, & Youniss, 2003; Metz & Youniss, 2003, as cited in Metz & Youniss, 2005; Prentice, 2007), there is a study that suggests otherwise (Billig, Root, & Jesse, 2005; Rutter & Newman, 1989 as cited in Johnson & Notah, 1999). For example, Campbell (2000) analyzed data collected through *The Monitoring the Future: A Continuing Study of the Lifestyles and Values of Youth,*

1976-96. Campbell's analysis of the data suggests that community service through service-learning programs "facilitates civic engagement generally and political activity specifically, both while individuals are young and when they become adults" (p. 643). Similarly, a study conducted by Metz and Youniss (2003) showed that 80% of high school students mandated to complete 40 hours of community service continued to volunteer without receiving school credit, suggesting that even required service affects students' likelihood to continue to choose to be involved in civic activities in their communities (as cited in Metz and Youniss, 2005). On the other hand, Rutter & Newmann (1989) measured the relationship between elective service-learning and students' personal, social and civic responsibility at eight public school programs. Involvement in the service-learning activities appeared to correlate to an increase in students' personal responsibility, but there were no significant gains in civic responsibility (as cited in Johnson & Notah, 1999). Likewise, Billig, Root, and Jesse (2005) found no significant differences in the levels of civic engagement of high school students participating in service-learning courses as compared to those that did not. The research indicates a myriad of inconsistencies related to the gains in civic engagement between pre- and post-service.

One of the main problems is that comparing the results of these studies for the purpose of generalization is a valueless enterprise considering the variety in types of service experiences and programs. Service can include a wide range of activities from something as simple as a weekend charity fund-raising event to a year-long civic problem-solving project. As Dan Butin (2010) surmises, "There is no one thing called service-learning"; rather, it is "an incredibly complex practice with no singular core metanarrative" (p. xiii). Clearly, there is little value in comparing the finding that students who collected money for a local homeless shelter by holding

a car wash one Saturday afternoon did not seem to experience any gains in civic responsibility and the finding that students who participated in a year-long project focusing on developing a promotions and advertisement program for the local blood bank did experience gains in civic responsibility. The quality and type of service certainly play a significant role in the outcome. Moreover, whereas some service programs are well-framed and well-managed, others are not. Comparison between such experiences and programs is not only unnecessary but it may even be considered a complete waste of time. As Metz and Youniss (2005) point out, "developmental gains are dependent on several factors that are not controlled when evaluations are done on a potpourri of schools or service programs" (p. 415). The question then becomes *What are those factors*?

A study conducted by Billig, Root, and Jesse (2005) focusing on the relationship between participation in service-learning activities and civic engagement, academic and civic knowledge, and skill acquisition among high school students examined whether specific variables like program quality and instructional practices had an influence on the outcomes. Two categories of variables were identified through a literature review as potential moderators, and those were characteristics of the teachers and their practices and characteristics of the service-learning experiences. Characteristics of service-learning included "duration, nature and type of service, and quality" (p. 9). Quality was measured by asking teachers and students to rate various aspects of the service-learning experience. Characteristics of teachers were self-reported on a teacher-survey as were their practices, which were categorized as either active (interactive) or passive (traditional) teaching strategies. The Billig, et al. study results did not reflect a statistically significant difference between the levels of civic engagement reported by the two groups, those

that participated in service-learning and those that did not. The authors attribute the results to the wide range of service-learning experiences in which the study participants were involved. The analyses of the variables suggested that the type of service-learning activity (classified as direct, indirect, or civic/political action), the duration of the activity, the quality of the program as reported by the teachers and the students, and the teacher characteristics were all significantly related to the outcomes.

Most of the research on the relationship between service-learning and civic engagement focuses on K-12 and the 4-year institution, neglecting the 2-year college, with the exception of one seminal work produced by the American Association of Community Colleges (AACC). The AACC conducted a study (Prentice & Robinson, 2007) of the relationship between participation in service-learning activities and civic engagement in the community college through a three-year grant, *The Community Colleges Broadening Horizons through Service-learning*, issued by the Learn and Serve American program of the Corporation for National and Community Service. The study focused on eight *Horizons* grantee colleges and four *Horizons* "alumni" grantee colleges, all of which administered pre- and post- civic engagement surveys to selected service-learning and non-service-learning courses between fall 2004 and the conclusion of spring 2006. In addition, seven focus groups were conducted at four of the colleges during the spring and summer of 2006. Ultimately, the study yielded 848 matching pre- and post-test surveys from 424 students, of which 279 participated in service-learning and 145 did not. An analysis of the survey results showed that first-time service-learning students had a statistically greater change in scores from pre- to post-test than the non-service-learning students. The experienced service-learning students also showed a significantly greater change in scores than the first-time service-learning

students. Similarly, there was a significant difference in post-course survey scores among the experienced and first-time service-learning student groups. During the 7 focus groups, 59 participants were asked about any connections they saw between their service-learning participation and their level of civic engagement. The focus group responses suggested that there was a perception that service-learning increased students' knowledge of civic and community needs, students' commitment to continue being involved in the community, and students' understanding of their role as community members. Thus, the *Horizons* study suggests that participation in service-learning may lead to greater civic engagement for community college students. Prentice & Robinson (2007) point out the limitations of this study, mainly revolving around the fact that the AACC did not investigate a number of potentially influential variables, including the type of service-learning activities and the instructors' level of experience and training. The authors go on to suggest that future researchers might consider studying the impact such variables as the duration of time spent participating in service-learning activities and/or the instructors' experience and training might have on the outcomes.

Prentice (2007) rightly notes that the majority of studies on civic engagement focus on K through 12 service-learning programs and she cites this fact to explain how the AACC *Horizons* study added to the existing body of service-learning literature. The *Horizons* study, though, neglected to collect data on a number of important variables that the Billig, et al. study (2005) suggested are significantly related to how much participation in service-learning may influence students' civic engagement.

Therefore, as in the *Horizons* study, I conducted an analysis of the relationship between service participation and civic engagement at a large southeastern 2-year college; in addition, I

also examined the variables identified in the literature as potentially significant moderators on the outcome of civic engagement, namely characteristics related to the teachers' experience and characteristics related to the service-learning experience. This study adds to the existing body of literature on service-learning in the 2-year college by examining the potentially influential variables not considered by the AACC in the *Horizons* study. Most importantly, though, determining what factors influence the efficacy of service-learning in the 2-year college will certainly contribute to our understanding of best practices in service-learning programs in similar settings and will allow for more accurate generalization when the results of this study are compared to the results of other related studies on the subject.

Research Questions and Related Indicators

- Do students that participate in service-learning show greater gains on measures of civic engagement than students in comparable courses who do not participate in service-learning?
    - The following measures of civic engagement were assessed:
        - civic indicators
            - community problem solving
            - active membership in a group or organization
            - regular volunteering for a non-electoral organization
        - electoral indicators
            - regular voting
            - volunteering for political candidates or political organizations

        - political voice indicators
            - contacting officials
            - contacting print media
            - signing email petitions
            - signing written petitions
        - indicators of civic awareness
            - name of chief elected official
            - location of town, city, tribal council meeting
            - names of state and/or national legislators
            - names of community organizations designed to serve specific needs
        - indicators of intention for future participation
        - indicators of comfort with diversity
        - indicators of a willingness to help others
- Do characteristics of the service-learning experience moderate the relationship between service-learning participation and civic engagement?
    - The following characteristics of service-learning were assessed:
        - type of service-learning activity (direct, indirect, or advocacy)
        - duration of the service-learning experience
        - quality of the service-learning experience
        - amount of student reflection

- Do characteristics of the teachers moderate the relationship between service-learning participation and civic engagement?
    - The following characteristics of the teachers were assessed:
        - years of teaching
        - experience teaching service-learning
        - frequency of use of active and passive instructional strategies
        - amount of service-learning training

CHAPTER TWO: REVIEW OF THE LITERATURE

This literature review will provide an overview of the crisis of civic engagement and will explore the argument that service-learning is a logical means to address that crisis. In addition, this review will highlight the relationship between the mission of the community college and civic engagement and will review the empirical and theoretical foundations of service-learning, as they relate to the outcome of civic engagement. Lastly, this review will identify the variables that have been shown in the literature to moderate various student outcomes, and civic outcomes in particular, to provide a rationale for the design of this research.

The Crisis of Civic Engagement

Gottlieb and Robinson (2006) define *civic engagement* as "active participation in the public life of a community in an informed, committed, and constructive manner, with a focus on the common good" (p. 16). Similarly, the Coalition for Civic Engagement and Leadership at the University of Maryland defines *civic engagement* as "acting upon a heightened sense of responsibility to one's communities," which can involve "a wide range of activities," such as "developing civic sensitivity, participation in building civic society, and benefiting the common good" (as cited in Jacoby and Associates, 2009). In the literature, the range of activities used to measure civic engagement varies widely.

The Center for Information & Research on Civic Learning & Engagement (CIRCLE) (n.d.) organizes the indicators of civic engagement into the following four categories based on the work of Keeter, Zukin, Andolina, and Jenkins (2002) in the CIRCLE report entitled *The*

Civic and Political Health of the Nation: A Generational Portrait: civic, electoral, political voice, and attentiveness. These categories are designed to reflect the myriad of ways people "can contribute to public life" (Lopez, Levine, Both, Kiesa, Kirby, Marcelo, 2006, p. 6). According to CIRCLE (n.d.), *civic indicators* include community problem solving, regular volunteering for non-electoral organizations, active membership in a group, and participation in fund-raising; *electoral indicators* include voting, persuading others, contributing to campaigns, volunteering for candidates or political organizations, and displaying buttons, signs, and stickers; *indicators of political voice* include protesting, signing e-mail petitions or written petitions, boycotting or buycotting, canvassing, and contacting officials through print media or the broadcast media; and *attentiveness indicators* include following government and public affairs, talking about current events or politics with friends or family, watching televised news, listening to the news on the radio, and reading the news in a newspaper, in a news magazine, or on the Internet.[1]

Most researchers measuring civic engagement use some variation of CIRCLE's indicators. For example, Lopez and Brown (2006) identified the following as activities indicative of civic engagement: volunteering in the last year, belonging to a club or team, registering to vote, voting in a local, state, or national elections within the last year, voting in the most recent Presidential election, regularly reading the newspaper, and regularly viewing televised news. In a report authored by Billig, Root, and Jesse (2005), civic engagement was measured according to the frequency students reported having engaged in the following activities: "discussing politics with friends, families, or teachers, participating in rallies or going to political or civics lectures, and following the news" (p. 24). Putnam (2000) divides his discussion of activities

[1] CIRCLE's indicators of civic engagement: http://www.civicyouth.org/practitioners/Core_Indicators_Page.htm

demonstrating civic engagement into the following groups: participation in elections, participation in campaign activities, participation in partisan activities, communal participation, and public expression. Based on the Roper Social and Political Trends surveys 1973 - 1994, Putnam defines these groups as follows: participation in elections is relatively straightforward and measured through self-reported voting activities in both local and national elections; participation in campaign activities include working for a political party or having attended a political meeting; partisan activities include running for or holding office and attending political rallies or speeches; communal activities include attending public meetings on community or school affairs, serving as an official in some club or organization, serving on a committee for some community or neighborhood organization, or serving as a member of any group interested in bettering the government; public expression includes the signing of petitions, the writing of letters to public officials or to newspapers, the delivery of speeches, and the writing of an article for publication.

The Student Civic Engagement Survey (Gottlieb & Robinson, 2006) used in this study contains questions measuring several of CIRCLE's (n.d.) indicators in the civic, electoral, and political voice categories. The civic indicators addressed are "community problem solving" in questions 13 and 14, "active membership in a group or association" in question 11, as well as "regular volunteering for a non-electoral organization" in questions 1 and 2. Electoral indicators addressed include "regular voting" in questions 3, 4, and 5 and "volunteering for candidates or political organizations" in questions 16 and 17. The political voice indicators addressed include "contacting officials" in questions 6 and 15, "contacting the print media" in question 6, "email petitions" in question 8, and "written petitions" in question 7. The Student Civic Engagement

Survey does not address indicators of attentiveness, but it does include several awareness questions that CIRCLE neglects, namely questions pertaining to participants' knowledge of the name of their community's chief elected official (question 9), the location of their town, city, or tribal council meeting (question 10), the names of their state and/or national legislators (question 12), and the names of community organizations designed to serve specific needs like homelessness (question 20). In addition, the Student Civic Engagement Survey also measures students' intentions to participate in various aspects of community life in the future in questions 19 and 21, measures students' comfort with diversity in question 18, and presents a hypothetical situation to measure students' willingness to help a person in need in question 20, a behavior surprisingly absent from CIRCLE's comprehensive list of indicators. Thus, the Student Civic Engagement Survey includes question prompts designed to assess the following civic engagement indicators: civic indicators, electoral indicators, political voice indicators, indicators of civic awareness, indicators of future action, indicators of desire to help others, and indicators of comfort with diversity.

Despite the differences in the definition of civic activities and behaviors, the research of the last few decades overwhelmingly suggests a decline in the civic engagement of the American citizenry, and many fear that this downward trend will have far-reaching and devastating consequences. For example, a 1988 report authored by the National Commission on Civic Renewal articulated this fear thusly:

> Too many of us have become passive and disengaged. Too many of us lack confidence in our capacity to make basic moral and civic judgments, to join with our neighbors to do the work of community, to make a difference . . . In a time

> that cries out for civic action, we are in danger of becoming a nation of spectators. (as cited in Gottlieb and Robinson, 2006, p. 6)

The research suggests that we are steadily getting closer to realizing this prophecy.

The work of Astin (1998), analyzing the survey responses of students over the course of three decades, suggests that students are more concerned with their career interests than they are the common good. Long (2010) found that higher education's effect on voter registration and political participation has diminished over the past three decades. Roper Social and Political Trends surveys also indicate that between 1973 and 1994, there had been a marked decrease in almost all aspects of civic engagement, for example, a decrease in voter turnout by a quarter, a decrease in interest in public affairs by a fifth, and a decrease in attendance at one or more public meetings by 40% (Putnam, 2000). Whereas in 1973 most Americans engaged in at least one of the 12 civic activities measured in the study, in not more than two decades the landscape changed to one characterized by almost no participation at all: most people didn't even engage in one such activity in 1994 (Putnam, 2000). In *Bowling alone: The collapse and revival of American democracy*, Putnam (2000) asserts that the research between 1973 and 1994 reflects the virtual evaporation of America's civic infrastructure. Moreover, longitudinal data mapping changes in students' civic behaviors and values, collected from the Cooperative Institutional Research Program and the Higher Education Research Institute between 1985 and 1994, showed that while volunteerism and community service among college students have increased, political participation has decreased significantly (Sax, 2000). Volunteerism appears to be the only area in which the youth of today have shown improvement; this is also reflected in the results of a study conducted by Flanagan, Levine, and Stetterson (2009) (Flanagan & Levine, 2010).

Young people today volunteer more than students of the 1970s, but they are less likely than their counterparts to exhibit the other nine of ten characteristics of citizenship: "belonging to at least one group, attending religious services at least monthly, belonging to a union, reading newspapers at least once a week, voting, being contacted by a political party, working on a community project, attending club meetings, and believing that people are trustworthy" (Flanagan & Levine, 2010, p. 161). While the high numbers of volunteerism and the low numbers of civic engagement may seem somewhat contradictory, the impetus to volunteer may be more selfish than it is selfless. With the vastly increased competition in college admissions and the job market over the past decade or so, gaining hours in volunteer work and community service has become almost a necessity. Students may be signing up at the local soup kitchen to add a bullet to their resumes, rather than to contribute to the public good.

In *Democracy and Education*, Dewey (1916) argued the importance of civic engagement in realizing the potential of the American citizenry in a democratic society. Similarly, in the tradition of John Dewey, W.E.B. Dubois, and Jane Addams, Giroux and Giroux (2004) describe "an educated and active citizenry" as "indispensable for a free and inclusive democratic society" (p. 4), further arguing that "democratic politics requires the full participation of an informed populace" (p. 4). Dewey believed that education for citizenship "was an essential condition of equality and social justice and had to be provided through public and higher education" (Giroux & Giroux, 2004, p. 7). In a 1985 Carnegie Foundation Report, Frank Newman described "education for citizenship" as the "most important responsibility of the nation's schools and colleges" (as cited in Erlich, 2000, p. vii). In fact, Newman went on to argue that decreasing test scores was not the real crisis in the educational system in the United States; rather, it was "that

we have failed to provide . . . education of citizenship" (as cited in Erlich, 2000, p. vii). Although this warning was issued over a quarter century ago, the problem persists.

Recent research indicates that young Americans are civically disengaged. For example, the *2006 Civic and Political Health of the Nation* report published by the Center for Information and Research on Civic Learning and Engagement (CIRCLE) found that 58% of the over 1,700 15 to 25 year olds surveyed met their criteria for being civically "disengaged"; such individuals reported having engaged in only 2 of the 19 forms of civic engagement measured in the survey. The 2006 CIRCLE report further found that 17% of the population met the criteria for being "highly disengaged"; such individuals reported having done none of the 19 forms of civic engagement. Given these statistics, it is not surprising that recent literature reflects a renewed focus on the role that higher education should play in the development of students' civic engagement (Colby et al., 2003; Erlich, 2000; Girioux & Girioux, 2004; Putnam, 2000).

Clearly, civic engagement is not guaranteed to exist in a democratic society. Since panel studies have already shown the ages between late adolescence and early adulthood to be particularly important for the development of civic habits and values (Jennings & Stoker, 2001, as cited in Colby, et al., 2007, p. 3), institutions of higher education seem an appropriate vehicle for this very important work.

The Community College and Civic Engagement

The educational system has a responsibility to promote and nurture students' civic engagement, which is, clearly, essential for the functioning of our democracy. This is *especially* true at community colleges because of their democratizing mission and their unique student

body, which is traditionally made up of individuals from ethnic and racial minority groups and/or lower socioeconomic status, namely those who are most likely to be civically disengaged (Boyte, 2003; Delli Carpini & Ketter, 1996, as cited in Boyte, 2003; Lien, 1994; Foster-Bey, 2008; Walsh, Jennings, & Stoker, 2004).

Cohen and Brawer (2003) note that one reason for the inception of the junior or community college was the traditional American desire for equity, our dedication "to the belief that all individuals should have the opportunity to rise to their greatest potential" (p. 10) regardless of race, gender, ethnicity, socioeconomic status, or upbringing. Pedersen (2000) similarly emphasizes this role of the community college, arguing that the creation of the community college reflects a "national movement intent on fundamentally transforming an elitist higher education into a democratic and socially-efficient system of advanced learning" (as cited in Cohen and Brawer, 2003, p. 11).

Some consider the university system elitist and discriminating in the sense that its high tuition rates effectively restrict admittance to predominantly the economically advantaged. In 1967, the educational system was so plagued by the disease of inequity that Dr. Martin Luther King Jr. described what he hoped the job of the school in the future would be as follows: "to teach so well that family background is no longer an issue" (King, 1968, p. 204). Despite significant improvements in the forty years since King's statement, inequity is still a pervasive problem in education, as evidenced by the need for federal legislation like the 2002 No Child Left Behind Act, to attempt to address what Jonathan Kozol (2005) describes as "America's Educational Apartheid" (para. 1). Adrienne Mack-Kirschner (2007) astutely surmises: "This is the land of great opportunity, but it is not equal opportunity for everyone" (p. 12). In the tradition

of Dewey, the community college, with its open door policy and low cost tuition rates, has at least as its theoretical framework the notion that education should be made available to anyone with the desire to learn.

The community college system has worked diligently over the past forty years to meet President Emeritus of the American Association of Community Colleges, Edmund J. Gleazer's challenge to "[make] good on the implied promise of the open door" (as cited in Roueche & Roueche, 1993, p. VII) and to secure the democratic ideal of equal opportunity to education for everyone. Consequently, community colleges attract students from a larger segment of the population than the traditional four-year institution of higher learning. As a result of the community college's commitment to access, students that attend community colleges come from varied backgrounds, ethnic, racial, and socioeconomic, with different levels of preparedness and diverse goals, such as securing job skills, bettering careers, and transferring to four-year institutions. Students with baccalaureate ambitions often choose to attend community college because they are unprepared for university studies, they have families and/or demanding work schedules, they have not met admittance requirements for four-year institutions, and/or they face financial challenges and cannot afford the often exorbitant tuition fees of traditional universities. Roueche & Roueche (1993) argue that increasingly open-door community colleges become the chosen path for the "at-risk" student, whom they define as the student that is "not only underprepared for college, but who [is] also working 30 hours each week, who [has] little if any support from key family members, who [is a] first-generation college [attender], who [has] what some have described as 'failure expectations,' and who [has] little academic success as [he or she] [begins] [his or her] postsecondary experience" (p. 1). The typical community college

student can be expected to lack familial support, have low self-efficacy levels, and be academically weak; in addition, community colleges have a large number of minority students, many of whom are economically insecure.

Whereas some ethnicities are underrepresented in universities, the reverse seems to be true of community colleges. According to the National Center for Educational Statistics, in 1997 community colleges enrolled "46 percent of . . . [American] ethnic minority students" (as cited in Cohen & Brawer, 2003, p. 46). Victor B. Saenz (2002) argues that community colleges "represent the frontline in educating students from diverse backgrounds, as America's 1,076 public community colleges educate over half of all minority students in higher education" (para. 3). The largest minority group represented in community colleges is the Latino population, with "55 percent of all Hispanic students" enrolling in two-year institutions (Saenz, 2002, para. 3). The *2006 Civic and Political Health of the Natio*n report showed that those that were classified as "highly disengaged" were more likely to be Latino or immigrant and less likely to have college-educated parents. A study on undocumented Mexican students showed that those with higher levels of academic achievement were more likely to be civically engaged (Perez, et al., 2010). Given the disproportionally high percentage of Hispanic students, first-generation college students, immigrant students, and underprepared or academically at-risk students currently enrolled at community colleges across the nation, civic education seems more necessary in community college than any other institution of higher learning.

It has long been understood that positive correlations exist between socioeconomic status and political participation (Walsh, Jennings, & Stoker, 2004) as well as between acculturation and political participation (Lien, 1994). Similarly, an analysis of the demographics of the 2005-

2007 *Current Population Survey's Annual Volunteer Supplement* indicates that race, ethnicity, and citizenship status strongly influence civic engagement (Foster-Bey, 2008). Nie, Junn, & Stehlik-Barry (1996) note, "The long-recognized and stubborn relationship in the United States between social class and political participation has been referred to as the 'best-documented finding in American political behavior research'" (as cited in Flanagan & Levin, 2010, p. 164). In fact, civic learning opportunities, like most opportunities, appear to be divided along racial and socioeconomic lines (Boyte, 2003). And as Boyte (2003) notes, "Those who most need power which is derived from political skills and knowledge are those who are least likely to gain such knowledge and skills" (p. 87). According to the research of Delli Carpini & Ketter (1996) only one out of three members of the poorest socioeconomic class in American society can accurately describe the attitudes of Republicans and Democrats concerning government spending. In contrast, almost all of the members of the wealthiest class can articulate the differences between the two parties (Delli Carpini & Ketter, 1996, as cited in Boyte, 2003). Community colleges, with their high numbers of minority students, first and second-generation immigrant students, first-generation college students, and students of lower socioeconomic status, are in a unique position to correct these imbalances.

I contend that to truly serve as a catalyst for equity in American society and to come closer to fulfilling its democratizing mission, the community college must not only open its doors to all who want to learn, but it must also help empower its often socially, economically, and/or academically disadvantaged students to become civically engaged, to become active participants in shaping their democratic society, and to continue to be so after graduation. As Hinchey (2010) astutely noted, our forefathers understood the necessity of citizenship education

for the disadvantaged: “Jefferson (1821) early argued that education would be especially urgent for the less wealthy to ensure that, as citizens, they ‘would be qualified to understand their rights, to maintain them, and to exercise with intelligence their parts in self-government’” (Jefferson, 1821, para. 6, as cited in Hinchey, 2010, p. 35). Community colleges have an opportunity to help achieve Jefferson’s vision.

As Barnett (1996) points out, community colleges “are, after all, of, by, and for the communities in which they dwell,” and, thus, they can play “a unique role in their own communities,” perhaps “more than any other segment of American higher education” (Barnett, 1996, p. 7). Given the important role community colleges can play in this regard, it is surprising that few research studies examining civic engagement focus on community colleges.

Service-Learning as Panacea

According to Myers-Lipton (1998), 1967 marked the first major endeavor of service-learning, a program started by the Southern Regional Education Board (SREB). The goal of the SREB program was “to connect higher education to community efforts for social and economic change” (p. 244) through the placement of college students in internships with local community programs. Unlike volunteer service, the SREB program integrated service into the curriculum with specific educational goals. In the 1970s, a program called University Year for Action (UYA), which offered thirty credits in exchange for a year of service in local community organizations focused on the social issue of poverty, was enacted on several college campuses (Myers-Lipton, 1998). In the 1980s, college students formed the Campus Opportunity Outreach League (COOL), whose goal is “to strengthen, through service and in an environment of

diversity, the capacity of students for sustained thoughtful action, and to foster a student voice in the community to address the challenges we face as a society" (Campus Opportunity Outreach League 1993:2, as cited in Myers-Lipton, 1998, p. 244). By the late 1990s, COOL included participation from over 600 colleges and universities across the nation (Meyers-Lipton, 1998). Service-learning has enjoyed widespread adoption since concern over the lack of civic skills, knowledge, and engagement among our youth surfaced.

Elizabeth Hollander in the foreword to Dan Butin's (2010) *Service-learning in Theory and Practice* notes that we have seen a renewed interest in reasserting the civic agenda of colleges and universities over the past 25 years and that much of that interest has manifested in the development of service-learning courses and programs. Whereas only 27% of schools offered community service opportunities in 1984, 83% offered such opportunities in 2000 (Westheimer & Kahne 2000, as cited in Battistoni, 2000, p. 31). We've also seen exponential growth in the membership of the Campus Compact, a coalition of college presidents across the nation who are committed to the civic mission in higher education (Hollander, as cited in Butin, 2010). The Campus Compact, which had a membership of only three colleges in its founding year of 1985, grew to a membership of over 300 in the mid- 1990s (Myers-Lipton, 1998), to over 1,100 in 2008 (Hollander, as cited in Butin, 2010). Ninety percent of the colleges participating in the Campus Compact in 2008 provided students with service-learning opportunities (Hollander, as cited in Butin, 2010).

Likewise, we have seen similar growth in the service-learning opportunities at community colleges. Service-learning in the community college gained momentum in the late 1980s with the publication of an important report. In 1986, the AACC responded to four decades

of exponential growth in community college enrollment by appointing the Commission on the Future of Community Colleges and tasking the Commission with developing recommendations to assist community colleges in progressing into the 21st Century and meeting the needs of this ever growing population (Barnett, 1996). The Commission spent eighteen months studying the literature, visiting campuses, and holding public hearings, which culminated in the publication of a report entitled *Building Communities: A Vision for a New Century* (Barnett, 1996). One of the fundamental recommendations included in the report was that "'all community colleges encourage a service program at their institution, one that begins with clearly stated educational objectives' and 'that students participating in service programs be asked to write about their experience and to explore with a mentor and fellow students how it related to what they have been studying in the classroom'" (Commission on the Future of Community Colleges, 1988, p. 12, as cited in Barnett, 1996, p. 7). Community colleges across the nation have taken the Commission's encouragement seriously. Currently, over 60% of all 2-year colleges offer service-learning courses or internships, according to three national surveys conducted by the AACC (2006) (as cited in Jacoby and Associates, 2009, p. 17), and the majority of community colleges in the nation have identified civic engagement as a goal of their general education programs (Hart Research Associates, 2009).

Further evidence of this renewed interest in the civic mission of higher education can be found in the many universities and colleges receiving significant endowments for service-learning and civic engagement programs or projects. For example, Duke University received $15 million to start the Duke Center for Civic Engagement (Hollander, as cited in Butin, 2010). Even ranking and classification schemes have begun to acknowledge civic and service-learning. In

2006, for instance, the Carnegie Foundation for the Advancement of Teaching created a new designation, "institutions of community engagement," and both *US News and World Report* and *Washington Monthly* now rank colleges according to the service-learning opportunities they provide for their students (Hollander, as cited in Butin, 2010).

Empirical Research on Service-learning. The notion that service-learning can be an effective teaching tool for developing students' civic engagement is substantiated by a number of studies and researchers. Bringle and Steinberg (2010) argue that civic education is an "explicit goal" of service-learning: "service-learning is not only about 'serving to learn,' but also about 'learning to serve'" (p. 428). Bringle (2005) argued that service-learning is an effective pedagogical tool to enhance not only students' discipline learning, but also their interpersonal skills, their interest in volunteerism, their participation in politics, and their civic engagement (as cited in Levesque-Bristol, Knapp, and Fisher, 2010). Fiume (2009), similarly, argued that service-learning "appears to provide a pedagogical framework capable of maximizing the learning process and promoting civic engagement and democratic collaboration in college classrooms by connecting the campus to the community within the context of specific curriculum" (p. 78). Much empirical research supports Bringle and Fiume's arguments.

Sax (2004) examined changes in college students' civic values and behaviors over time through the analysis of national survey data gathered by the Freshman Survey, the annual nationwide survey conducted by the Cooperative Institutional Research Program (CIRP) at the Higher Education Research Institute (HERI), University of California, Los Angeles. CIRP collected data on 12,376 college students from 209 institutions three times over a nine-year period (1985, 1989, and 1994). Sax (2004) found that three aspects of college experience

positively influenced students' sense of civic responsibility: the amount of time students spend involved in religious services or meetings (positively influenced all three citizenship outcomes), whether students performed volunteer work during college years (positively influenced students' commitment to social activism and involvement in the community after college), and whether students socialized with others of different ethnicities and races (influenced sense of empowerment and involvement in their community after college). While Sax did not specifically focus on students involved in service-learning courses or programs, her results are significant in that they show a correlation between volunteerism in college and community involvement after college. While volunteerism may influence the likelihood that students will continue to be civically engaged post-college, several empirical studies show that the gains in civic engagement are even larger for students participating in comprehensive service-learning programs and courses as compared to students involved in service that is not formally integrated into academic course work, like volunteering.

For example, Myers-Lipton (1989) first analyzed the relationship between participation in a particular two-year comprehensive service-learning program (CSL) at a large Western university and students' level of civic responsibility. Then the author compared the levels of civic responsibility found in the group involved in CSL to the levels of civic responsibility of two other nonequivalent control groups: a group of students who were involved in community service projects that were divorced from formal academic coursework and a group of students who were not involved in any community service. A description of the rigorous two-year SL program may help us understand the criteria Myers-Lipton used to identify it as "comprehensive." The CSL group's beginning activities involved staying at a homeless shelter

for a week, visiting local organizations providing social services to the homeless, and serving in one of the organizations that they visited. Following these beginning activities, students traveled to Arizona and spent two weeks living with a Navajo family. The CSL students then took a semester long course in the first year of the two-year program entitled "Facilitating Peaceful Community Change," which explored such topics as leadership, social theory, and group dynamics. That course, as well as the additional three courses in the program, included a service-learning lab for two hours each week, during which time students participated in community projects at local organizations. Reflections were integrated throughout the program in the forms of discussions and journaling. The following semester, the students took an additional course called Community Problem-Solving. During the summer between the first and second years of the program, the students spent a month in Jamaica working on an extensive service-learning project at the Mustard Seed Community Development Center. The following two semesters in the second year, the CSL students took the courses Democracy and Nonviolent Social Movements and Global Development respectively. The research design included two control groups: one consisting of students involved in non-academic community service and one consisting of students who were not involved in any service activities. The non-academic community service group was labeled the" Service No Learning" group or SNL and the students in that group were drawn from the Volunteer Clearing House, a student organization that places student volunteers in local agencies. No formal curricular connection was forged between the community service these students were involved in and their academic coursework. The other control group was called the "No Service" group or NS and was drawn from the general student population. The author used three different instruments to measure civic responsibility, all tested

for reliability and validity, including a Civic Behavior Scale, a Locus of Control- Societal Scale, and a Civic Responsibility Scale, a variation of the Social and Personal Responsibility Scale (SPRS) used by Conrad and Hedin in their 1988 study on experimental education and social attitudinal change. Analyses of the pre- and post-test results showed that the CSL students experienced larger increases in civic responsibility than both control groups, and while the CSL group appeared to grow more concerned about their civic responsibility over the course of the 2-year SL program, the NS and SNL students grew less concerned over the same period, despite the fact that the SNL group continued to volunteer in the community over the course of that time. Thus, the study results appear to indicate that while volunteering may be advantageous for students' civic responsibility, the positive effects can be heightened when those service experiences are integrated into the curricula in a formal and comprehensive manner.

Conrad and Hedin (1989) studied the relationship between social responsibility and specific experimental educational programs, including outdoor education, career internships, and service-learning, in nine high schools (as cited in Myers-Lipton, 1998). The authors analyzed the pre- and post-SPRS assessment data of 600 study participants organized into experimental and control groups. SPRS was used to measure the development of students' social concern for others, social efficacy, and sense of personal duty. The results indicated that the experimental programs had a positive effect on all of these elements, leading the authors to argue, "Despite the inevitable differences between specific programs, there was a strong and consistent showing of positive impact among the experimental programs as a whole" (Conrad & Hedin, 1989, p. 19, as cited in Myers-Lipton, 1989, p. 247). Empirical research results examining civic engagement have been more specifically attributed to participation in service-learning courses and programs

in several studies (Bush & Harden, 2011; Campbell 2000; Eyler et al., 2001; Metz & Youniss, 2003, as cited in Metz & Youniss, 2005; Metz, McLellan, & Youniss, 2003; Myers-Lipton, 1989; Newmann and Rutter, 1983, as cited in Myers-Lipton, 1989; Prentice, 2007).

Bush and Harden (2011), for example, investigated the relationship between participation in service-learning activities involving the homeless and students' civic attitudes and desire to "make a difference." The students at the University of North Carolina in Chapel Hill formed a chartered student organization called Niner Neighbors to serve the homeless population in the community. Unlike other student organizations, Niner Neighbors was academically linked to service-learning courses at the University and students earned experiential credit for their volunteer participation in the student organization. A subset of Niner Neighbors volunteers consisting of 114 students participating in an elective service-learning course titled Citizenship and Service Practicum over the course of three years, between 2008 and 2010, served as Bush and Harden's study participants. A retrospective case study design was implemented to measure changes in students' perceptions and attitudes. The end of course assessment responses indicated that the service-learning component not only raised awareness of and changed attitudes and stereotypes about homelessness, but it also showed that participation in the program increased students' desires to continue to try to effect change. In terms of civic attitudes, students reported at the conclusion of the course that they believed that people "should give some time for the good of their community or country," that "regardless of whether they've been successful or not, [they] ought to help others," and that "It is important to help others even if [one doesn't] get paid for it" (p. 57). According to the authors, "the findings showed that through real-world

engagement with the real-world problem of homelessness, Niner Neighbors promoted positive civic attitudes and student desire to 'make a difference'" (p. 58).

Similarly, Prentice (2007) provides statistical evidence to support the connection between participation in service-learning and students' civic engagement in the community college. Prentice's study tested the hypothesis that "students who participate in service-learning would demonstrate more civic engagement than students who do not participate in service-learning" (p. 141). Eight AACC selected community colleges participated in a grant project *Community Colleges Broadening Horizons through Service-learning* between 2004 and 2006. Each college selected two classes, either two that had service-learning as an option or one that required participation in service-learning and one that did not. Pre- and post-course civic-engagement surveys were administered to the students in each class during the fall semester of 2004 and the spring semester of 2005. The 2004 survey results of those that participated in two or more college classes including service-learning and participants that had not taken any classes including service-learning were compared using a one-way ANCOVA. The non-service-learners scored statistically lower than the service-learners on the post-survey. The 2005 results similarly revealed a statistically significant difference between the service-learners and the non-service-learners. An analysis of the survey data suggested that participation in service-learning may have positively influenced students' levels of civic engagement. Unfortunately, the research on service-learning and civic engagement does not *consistently* yield positive results.

Several studies do not yield statistically significant data to support the correlation between participation in service-learning and civic engagement (Billig, Root, & Jesse, 2005; Brandes and Randall, 2011; Levesque-Bristol, Knapp, and Fisher, 2010; Rutter & Newman,

1989, as cited in Johnson & Notah, 1999). Brandes and Randall (2011), for example, analyzed data collected from 34 university students participating in an intensive semester-long service-learning project to determine whether participation in service-learning enhanced the students' civic responsibility. The authors used pre- and post-assessments to measure students' civic responsibility: the Civic Attitudes Scale (Mabry, 1998) and the Civic Action Scale (Moely et al., 2002). When the data were analyzed using traditional methods, paired dependent *t* tests and repeated ANCOVA measures, the results were not significant; however, when using growth curve analyses, the results were significant, reflecting significant interindividual differences and interindividual changes in both civic attitudes and civic action. The authors also controlled for certain variables, like race, self-esteem, year in school, and previous service-learning or community service experiences either inside or outside the classroom. The study results suggest that previous non-classroom service-learning experience is a good predictor of students' level of civic action and civic attitudes. However, those with the higher levels of civic responsibility at the time of the pre-test showed less change between pre- and post-assessment. Those reporting no previous service experiences showed the greatest changes. Limitations of the study, which the authors argue may have contributed to the lack of statistical significance using traditional methods, include its short duration and small sample size.

However, Levesque-Bristol, Knapp, and Fisher (2010) studied a large sample of subjects who participated in a service-learning experience of a longer duration than Brandes and Randall and similarly reported no statistical significance. The authors surveyed over 600 undergraduate students enrolled in service-learning courses spanning more than 30 distinct disciplines at Missouri State University in 2006 to determine whether specific components of the learning

environment affected the development of students' motivation, students' civic engagement, and students' achievement of learning outcomes. The selected components were based on the model developed by Levesque, Sell, and Zimmerman in 2006, and included "the participants (students as well as the instructor), the context, the course content, the objectives of the class, and the strategies used to increase student learning" (p. 210). Levesque-Bristol, Knapp, and Fisher's aggregate results "did not support the global hypothesis of the positive impact of service-learning" (p. 215). In other words, an analysis of the entire sample reflected no significant increases in any of the forms of motivation or civic skills measured. The authors argued, though, that such results may be misleading given that certain components of the service experiences *did* have a statistically significant positive effect on the outcomes measured, including civic engagement. The components that the authors identified as influencing service-learning's positive impact on civic engagement were the following: type of involvement with the target population and the importance of reflection in journals and assignments. In particular, the students who were directly involved with the recipients of the service compared to those that were indirectly involved showed significantly higher levels of the model's forms of motivation and significantly higher scores on the civic inventory. Students who were enrolled in courses in which the instructor emphasized the importance of the reflection journals and assignments also scored higher on the various motivation and civic action scales. The study suggests "when evaluating the effectiveness of service-learning as a teaching tool, it is very important to examine the factors in the application of service-learning that enhance the learning environment and thus lead to desirable educational outcomes" (p. 221). This is precisely what this research study aimed

to do: examine the factors in the application of service-learning that may lead to the outcome of civic engagement.

In summary, the research related to the relationship between service-learning participation and civic engagement is inconclusive, and many attribute the contradictory findings to the diversity in the service experiences themselves. Service-learning activities can vary in terms of duration, quality, reflection, and type. In addition, there are teacher characteristics that may moderate the outcomes as well. The next section of the literature review will explore these variables.

Variables Associated with the Efficacy of Service-learning.

Reflection. Service-learning is a form of experiential education in that learning occurs through participants' active involvement in and meaningful reflection on a service experience. The Association for Experiential Education (2012) identifies the following as a fundamental principle of experiential education practice: "Experiential learning occurs when carefully chosen experiences are supported by reflection, critical analysis and synthesis" (AAEE, 2012). Similarly, Kolb (1984) recognizes reflection as a key component of experiential learning. In fact, Kolb's Experiential Learning Cycle involves four stages and maps the learner's progression from stage one, *concrete experience* or the active experience, to stage two, *reflective observation*, to stage three, *abstract conceptualization* or the formation of abstract concepts, and finally to stage four, *active experimentation* or the testing of those concepts in new situations. At its most distilled point, Kolb's Model of Experiential Learning asserts that the learner can translate experience into concepts through reflection.

Reflection is a recurrent theme in the literature of service-learning and, in fact, is often cited as part of its definition (Bringle and Hatcher, 1995, as cited in Butin, 2010). Moreover, the research suggests that the frequency and quality of reflective practices are significant moderators for various cognitive and affective outcomes of service-learning participation (Blythe, Saito, Berkas, 1997; Eyler & Giles, 1999; Eyler, et al., 2001).

Blyth, Saito, and Berkas (1997), for example, surveyed 369 sixth through twelfth grade youth from 10 different service-learning programs to determine the characteristics of service experiences. Not surprisingly, the authors found great variety in the nature of the service, the hours of the service, the length of the service programs, and the amount and nature of reflection activities. They also examined certain program characteristics to determine whether they increased the impact of the service-learning programs. The authors found that the amount of reflection was "related to 7 out of 13 indicators of change reported" (p. 51). Changes were reported in participants' attitudes about social responsibility, measured across three domains: "environmental issues, civic involvement, and service to others" (Blythe, Saito, and Berkas, 1997, p. 48). Those that did not reflect on their experience "were more likely over time to express less socially responsible attitudes toward the environment, toward civic involvement, and toward serving others and they were also less likely to report the intent to help others or the environment in the future" (p. 51). The authors, thus, contend that there is strong evidence to suggest that the amount of the reflection activities was related to the desired outcomes.

Duration of service. Service programs can range in length from an afternoon to a year or even several years. The research indicates that the shorter the duration of the activities, the less likely the service will affect desired outcomes. For example, in several studies that reflected no

impact of service-learning on attitudes toward civic participation (Clayton-Pedersen, Stephens and Kean, 1994; Kraft and Krug, 1994), the authors suggested that the brevity of the service experiences may have not allowed for the desired impact on measured outcomes (as cited in Eyler and Giles, 1997). A landmark study conducted by Conrad and Hedin (1980) on high school students found that the duration of the experience was, in fact, significant (as cited in Eyler and Giles, 1997). Much empirical research suggests a correlation between the duration of the service and various non-civic student outcomes (Eyler et al., 2001). The thorough literature review authored by Eyler et al. (2001) identified "duration and intensity of service" (p. 6) as one of the characteristics that the research indicates affects student outcomes. Several studies support the relationship between duration of service and civic outcomes as well. For example, Blythe, Saito, and Berkas (1997) divided the ninth grade participants' survey data into three groups in terms of how many hours the students' reported having spent in service activities: less than 20 hours, between 20 and 40 hours, and more than 40. The authors found that the participants that reported having spent more than 40 hours involved in service activities showed a greater increase in social responsibility for civic involvement. Billig, Root and Jesse (2005) note similar findings: students having longer experiences showed greater gains in civic knowledge, civic dispositions, and efficacy scores. As Eyler and Giles (1997) note, the impact that duration has on the outcomes may be due to the fact that the longer experiences are more likely to involve greater opportunities for and more variety in service activities and may not necessarily be due to the time frame itself. Eyler and Giles, thus, argue "there is a need for more research linking objective assessments of the structure of programs and experiences within programs to desired outcomes" (1997, p. 69).

Quality of service. Students will necessarily experience service differently because of the attitudes and behaviors they bring with them to the experience. Much research suggests that their perception of the quality of the experience is a strong predictor for various outcomes. For example, the work of Conrad and Hedin (1980) showed that the students' perception of the quality of their service experience was the "most powerful predictor of students' personal and social development" (Eyler and Giles, 1997). Bringle, Hatcher, and Muthiah (2010) found that the relationship between service-learning participation and college students' retention was mediated by students' perceived quality of the experience. Quality of service has also been linked to civic outcomes. For example, in Eyler and Giles's (1995) Comparing Models study, students' perception of the quality of the experience was a significant predictor of growth in social responsibility and citizenship skills (as cited in Eyler and Giles, 1997).

Type of service. Because service experiences can vary immensely, several classification systems have emerged in the literature. For example, Butin (2010) notes that service-learning can be classified as "academic," "community-based," or "field-based" (p. 5). Johnson and Notah (1999) classify service-learning activities according to the level of interaction students have with the recipient(s). The authors define *direct service* as "service activities in which participants are actively involved in a way that requires face-to-face interaction(s) with the recipients of project effort(s)" (Johnson & Notah, 1999, p. 454). Examples would include such activities as tutoring younger children or visiting seniors in nursing homes. *Indirect service* is defined as "service activities in which the participants do not have direct contact with those who benefit from their service" (p. 454), for example, collecting and donating funds or food to charity organizations. And finally, *advocacy service* is defined as "service activities in which participants do not

provide financial aid or goods to the administering individual, group, or agency, nor do they have direct contact with the recipients; rather, they raise awareness of an existing need or issue by advertising it, to motivate community or individual action" (p. 454). An example of an advocacy service might include students distributing materials to propose community adoption of a new recycling program. Like Johnson and Notah, Billig, Root, and Jesse (2005) use the *direct* and *indirect* classifications with almost verbatim definitions, but replace *advocacy service* with *political or civic action*, which denotes "activities intended to influence political institutions or processes, e.g., circulating a petition, organizing a community forum" (p. 35). The use of the term "political" here, in my opinion, is far too limiting and would necessarily exclude activities designed to raise awareness for a non-political but civically-minded goal; and thus, I've chosen to use Johnson and Notah's descriptors in my research design.

Like reflection, duration, and quality, type of service experience, as defined by the level of interaction participants have with the recipients, has been shown to be a strong predictor for the achievement of various outcomes. For example, Billig, Root, and Jesse (2005) found that the students involved in direct service, such as tutoring, were more likely to be attached to their communities, whereas the students involved in indirect service, such as fundraising, were more likely to show higher gains in academic engagement. Finally, those involved in political or civic action, such as circulating a petition, showed the highest scores on civic knowledge and civic disposition. Although Johnson and Notah's (1999) study of eighth graders failed to reveal significant results, the groups that received direct and indirect service showed far greater increases in mean scores on the Junior Index of Motivation, measuring self-esteem and

responsibility, than did the advocacy group. Clearly, more research is needed to determine the impact type of service has on civic outcomes.

Teacher characteristics. Billig, Root, and Jesse (2005) found a significant relationship between certain teacher characteristics and civic outcomes among high school students. For example, the number of years that a teacher had been teaching was significantly related to civic skills and civic dispositions, as well as other non-civic-oriented outcomes. Likewise, the teachers that were more experienced using service-learning were also significantly more likely to have students with higher civic knowledge, civic dispositions, and efficacy scores. These are certainly not startling results given that we would expect a teacher's experience and comfort level with the material to influence how well her students achieve the desired outcomes. Few studies, however, focus on the impact of teacher characteristics on civic outcomes of service-learning in the 2-year college.

Instructional practices. Active instructional strategies are traditionally defined as instructional strategies that promote active learning, which is learning that involves a high level of student participation or students' active engagement in course materials and information (Bonwell and Elison, 1991; Chickering and Gamson, 1987). Bonwell and Elison (1991), for example, propose that "strategies promoting active learning be defined as instructional activities involving students in *doing* things and *thinking* about what they are doing" (p. 2). In this sense, active learning promotes student participation and reflection. Thus, active instructional strategies can be as simple as a classroom assessment technique like the One-Minute Paper (Angelo and Cross, 1993) or as complex as a cooperative learning strategy like the Jigsaw method (Johnson and Johnson, 1994). Traditional lecture is not an active instructional strategy because it does not

require students to *do* anything beyond passive listening. Other passive activities include reading from textbooks, watching videos, and answering most kinds of multiple choice test questions that require little more than recall. Such activities do not necessitate that students become actively engaged in the course material. That is not to say, however, that students cannot become engaged while reading a textbook or watching a video, but rather, the assignment to read or watch the content does not necessitate student engagement or require students' active participation. In contrast, case studies, cooperative learning, project-based learning, and service-learning are all *active* strategies because they *require* both student engagement and reflection.

In the administration of most passive instructional strategies, the instructor's primary role is the transmission of information. Learning in this scenario occurs through students' retention of information. In contrast, the administration of active strategies requires that the teacher's role be the facilitation of learning, rather than the transmission of knowledge. Thus, the learning occurs through the students' active construction of knowledge, not through their retention and recall of information.

Billig, Root, and Jesse (2005) measured the relationship between instructors' use of particular teaching strategies and civic outcomes of service-learning among high school students. In keeping with the accepted definitions of these terms, the authors defined *active strategies* as those that required a high level of participation:

- community service or volunteering;
- visits to government or community institutions;
- debates or discussions;
- mock trials, role plays or other simulations;

- assignments in which students analyzed media presentations of information;
- research reports;
- student-generated projects; and
- cooperative learning (p. 11).

The authors defined *passive strategies* as those that required a low level of participation:

- lectures;
- textbook reading;
- videos, DVDs, or television; and
- multiple choice tests (p. 11).

The authors found that while active strategies had a statistically significant positive relationship with a number of civic outcomes, excluding civic engagement, passive strategies had statistically significant negative relationships with civic engagement and civic dispositions. More research is needed, however, to evaluate these results in terms of their generalizability to a variety of settings, like the 2-year college.

Theoretical Framework for Service-learning

The benefits of service-learning can be more clearly understood when viewed through the lens of cognitive development theories. Specifically, the work of two theorists informs the pedagogy of service-learning: David Kolb (1984) and William Perry (1999).

Kolb selected the term *experiential learning* because of the influence of John Dewey (Valente, 2007). John Dewey argued that effective education necessitates that students be actively involved in their own learning, and this argument has become the backbone of theories

related to experiential education. The fundamental assumption underlying the practice of service-learning, and experiential education as an instructional strategy, is that learning is more likely to occur if students are given the opportunity to put the content into practice in ways that are meaningful to them (Waterman, 1997). Participants of service-learning are actively involved in service projects that presumably make a difference in their lives and in the lives of the service recipients, but service-learning participants are more than just volunteers. Consistent with the outcomes of experiential education, service-learning includes ongoing and meaningful reflection and focuses on clearly articulated learning objectives that are directly related to academic curricula.

Kolb (1984) developed a model of experiential learning, originally designed for use in adult education. The model consists of a four-stage cycle, which, it has been argued, provides a good outline for "successful implementation of service-learning" (Valente, 2007, p. 6). The four stages include *concrete experience, reflective observation, conceptualization,* and *active experimentation*. In service-learning, the first stage is the participants' involvement in the service experience; the second stage involves participants' contemplation of that experience in reflection activities; the third stage involves the formation of ideas based on the experience and the reflection; and finally, the last stage involves the "incorporation of new ideas into action" (Valente, 2007, p. 6). In a well-framed and well-managed service-learning experience, the participants should move through each of Kolb's stages of development and ultimately gain a new understanding of themselves or some aspect of the world in which they live that will then inform their future choices. As the literature review reflects, service experience can, and often does, inform students' attitudes on a wide variety of subjects, including community involvement.

As we look more closely at the variables that moderate the relationship between service participation and civic engagement, we may find that the experiences better aligned with Kolb's model are the more successful ones.

Perry (1999) authored a theory on ethical and intellectual development that outlines nine sequential stages in the evolution of meaning-making. Like Kolb's model, Perry's schema has also become very influential in adult education; one might, in fact, argue that he is the Piaget of post-secondary-school. The stages in Perry's schema are *Basic Duality, Multiplicity Pre-legitimate, Multiplicity Subordinate, Multiplicity Coordinate* or *Relativism Subordinate, Relativism, Commitment Foreseen, Initial Commitment, Implications of Commitment,* and *Developing Commitment.* Perry's stages show the evolution of students' ways of seeing the world from believing in concrete rights and wrongs (duality) to believing that there exists conflicting answers (multiplicity) to believing that some answers are more reasoned than others (relativism) and finally to constructing their knowledge through the integration of their personal beliefs and that which they learned from others (commitment).

Basic Duality, the first stage, outlines a very simplistic view of the world in terms of blacks and whites or rights and wrongs. During this stage, students believe that every question has a clear and correct answer, and, thus, their approach to learning is to seek the *right* answer to each question or problem. The majority of students entering college have already moved past this first stage (Valente, 2007). Perry, himself, noted that he was unable to identify any of the participants in his 1970 study, all Harvard freshmen, as belonging to this first stage of development; rather, he inferred the stage from his discussions with the freshmen about their attitudes and perspectives prior to entering the university. Valente (2007) argues that the

undergraduate experience is most associated with stages two through five in Perry's schema, which outlines the evolution from multiplicity to relativism. Since this study deals with service-learning in a community college, we too will focus on these stages and examine how successful service-learning experiences can serve as a catalyst for students' progression from multiplicity to relativism. During the second stage, *Multiplicity Pre-legitimate,* students begin to recognize that there are conflicting answers and they grow suspicious of external authority, upon whom they primarily rely for what they perceive as the right answers during the first stage. In the third stage, *Multiplicity Subordinate*, students begin to realize that knowledge in some fields is unclear and the gap between authority and truth grows wider. It is during this stage that students start to question the criteria for evaluating right answers. In the fourth stage, *Multiplicity Coordinate*, students begin to accept that certain areas are legitimately uncertain, and given the uncertainty, students start to develop an understanding of the process by which opinions are judged. In the fifth stage, *Relativism*, students begin to view the world and everything in it as relative. According to Valente (2007), "In this position, students recognize that theories are structured for interpretation of information rather than absolute constructs and most useful in context of understanding them" (p. 5 – 6). The final four stages involve commitment and reflect an evolution from recognizing the need to commit to ultimately making an informed decision based on constructed knowledge.

According to Valente (2007), "Service-learning can facilitate a student's movement through Perry's positions by utilizing intentional reflection and facilitating synthesis of the service-learning experience" (p. 6). Service-learning, as a form of experiential learning, necessitates a shifting in perspective or a redefinition of positions of power and authority. The

learning stems from the experience, fellow students, service recipients, and service clientele of the host site rather than the more traditional locus of learning and authority, the teacher at the front of the room. Similarly, situating the learning outside of the traditional classroom, with its hidden curricula and inherent power schemas, allows students to begin to move from the early stages of multiplicity, where they continue to cling to the notion of right and wrong, a belief system that is, in some ways, strengthened by the systemic curricula inherent within the standardized-testing culture of today's public school system, into a more relativistic way of seeing the world. Service-learning may serve as the impetus for the dismantling of authority as it necessitates a movement away from traditional schooling, and it may also incite the questioning of truths about the world since service experiences are likely to involve community members with whom the students may not have had the opportunity to come in contact before. The practice of required reflection will necessitate students' contemplation of attitudes and beliefs that they may have harbored about these community members or the issues around which the service revolves. The logical conclusion to this process is the formulation of new ideas and attitudes based on the service and the reflection, which will lead, hopefully, to future action, or, in this case, civic engagement, and subsequent service. We may, thus, use Perry's stages and Kolb's model to better understand successful service-learning experiences. Below is a conceptual model that combines these two developmental theories as they relate to service-learning:

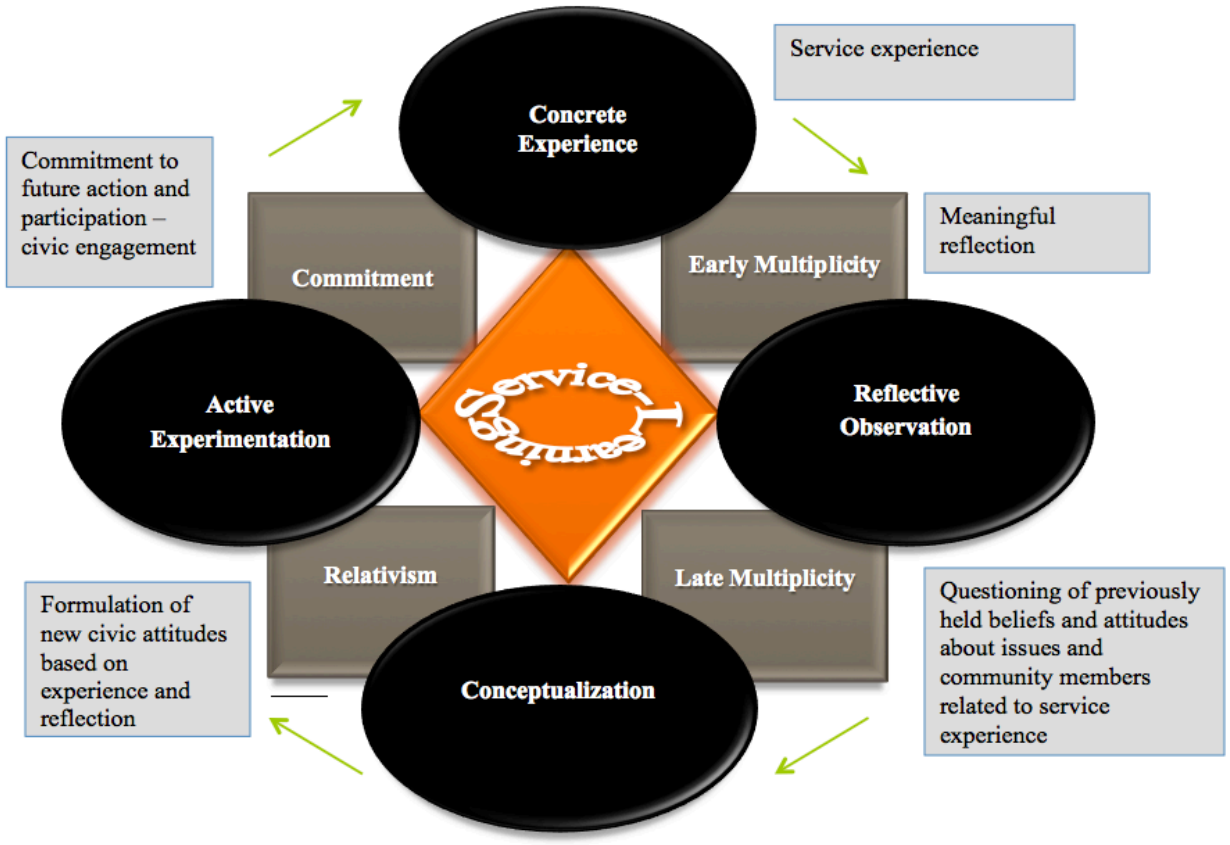


Figure 1. Conceptualization of service-learning using Kolb's (1984) Model of Experiential Learning and Perry's (1999) Stages of Intellectual Development.

CHAPTER THREE: METHODOLOGY

Research Procedure

Instrument. The pre- and post-Student Civic Engagement Survey (Gottlieb & Robinson, 2006, p. 87-91) was adapted, with permission, for use in this study. The Student Civic Engagement Survey was designed by the American Association of Community Colleges (AACC) to assess students' knowledge of and commitment to civic engagement, particularly after completing a service experience. Three questions concerning duration, type, and quality of the service experience were added to the Student Civic Engagement Survey for the purpose of this research. In the additional question concerning service quality, the students were asked to rank the quality of five aspects of their service experience. These five aspects were adapted from the "hallmarks of high quality service-learning": integrated learning, community service, engagement and a sense of community responsibility, contemplation, and evaluation and disclosure (Smith, Bradley, Gahagan, McQuillin, Haywood, Cole, Bolton, and Wampler, 2011, p. 319 - 320). These hallmarks were developed as the result of an exhaustive literature review conducted by the Carolina Service-Learning Initiative (CSLI). In the other two questions added to this instrument, students were asked to identify the number of hours they spent in service activities, as well as the type of service they were involved in: direct, indirect, or advocacy. Questions assessing the moderators of teacher characteristics and the remaining moderators of service characteristics were included in the Teacher Survey administered to the instructors of the surveyed sections: amount of student reflection, instructor's experience with teaching and with service-learning in particular, frequency of use of active and passive instructional strategies, and

the amount of service-learning training received prior to implementation. An internal consistency estimate of reliability was computed for the Teacher Survey items. A coefficient alpha of .667 indicates satisfactory reliability.

Instructors were asked to rank a number of instructional strategies in accordance with how often they used them during the course. Billig, Root, and Jesse (2005) used subscales for instructional strategies developed in a previous research study conducted by RMC Research. The authors defined *active strategies* as those that required a high level of participation:

- community service or volunteering;
- visits to government or community institutions;
- debates or discussions;
- mock trials, role plays or other simulations;
- assignments in which students analyzed media presentations of information;
- research reports;
- student-generated projects; and
- cooperative learning (p. 11).

The authors defined *passive strategies* as those that required a low level of participation:

- lectures;
- textbook reading;
- videos, DVDs, or television; and
- multiple choice tests (p. 11)

These subscales were assessed for reliability with active strategies as p= .685 and passive as p = .480.

Borrowing from Billig, Root, and Jesse's (2005) classification system, those classified as *active strategies* in the present study included essays / research reports; community service / volunteering; debates / discussions; mock trials / role-play / other simulations; student-generated projects; cooperative learning; and case studies. Those classified as *passive strategies* in the present study included lecture, textbook reading, and multiple-choice tests. These classifications were used to determine if a relationship exists between students' levels of civic engagement post-service and the teacher-reported frequency of use of active and passive instructional practices in the course.

The Student Civic Engagement Survey was administered at the beginning and ending of six course sections with a service-learning component in the summer and fall sessions of the 2012 academic year at a large southeastern 2-year college that identifies civic engagement as an outcome of its General Education program. For comparison, the survey was also administered to the students in six comparable course sections at the same college that paralleled the service-learning courses in subject matter but that did not have a service-learning component.

Participants. Students at a southeastern community college served as the research subjects for this study. The students at this particular community college come from varied backgrounds, ethnic, racial, and socioeconomic, with varied levels of preparedness and diverse goals, such as securing job skills, bettering careers, and transferring to four-year institutions. Institutional research of the 2011/2012 school year reflects a majority of female students, 55.8%, and an average student age of 24.2 (Valencia, 2012). The racial/ethnic profile of the study body was reported as follows: 17.2% African American, 4.7% Asian Pacific Islander, 36.1%% Caucasian, 30.5% Hispanic, .3% Native American, and 11.2% Other (Valencia, 2012).

A total of 118 students from six course sections with an identified service-learning component were surveyed before and after participation in the service experience. The six sections of courses spanned the following subject areas: dental hygiene (1), humanities (1), speech (1), English (2), and radiography (1). These six sections yielded 110 matching pre- and post-student surveys. In addition, students from comparable courses without service components were also surveyed at the beginning and ending of the course; this included a total of 119 students from one section of dental hygiene, humanities, speech, and radiography and two sections of English. The six non-service-learning courses yielded 117 matching pre- and post-student surveys. Two of the non-service-learning courses (English and dental hygiene) were taught by the same instructors teaching the service-learning sections. The instructors of the remaining non-service-learning courses were selected through a careful screening process, which examined gender, age, college-level teaching experience, teaching status, and instructional strategies. Every effort was made to select non-service-learning instructors who best parallel their service-learning counterparts in each of these areas. All instructors of the surveyed service-learning classes completed the Teacher Survey, and, for the purpose of comparison, descriptive demographic statistics were collected on the instructors from the non-service-learning classes through a pre-screening tool.

Analysis. The Student Civic Engagement Survey results were analyzed using descriptive statistics and a series of paired-samples *t* tests, with pre-test versus post-test and service-learning versus non-service-learning, to examine the effects of service-learning on the indicators of students' civic engagement: civic indicators, electoral indicators, political voice indicators, indicators of civic awareness, indicators of intention for future participation, indicators of

comfort with diversity, and indicators of a willingness to help others. Where possible, correlation analysis was performed to determine whether a relationship exists between service and certain civic engagement variables. To retain a statistically sound discussion, however, correlation analyses could only be applied to subsets of questions that contained the same answer choices reflecting the same response scales.

Using data from both the Student Civic Engagement Surveys and the Teacher Surveys, one-way analyses of variance and independent-samples *t* tests were conducted to determine whether the characteristics of the service-learning experience and the characteristics of the teachers were significant moderators on the outcome of civic engagement. The variables included the measures of civic engagement and the various potentially moderating variables: type of service-learning activity, duration of service-learning experience, quality of service-learning experience, amount of student reflection, instructor's experience with teaching and with service-learning, frequency of use of active and passive instructional strategies, and amount of service-learning training.

Limitations of the Study

Threats to Internal Validity. Regardless of the careful design of the experiment, there are potential threats to internal validity, which should be acknowledged. All study participants were asked to complete an informed consent form and were, therefore, aware of the research design. Thus, Hawthorne Effect is a potential threat to the internal validity of this study; in other words, the fact that the group was aware that they were part of the research study might have

influenced self-reports. The experiment should, therefore, be replicated to ensure that the results are valid.

Limitations. Self-report strategies are common measures in studies of engagement (Guthrie & Cox, 2001). Despite the fact that self-reports can and often are used reliably, they can also be suspect. People can exaggerate, be intentionally or unintentionally dishonest, be incorrect, or even be forgetful when asked to describe their past behaviors or predict their future behaviors. The use of self-reports should, thus, be carefully considered when determining the validity of the findings of this study.

An additional limitation, which is not uncommon in the service-learning literature, is the self-selection of participants into the service-learning group. The students were not randomly assigned to the service-learning and the non-service-learning groups since the researcher had no control over student enrollment into the courses in each category. There is some evidence to suggest that students who choose to participate in service-learning significantly differ from those that do not even before they participate in a service experience. For example, in the Comparing Models of Service-learning study, the college students who participated in service-learning showed significantly higher scores on "nearly every dependent variable pretest measure" (Eyler et al., 1995; Eyler et al., 1996; as cited in Eyler and Giles, 1997). While the college selected as the site of this research does not yet include specific designations for courses with service-learning components in the course catalog, self-selection may still be a limitation of this study. Students would not necessarily enroll in the courses because of the addition of a service experience unless they had gleaned that information through word of mouth, but they may choose to remain in or withdraw from a particular course after learning that a service component

would be included. Another related concern is that some of the instructors may have spent time acclimating the students to the service projects prior to the administration of the pre-survey. The pre-survey responses of the students who were already introduced to the idea of participating in service could have been influenced by their excitement or trepidation about the future experience.

An additional limitation in the analyses of the Student Civic Engagement Survey data is the lack of a weighted civic engagement score. The Survey questions have varying response scales, which cannot be used to produce a score to reflect the students' total level of civic engagement. The varying response scales make it impossible to perform correlation analyses or analyses of variance on the data set as a whole. Only subsets of the data can be analyzed using these methods, which limits the extent to which correlation between variables can be analyzed.

There is another major limitation that needs to be acknowledged regarding the present study, namely the extent to which the findings can be generalized beyond the community college studied. Clearly, the present research design, containing a sample drawn from one southeastern community college, presents a number of potential threats to external validity. Population and ecological generalizability are potential threats to the external validity of the present study, but because of logistics, I was unable to expand this study to include multiple colleges in various locations. The present study is, therefore, far too limited in scope to allow for broad generalizations about the effect of service-learning on civic engagement. I recommend that the present experiment be replicated with a much larger sample size drawn from multiple colleges in diverse settings.

Regardless of the limitations, however, the present study will help to determine whether further research into the factors affecting the relationship between a service-learning and civic engagement in the 2-year college is warranted. The present study will hopefully spark the interest of future researchers in the field.

Ethical Considerations

All of the participants were treated in accordance with the ethical guidelines of the American Psychological Association (APA), the University of Central Florida's Institutional Review Board (IRB), and Valencia College's Institutional Review Board (IRB). The identities of all participants in this study were and will continue to be protected, and care will be taken to ensure that none of the information collected will cause the participants any harm or humiliation. Participants were fully informed of the researcher's interests and were required to give their consent to participate.

CHAPTER FOUR: FINDINGS

To answer the first research question, "Do students that participate in service-learning show greater gains on measures of civic engagement than students in comparable courses who do not participate in service-learning?" I examined whether significant differences existed in students' responses on each of the indicators of civic engagement (civic, electoral, political voice, civic awareness, intention for future participation, comfort with diversity, and willingness to help others) before and after participation in service-learning, and I compared those findings to the non-service-learners' pre- and post-assessment results. I then sorted the results according to course and once again compared the service-learners to the non-service-learners on each of the measures of civic engagement.

Differences in Measures of Civic Engagement between Pre-survey and Post-survey of Service-learners and Non-service-learners

The 110 matching pre- and post-Student Civic Engagement Survey results for the service-learning (SL) group and the 117 matching pre- and post-Student Civic Engagement Survey results for the non-service-learning (NSL) group were analyzed using paired-samples *t* tests. A significant difference ($p < .05$) was reflected in a number of indicators of civic engagement in the SL group. Significant differences between SL students' pre- and post-responses were found in four of the seven dimensions of civic engagement assessed in this study: civic indicators, electoral indicators, awareness indicators, and indicators of future participation. On only two survey items, one in the civic category and one in the electoral category of civic

engagement measures, was there a significant difference between the pre- and post-responses of the NSL group.

Civic Indicators

The civic indicators addressed in the survey instrument included community problem solving, active membership in a group or association, and regular volunteering for a non-electoral organization. The results of the paired-samples *t* tests for the SL group on these civic indicators are summarized in the table below:

Table 1. Service-learners' civic indicators.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Worked to Address Community Problem - Post Worked to Address Community Problem	.009	.657	.063	-.115	.133	.145	109	.885
Pair 2	Would Organize Group to Address Problem - Post Would Organize	.255	.710	.068	.120	.389	3.763	109	.000
Pair 3	Ever Attended Meeting - Post Ever Attended Meeting	-.009	.533	.051	-.110	.092	-.179	109	.858
Pair 4	Volunteer in Last 12 months - Post Volunteer	.200	.555	.053	.095	.305	3.778	109	.000

The SL students' volunteer activities reported on the pre-survey (M=2.2, SD=.727) and the post-survey (M= 2.0, SD= .650) changed significantly (t(109)=3.78 , p =.000). The

standardized effect size index, *d*, was .36. Responses were coded so that a score of 1 designated regular volunteering (answer choice a), a score of 2 designated sporadic or "once in a while" volunteering (answer choice b), and a score of 3 designated no volunteering (answer choice c). Thus, a decrease in mean score post-service would indicate a higher tendency among respondents for regular volunteering. The mean response of 2.2 on the pre-survey and 2.0 on the post-survey indicates that student volunteerism increased after participation in service-learning.

Question 2 asked students to identify the kinds of volunteer activities in which they were involved over the previous twelve months. A score of 1 was used to identify a selected response in a particular volunteer activity category and a score of 2 was used to indicate no response in a category. Within the SL group, activities involving youth, children, or education elicited the greatest number of responses, and, thus, the lowest mean scores on both the pre- (M=1.56) and post-survey (M=1.53). Health services received the second highest response rate on both the pre- (M=1.66) and post-survey (M=1.59). Those reporting having volunteered in activities involving youth, children, or education increased from 43.6% on the pre-survey to 49.1% on the post-survey, and those reporting having volunteered in health services increased from 33.6% to 43.6%. A smaller number of students reported having volunteered in faith-based organizations on the pre- (M=1.83) and the post-survey (M= 1.82); however, this category showed only a small increase from 17.3% to 18.2%. Although an almost negligible percentage of respondents selected social services (pre 5.5%, post 13.6%), there was a notable difference between pre-survey response (M=1.95, SD=.228) and post-survey response (M=1.87, SD=.361), and a paired-samples *t* test revealed that the difference was significant (t(109)=.032, p=.032). A decrease was seen in the number of students volunteering in employee associations or unions, which dropped

from 9.1% to 1.8% from pre- to post-survey. Given that the question asks respondents about *past* activities, any decrease from pre- to post-survey suggests some level of inaccuracy. The respondents may have classified these volunteer activities differently on the post-survey, or they may have even forgotten to report them on the post-survey. The remaining activity categories had negligible response rates with mean scores of 1.91 or higher and no significant difference between pre- and post-responses. No students on the post-survey reported having volunteered in activities involving a political candidate, group or organization (M=2.0, SD=.000), so responses to Question 2 on frequency of volunteering were noted in the civic rather than electoral category of civic engagement indicators.

Also, in the civic category, a significant change ($t(109)=3.76$, $p = .000$) was seen in SL students' reported willingness to organize a group to address a problem in their communities, with a decrease in the mean response from pre- (M= 2.34 , SD=.579) to post- (M= 2.08 , SD=.692) survey. The standardized effect size, *d*, was .36. Students were asked the following question: "If you found out that there was a problem in your community but there was no group or service agency to help, would you be the one to organize a group to address the problem?" With a 1 being an affirmative response and a 3 being a negative response, the fact that the mean score dropped from 2.34 on the pre-survey to 2.08 on the post-survey indicates a higher tendency toward organizing such a group after participation in service-learning.

The responses to the questions about ever having attended a meeting and working to address a community problem were coded on a 1 to 4 scale with a 1 representing a response of "Yes, within the last 12 months," a 2 representing a response of "Yes, but not within the last 12 months," a 3 representing a "No" response, and a 4 representing a response of "I don't

remember." Clearly, the addition of the "I don't remember" answer choice can potentially confound our statistics. Thus, an examination of frequencies is warranted. Out of those that remember, 26% of service-learners on the pre-survey and 30% on the post-survey reported an affirmative response to the question of ever having attended a meeting (an increase of 4%), and 26% of service-learners on the pre-survey and 31% on the post-survey reported having worked with an individual or organization to address a problem where they live (an increase of 5%). In comparison, out of those that remember, 9% of non-service-learners on the pre-survey and 13% on the post-survey reported having attended a meeting (an increase of 4%), and 21% of non-service-learners on the pre-survey and 19% on the post-survey reported having worked with an individual or organization to address a community problem where they live (a decrease of 2%). Thus, while not significant, we can see that the service-learners had a higher tendency to work with others to address a community problem and to have attended a meeting. The service-learners also experienced greater gains in the area of working with others to address a community problem than their non-service-learning counterpart.

The data on the civic indicators, thus, seem to suggest that students were more likely to volunteer for non-electoral activities and organizations after participating in service-learning.

In contrast, the civic indicator responses of the NSL group between pre- and post-assessment did not reflect statistical significance on any of the question items. These results are summarized in the table below:

Table 2. Non-service-learners' civic indicators.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Worked to Address Community Problem - Worked to Address Community Problem	-.060	.823	.076	-.211	.091	-.786	116	.433
Pair 2	Would Organize Group to Address Problem - Would Organize Group to Address Problem	.094	.719	.066	-.038	.226	1.414	116	.160
Pair 3	Ever Attended Meeting - Ever Attended Meeting	.017	.455	.042	-.066	.100	.407	116	.685
Pair 4	Volunteer in Last 12 months - Volunteer in Last 12 months	.026	.579	.054	-.080	.132	.479	116	.633

The kinds of volunteer activities the NSL group reported having participated in were similar to those of the SL group: activities involving youth, children, or education; faith-based activities; social services; and health services. The highest percentage (36.8% on both the pre- and post-survey) reported having been involved in activities with youth, children, or education and the second highest reported having been involved in faith-based activities (15.4% and 16.2% on the pre- and post-survey respectively).

Electoral Indicators

The electoral indicators addressed in this study included regular voting in both local and national elections and volunteering for candidates or political organizations. Paired-samples *t* tests were used to evaluate whether a significant difference existed between the service-learners'

pre- and post-survey responses in these areas. The SL group saw significant changes in three of the five question items in this category, and the decrease in mean responses in each item suggests that they had a higher tendency to vote in national elections and volunteer in political campaigns after participation in service.

Table 3. Service-learners' electoral indicators.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Registered to Vote - Post Registered to Vote	.045	.548	.052	-.058	.149	.869	109	.387
Pair 2	Vote in Local Election- Post Vote in Local Election	.073	.896	.085	-.097	.242	.852	109	.396
Pair 3	Vote in National Election- Post Vote in National Election	.382	.948	.090	.203	.561	4.224	109	.000
Pair 4	Running for Office - Post Running for Office	.164	.698	.067	.032	.295	2.460	109	.015
Pair 5	Volunteer in Political Campaign - Post Volunteer in Political Campaign	.191	.684	.065	.062	.320	2.927	109	.004

In the electoral category, SL students' voting activities in national elections on the pre-survey (M=2.55, SD=1.48) and post-survey (M= 2.16, SD= 1.41) changed significantly (t(109)=4.224, p=.000). The standardized effect size, *d*, was .40. Student responses were coded on a scale of 1 to 4 with 1 representing a higher tendency toward frequent voting and 4 representing no reported voting. The pre-survey mean response was 2.55, and the post-survey mean response was 2.16, suggesting an increase in the frequency of voting in national elections

following students' participation in course-related service. However, there was no significant difference in students' reported voting activities in local elections between the pre- (M=3.10, SD=1.24) and post- (M=3.03, SD= 1.22) survey responses (t(109)=.852, p=.396). Discounting those who reported having not been eligible to vote at the time the survey was administered (6 students or 5.5%), 33.7% in the pre-survey and 39.4% in the post-survey reported "always" or "sometimes" voting in local elections, whereas 54.8% in the pre-survey and 71.2% in the post-survey reported "always" or "sometimes" voting in national elections. Those that reported "never" having voted in national elections decreased from 39.4% in the pre-survey to 25% in the post-survey. However, worth noting is the fact that a national election voting opportunity took place between the administration of the pre- and post-survey, which was an unintentional part of the design of this study. One would, thus, expect an increase in the numbers of students voting in national elections, some of whom would likely be voting for the first time. We cannot, therefore, attribute these results to the students' service participation alone, although the service-learners did experience greater gains in this area than the non-service-learners.

A significant difference was also found between SL students' pre- (M=2.55, SD=.659) and post- (M=2.38, SD= .690) responses noting their willingness to run for office themselves in the event that an issue they cared about surfaced in the community (t(109)=2.460, p=.015). The standardized effect size, *d*, was relatively small at .23. Students' responses to this question were coded on a scale of 1 to 3, with 1 representing an affirmative response and 3 representing a negative response. The mean decreased from 2.55 on the pre-assessment to 2.38 on the post-assessment, suggesting a decrease in the number of students *opposed* to running for office.

Lastly, SL students' willingness to volunteer in political campaigns, coded in a similar fashion, increased from pre-survey (M= 2.06, SD =.745) to post-survey (M= 1.87, SD=.731) with statistical significance (t(109)=2.93, p=.004) and a standardized effect size, *d*, of .28.

The NSL group, in contrast, did not experience any significant gains or losses in voting activities or their willingness to volunteer in a political campaign; however, there was a significant difference between their pre- and post-survey response to the question on running for office. The results of the paired-samples *t* tests analyzing the NSL responses to the electoral indicator questions are summarized in the table below:

Table 4. Non-service-learners' electoral indicators.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Registered to Vote - Registered to Vote	-.060	.620	.057	-.173	.054	-1.044	116	.299
Pair 2	Vote in Local Election - Vote in Local Election	.026	1.200	.111	-.194	.245	.231	116	.818
Pair 3	Vote in National Election - Vote in National Election	.188	1.581	.146	-.101	.477	1.287	116	.201
Pair 4	Running for Office - Running for Office	.188	.615	.057	.075	.301	3.308	116	.001
Pair 5	Volunteer in Political Campaign - Volunteer in Political Campaign	.026	.782	.072	-.118	.169	.355	116	.723

As reflected in the table, the NSL responses showed a statistically significant difference in only one of the five electoral indicators: running for office. A mean decrease from 2.67 (SD= .572) to 2.48 (SD=.690) with statistical significance (t(116)=3.31, p=.001) and a standardized

effect size index, *d*, of .31 suggests that students were slightly less opposed to running for office at the conclusion of the course. Perhaps one reason for this phenomenon is the fact that the surveys were administered close to the 2012 Presidential Election, the ubiquitous coverage of which may have improved students' perception of campaigning or their desire to become involved in politics. The difference in the pre- and post-responses of the NSL group on this question about their willingness to run for office, however, was slightly more significant than the decrease reflected in the pre- and post-responses of the SL group.

Awareness Indicators

Students' civic awareness was assessed through questions related to participants' knowledge of the names of their community's chief elected officials, the location of their town, city, or tribal council meetings, the names of their state and/or national legislators, and the names of community organizations designed to serve specific needs. Both the SL group and the NSL group showed significant gains in only one of the four question items in this category: their awareness of a community service agency that helps the homeless. The SL group's change, however, was more significant than that of the NSL group. Also, the mean responses of the SL group suggest that the service-learners had a higher tendency to know of such an agency than their non-service learning counterpart.

The results of the paired-samples *t* tests analyzing the SL students' responses to questions in the awareness category are summarized in the table below:

Table 5. Service-learners' civic awareness.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Know Elected Officials' Names - Post Know Elected Officials' Names	.000	.488	.047	-.092	.092	.000	109	1.000
Pair 2	Know When Meetings Held - Post Know When Meetings Held	.018	.270	.026	-.033	.069	.705	109	.482
Pair 3	Know names of state/national legislators - Post Know names of state/national legislators	.064	.475	.045	-.026	.153	1.406	109	.163
Pair 4	Know of Community Service Agency - Post Know of Community Service Agency	.209	.471	.045	.120	.298	4.655	109	.000

In the awareness category, a significant difference (t(109)= 4.66, p=.000) was found between SL students' reported knowledge of a community service organization addressing the issue of homelessness before service (M=1.67, SD=.045) and after service (M=1.46, SD=.501), with a standardized effect size index, *d*, of .44. More than likely, however, this is due to the fact that one of the course service projects focused on homelessness and introduced students to a specific local organization addressing this issue. For this reason, more accurate findings may be presented in the results organized by course. No other awareness category reflected a statistically significant difference. All questions in this category were coded as a 1 for an affirmative response and a 2 for a negative response. The mean scores on the remaining questions ranged

from 1.63 to 1.70 on both the pre- and post-survey, suggesting that few students were knowledgeable about state and local legislators or community and public meetings and organizations both before and after service participation with no significant change resulting from that participation.

The paired-samples *t* test results on the civic awareness of the NSL group are summarized in the table below:

Table 6. Non-service-learners' civic awareness.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Know Elected Officials' Names - Know Elected Officials' Names	.000	.455	.042	-.083	.083	.000	116	1.000
Pair 2	Know When Meetings Held - Know When Meetings Held	.009	.278	.026	-.042	.060	.332	116	.740
Pair 3	Know names of state/national legislators - Know names of state/national legislators	.017	.415	.038	-.059	.093	.446	116	.657
Pair 4	Know of Community Service Agency - Know of Community Service Agency	.085	.427	.039	.007	.164	2.165	116	.032

As reflected in the table, the NSL responses showed a statistically significant difference in one of the four civic awareness items. There was a significant difference ($t(116)=2.165$, $p=.032$), with a large standardized effect size index, *d*, of 1.99, between the pre-survey mean response ($M=1.78$, $SD=.418$) and post-survey mean response ($M=1.69$, $SD=.482$) to the question about whether respondents know of a community service agency that helps the homeless. This difference

suggests that the non-service-learners had a higher tendency to know of such an agency at the end of the course than they did at the beginning. The mean response for the NSL group was, however, higher than the mean response of the SL group (the difference between the post-survey mean response of the NSL and SL groups was .23), indicating that the SL group had a higher tendency to know of such an agency after service than the NSL group did at the end of the course.

Indicators for Future Participation

The Student Civic Engagement Survey also measured students' intentions to participate in community life in the future. Significant differences were found in the SL group's responses to the question on whether they would volunteer in the subsequent twelve months. The decrease in mean responses suggests a higher tendency toward future volunteering post-service. In contrast, no significant differences were found among the NSL students.

SL students' intention to volunteer in the twelve months following completion of the survey changed significantly (t(109)=, p=.000) from before service (M= 2.00, SD= .754) to after service (M= 1.77, SD= .762) with a medium standardized effect size index, *d*, of .43. Student responses were coded on a scale from 1 to 4 with 1 representing a definitive positive response, 2 representing a somewhat positive response, 3 representing a somewhat negative response, and 4 representing a definitive negative response. The mean response on the pre-survey was a 2.0, a somewhat positive response, and the mean response on the post-survey was a 1.77, which suggests that students' resolve to volunteer in the future grew stronger following participation in service. In contrast, there was no statistically significant difference between the pre- and post-

responses of the NSL students' intention for future participation. The results of the paired-samples *t* test comparing the means of the pre- and post-responses for the SL and NSL groups are summarized in the tables below:

Table 7. Service-learners' intention for future participation.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Volunteer in next 12 months - Post Volunteer in next 12 months	.227	.645	.061	.105	.349	3.697	109	.000

Table 8. Non-service-learners' intention for future participation.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Volunteer in next 12 months - Volunteer in next 12 months	.017	.707	.065	-.112	.147	.262	116	.794

Indicators of Willingness to Help Others

The responses to the question pertaining to participants' feelings about helping a student whom they found out was homeless did not change significantly in either the SL or the NSL group, suggesting that students did not have a significantly higher tendency to help others in need after participation in service.

Responses were coded on a scale from 1 to 3 with 1 being an affirmative response and 3 being a negative response. The mean for the SL respondents increased ever so slightly from 1.42 (SD=.596) to 1.46 (SD=.616), and the mean for the NSL respondents decreased from 1.62 (SD=.668) to 1.55 (SD=.672). While no significant differences were found, the means of the pre- and post-responses for both groups indicate a high tendency to help such an individual, irrespective of participation in service. The results of the paired-samples *t* tests are summarized in the tables below:

Table 9. Service-learners' willingness to help others.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Helping Homeless Student - Post Helping Homeless Student	-.045	.596	.057	-.158	.067	-.799	109	.426

Table 10. Non-service-learners' willingness to help others.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Helping Homeless Student - Helping Homeless Student	.068	.612	.057	-.044	.180	1.208	116	.229

Political Voice Indicators

Notably, no significant difference was found in the category of political voice in either group. Political voice questions measured the frequency of contacting officials and the print media, as well as signing petitions, both written and electronic. The results in this category are summarized in the tables below:

Table 11. Service-learners' political voice.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Written Letter - Post Written Letter	-.036	.487	.046	-.128	.056	-.783	109	.435
Pair 2	Signed Written Petition - Post Signed Written Petition	-.009	.829	.079	-.166	.148	-.115	109	.909
Pair 3	Signed Email Petition - Post Signed Email Petition	.091	1.208	.115	-.137	.319	.789	109	.432
Pair 4	Would Contact Local, State, or National Office - Post Would Contact	.009	.479	.046	-.081	.100	.199	109	.843

Table 12. Non-service-learners' political voice.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Written Letter - Written Letter	.000	.525	.049	-.096	.096	.000	116	1.000
Pair 2	Signed Written Petition - Signed Written Petition	.154	.961	.089	-.022	.330	1.731	116	.086
Pair 3	Signed Email Petition - Signed Email Petition	.188	1.717	.159	-.126	.502	1.185	116	.239
Pair 4	Would Contact Local, State, or National Office - Would Contact Local, State, or National Office	.077	.589	.054	-.031	.185	1.412	116	.161

On the question about writing letters, the SL group increased from the pre-survey (M=2.73, SD=.662) to the post-survey (M = 2.76, SD=.589) and the NSL group remained the same (M=2.90, SD =.423). The SL group did not change (M = 2.35, SD=.894) in terms of signing written petitions, while the NSL group decreased slightly (from M=2.62, SD.817 to M=2.47, SD=.896). The SL group decreased slightly from pre- (M=2.95, SD=1.400) to post- (M=2.85, SD=1.400) response to the question concerning the signing of email petitions; similarly, the NSL group, decreased from pre- (M=3.27, SD=1.448) to post- (M=3.09, SD=.532) survey. However, the inclusion of the "I don't remember" answer choice, as well as the "I've never been asked to sign," confounds our statistics since neither choice indicates a necessarily affirmative or negative response to the question posed. Thus, discussing frequencies for these questions may provide a more accurate picture of the two groups. The frequencies of the data are summarized in the figures below:

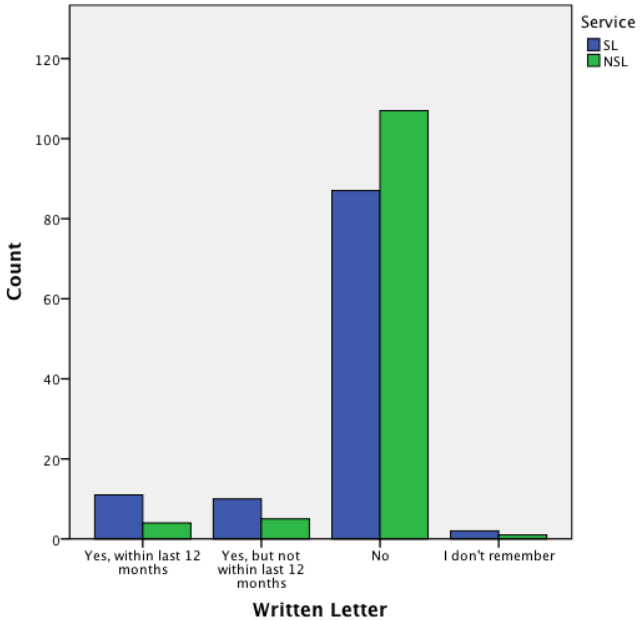


Figure 2. Frequency of pre-survey responses to written letter question.

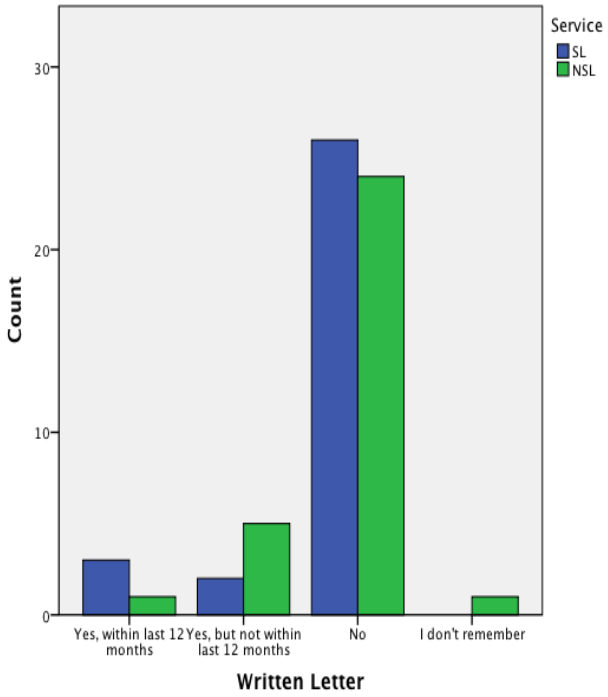


Figure 3. Frequency of post-survey responses to written letter question.

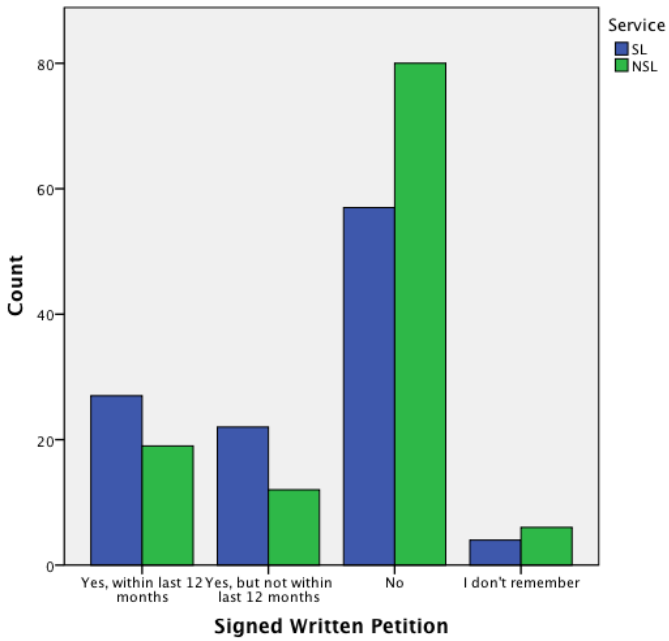


Figure 4. Frequency of pre-survey responses to written petition question.

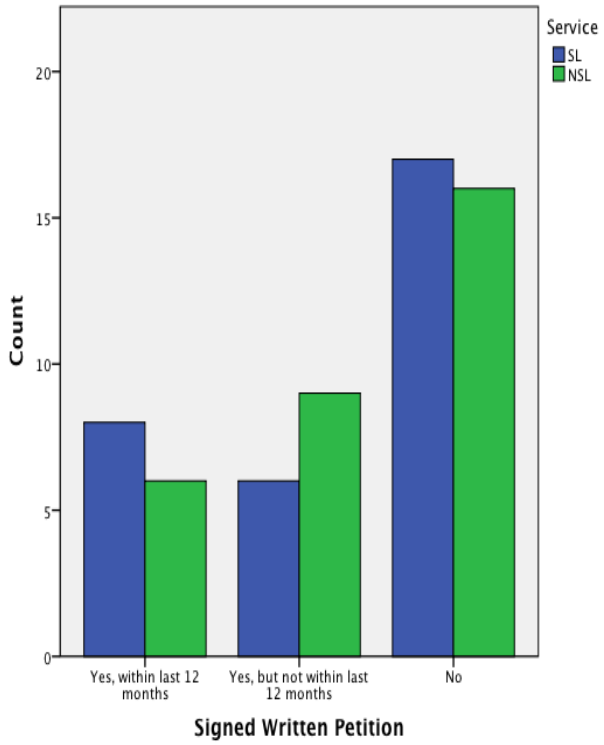


Figure 5. Frequency of post-survey responses to written petition question.

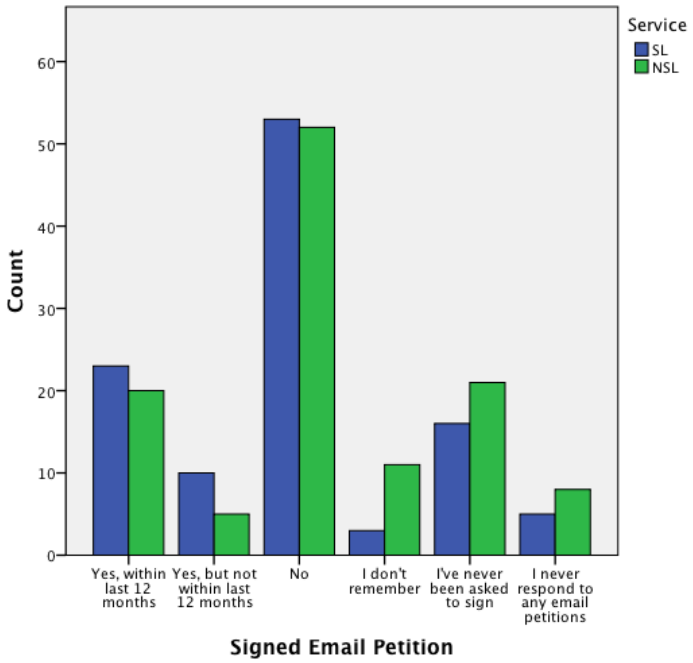


Figure 6. Frequency of pre-survey responses to email petition question.

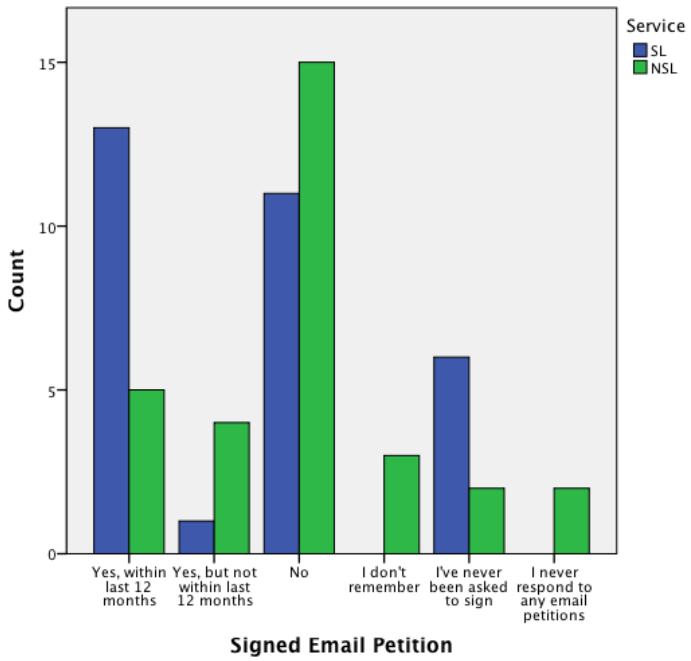


Figure 7. Frequency of post-survey responses to email petition question.

While service-learners and non-service-learners had similar response rates for the questions pertaining to writing letters and signing written petitions, Figure 7 shows a clear distinction between the groups. The SL group answered the question concerning the signing of email petitions affirmatively more frequently on the post-assessment than the NSL group, which suggests a higher tendency toward participation in this activity.

A comparison between Figures 6 and 7 reveals a shift toward affirmative responses in the SL group, an increase in "Yes" responses from 33 to 39, suggesting that students had a greater tendency to sign email petitions following their participation in service. Also, there was a notable increase in the number of students reporting having signed email petitions in the last 12 months: 23 on the pre-survey and 27 on the post-survey. The number of affirmative responses to the email petition question also increased in the NSL group, from 25 to 31, but the increase was less

steep. The frequencies for the SL group and the NSL group's pre- and post-responses to these three questions on political voice are summarized in the tables below:

Table 13. Frequencies of service-learners who have written letters.

		Frequency (PRE)	Frequency (POST)	Percent (PRE)	Percent (POST)
Valid	Yes, within last 12 months	11	8	10.0	7.3
	Yes, but not within last 12 months	10	11	9.1	10
	No	87	90	79.1	81.8
	I don't remember	2	1	1.8	.9

Table 14. Frequencies of non-service-learners who have written letters.

		Frequency (PRE)	Frequency (POST)	Percent (PRE)	Percent (POST)
Valid	Yes, within last 12 months	4	3	3.4	2.6
	Yes, but not within last 12 months	5	8	4.3	6.8
	No	107	104	91.5	88.9
	I don't remember	1	2	.9	1.7

Table 15. Frequencies of service-learners who have signed written petitions.

		Frequency (PRE)	Frequency (POST)	Percent (PRE)	Percent (POST)
Valid	Yes, within last 12 months	27	25	24.5	22.7
	Yes, but not within last 12 months	22	26	20.0	23.6
	No	57	55	51.8	50.0
	I don't remember	4	3	3.6	2.7

Table 16. Frequencies of non-service-learners who have signed written petitions.

		Frequency (PRE)	Frequency (POST)	Percent (PRE)	Percent (POST)
Valid	Yes, within last 12 months	19	26	16.2	22.2
	Yes, but not within last 12 months	12	16	10.3	13.7
	No	80	69	68.4	59.0
	I don't remember	6	6	5.1	5.1

Table 17. Frequencies of service-learners who have signed email petitions.

		Frequency (PRE)	Frequency (POST)	Percent (PRE)	Percent (POST)
Valid	Yes, within last 12 months	23	27	20.9	24.5
	Yes, but not within last 12 months	10	11	9.1	10.0
	No	53	45	48.2	40.9
	I don't remember	3	7	2.7	6.4
	I've never been asked to sign	16	18	14.5	16.4
	I never respond to any email petitions	5	2	4.5	1.8

Table 18. Frequencies of non-service-learners who have signed email petitions.

		Frequency (PRE)	Frequency (POST)	Percent (PRE)	Percent (POST)
Valid	Yes, within last 12 months	20	23	17.1	19.7
	Yes, but not within last 12 months	5	8	4.3	6.8
	No	52	51	44.4	43.6
	I don't remember	11	15	9.4	12.8
	I've never been asked to sign	21	11	17.9	9.4
	I never respond to any email petitions	8	9	6.8	7.7

As one can see, the number of SL respondents who reported having written a letter to an official or the print media actually decreased from 21 on the pre-survey to 19 on the post-survey (n=110), while the number of SL respondents who reported having signed a written petition increased only slightly, from 49 to 51 (n=110). Overwhelmingly, the NSL respondents answered negatively on both the pre- and the post-survey. Out of the total of 117 matching pre-and post-responses, 107 on the pre- and 104 on the post-survey reported *never* having written letters to officials or the print media; 80 on the pre- and 69 on the post-survey reported *never* having signed written petitions; and 52 on the pre- and 51 on the post-survey reported *never* having signed email petitions. The difference between the NSL group and the SL group on the pre-assessment on each political voice question is surprising. The SL group had a higher tendency than the NSL group to write letters and sign petitions even before their participation in service. One might expect these skewed results since those who sign up for service experiences are usually the very people who have a higher tendency to participate in activities that would

constitute civic engagement, like the signing of petitions and the writing of letters. However, that is not the case in the present study. The SL students had no way of knowing that the courses they were signing up for had an SL component when they registered for classes since courses with SL components were not designated as such in either the college's course numbering system or the catalog course descriptions available to students at the time of this study. Perhaps the very fact that these SL students were aware that they would be participating in service as part of their classes may have influenced their feelings toward civically oriented activities. They may have even received some preliminary instruction concerning the service component of the course that could have influenced their responses.

Indicators of Comfort with Diversity

Not surprising is the lack of a significant difference in pre- and post-student responses to the question on diversity. Students were asked "If you had an opportunity to participate with a group of people and some of those people were of a different race, gender, ethnicity, sexual orientation, or religion than you are, would these differences make you less likely to participate in that group?" The responses indicate that both SL and NSL students felt a relative comfort with diversity prior to participating in service or completing their courses. Responses were coded on a scale from 1 to 3, with 1 being an affirmative response and 3 being a negative response. There was an ever so slight increase in means between the pre- (M=2.77, SD=.536) and post-responses of the SL group (M=2.82, SD=.528), suggesting that they were slightly more comfortable with diversity after participation in service; however, as mentioned, the increase was not statistically

significant. The NSL group remained relatively static with a pre-survey mean of 2.68 (SD=.627) and a post-survey mean of 2.66 (SD=.672). These results are summarized in the tables below:

Table 19. Service-learners' comfort with diversity.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Willingness to Participate in Diverse Group - Post Willingness to Participate in Diverse Group	-.045	.709	.068	-.179	.089	-.673	109	.503

Table 20. Non-service-learners' comfort with diversity.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Willingness to Participate in Diverse Group - Willingness to Participate in Diverse Group	.017	.799	.074	-.129	.163	.232	116	.817

Summary

An analysis of the Student Civic Engagement Survey results suggests that the students had a significantly higher tendency to participate in the following activities after service

participation: organizing a group to address a problem in the community, volunteering for non-electoral activities, voting in national elections, running for office, volunteering in political campaigns, knowing of an agency that helps the homeless, and volunteering in the future. The non-service-learners showed significant gains on only two survey items: running for office and being aware of an agency that helps the homeless. A comparison of the mean responses of the NSL and SL groups suggests that the service-learners had a higher tendency to participate in the majority of these activities than the non-service-learners.

Differences in Measures of Civic Engagement between Service-learners and Non-service-learners in Comparable Courses

Now that we have a sense of the differences between the SL group and the NSL group across the different measures of civic engagement, we will examine what differences (if any) exist between SL and NSL students in comparable courses.

Course 1: English

The service-learning English students spent a semester organizing a college-wide supply drive for the local community service agency, the Coalition for the Homeless. The four sections of English Composition I (two SL and two NSL) produced 62 matching pre- and post-surveys: 31 SL and 31 NSL. The mean pre- and post-responses for each item were analyzed using a paired-samples *t* test to determine if any differences between them were significant. The mean responses for the SL group were then compared to the mean responses of the NSL group to determine which group had higher tendencies for each of the civic activities and behaviors that

were assessed in the survey instrument. The results of these analyses are organized by civic engagement measurement category (civic, electoral, awareness, future participation, willingness to help others, political voice, comfort with diversity) and are presented below.

Civic indicators

In the SL group in the English class, (n=31) significant differences were found between pre- and post-responses for each of the civic indicator questions. In the English course, SL responses to the question about whether students have worked to address a community problem, coded on a scale from 1 to 3 with 1 representing an affirmative response and 3 representing a negative response, changed significantly ($t(30)=2.28$, $p=0.030$) from pre- ($M=2.74$, $SD=.631$) to post-survey ($M=2.48$, $SD=.631$), with a standardized effect size index, *d*, of .41, suggesting an increase in the tendency of this group to become involved in community problem solving activities after participating in service. Similarly, the SL response to the question about whether respondents would organize a group to address a problem in the community, coded in the same manner, also changed significantly ($t(30)=5.78$, $p=.000$) from pre- ($M=2.32$, $SD=.541$) to post-survey ($M=1.65$, $SD=.661$), which suggests a greater tendency to not only participate in community problem solving activities, but to lead the charge on creating an organization or group to address such problems. Moreover, the effect size, *d*, was large at 1.03, suggestive of 65.3% nonoverlap between the pre- and post-responses. The service-learners also reported significantly higher rates of attendance ($t(30)=2.26$, $p=.031$) at community group or organization meetings following service, with a standardized effect size, *d*, of .41. Responses to this question were coded thusly: 1 indicates a response of “Yes, within the last 12 months,” 2 indicates a

response of “Yes, but not within the last 12 months,” 3 indicates a response of “No,” and 4 indicates a response of “I don’t remember.” The means decreased from 2.74 (SD=.514) to 2.55 (SD=.624). However, the “I don’t remember” response causes a comparison of means to potentially provide an incomplete or inaccurate picture here. Fortunately, this response was not selected by any members belonging to this group.

Finally, the frequency of the service-learners’ reported volunteer activities (coded as 1 for regular volunteering, 2 for sporadic volunteering, and 3 for no volunteering) appeared to increase as well, which is suggested by the decrease from the pre-survey mean of 2.58 (SD=.564) to the post-survey mean of 2.26 (SD=.575). The difference in pre- and post-responses to the question about the regularity of respondents’ volunteer activities was statistically significant ($t(30)=3.78$, $p=.001$) with a standardized effect size index, *d*, of .68. The kinds of volunteer activities reported by this group included approximately 27% in activities involving youth, children, or education; 16% in activities involving faith-based organizations; 15% in activities involving health services; 15% in activities involving social services; 7% in activities involving public safety; 7% in other, non-listed activities; 5% in activities involving the elderly; 3% in activities involving employee associations or unions; 2% in activities involving environmental associations; and 1% in activities involving political candidates, groups, or organizations. Clearly, the majority of volunteer activities these students reported having participated in were non-electoral activities, and have, thus, been included in the civic rather than electoral category. A summary of the paired-samples *t* tests analyzing the responses to the civic indicator questions among SL students in the English class is provided in the table below:

Table 21. Civic indicators among service-learners in English class.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Worked to Address Community Problem - Worked to Address Community Problem	.258	.631	.113	.027	.489	2.278	30	.030
Pair 2	Would Organize Group to Address Problem - Would Organize Group to Address Problem	.677	.653	.117	.438	.917	5.780	30	.000
Pair 3	Ever Attended Meeting - Ever Attended Meeting	.194	.477	.086	.018	.369	2.257	30	.031
Pair 4	Volunteer in Last 12 months - Volunteer in Last 12 months	.323	.475	.085	.148	.497	3.780	30	.001

Surprisingly, at the conclusion of the English course, NSL students also had a significantly higher tendency ($t(30)=3.17$, $p=.004$) to organize a group to address a problem in the community. The standardized effect size index, *d*, was .57. The mean responses to this question among NSL students dropped from 2.65 (SD=.486) to 2.16 (SD=.735). A comparison between the mean responses of the SL and NSL groups, however, shows that the SL group was much closer to an affirmative response with a pre-survey mean of 2.32 (0.33 lower than the pre-survey mean of the NSL group) and a post-survey mean of 1.65 (0.51 lower than the post-survey mean of the SL group). No other pre- and post-responses in this category were significantly

different among the NSL English group. The results of the paired-samples *t* tests for the NSL students in the English course sections are summarized in the table below:

Table 22. Civic indicators among non-service-learners in English class.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Worked to Address Community Problem - Worked to Address Community Problem	-.065	.929	.167	-.405	.276	-.387	30	.702
Pair 2	Would Organize Group to Address Problem - Would Organize Group to Address Problem	.484	.851	.153	.172	.796	3.165	30	.004
Pair 3	Ever Attended Meeting - Ever Attended Meeting	.032	.407	.073	-.117	.182	.441	30	.662
Pair 4	Volunteer in Last 12 months - Volunteer in Last 12 months	.161	.779	.140	-.124	.447	1.153	30	.258

Because all of the student responses to the questions in this category exist on a 3 point-scale with 1 representing the highest level of civic engagement and 3 representing the lowest level of civic engagement, Pearson Correlation Analyses could be performed. The correlations between service and several civic indicators in this category were significant among the English students, including organizing a group to address a problem ($r(62)=.35$, $p=.005$) and attending a meeting ($r(62)=.31$, $p=.014$).

Based on the results of the paired-samples *t* tests, we can conclude that English students experienced higher tendencies to volunteer for non-electoral organizations, to be a member of a group or association, and to participate in community problem solving activities after engaging in service-learning activities in their English course. We can also conclude that the students who participated in service activities as part of their English course showed higher tendencies to participate in these three areas than students who did not engage in service activities as part of their English course. And based on the results of the correlation analyses, we can conclude with relative certainty that a relationship exists between service participation and active membership in a group or association, such that participation correlates to an increase in one's membership.

Electoral indicators

A significant difference existed between several pre- and post-responses to questions in the electoral category among the service-learners in the English course, including voting in national elections ($t(30)=4.084$, $p=.000$), running for office ($t(30)=6.04$, $p=.000$), and volunteering in political campaigns ($t(30)=5.30$, $p=.000$). In each of the three categories, the mean responses decreased from pre- to post-survey, suggesting a higher tendency to participate in the electoral activities after service.

For example, the question about the respondent's willingness to run for office if an issue that he or she cared about surfaced in the community was coded on a 3-point scale with 1 representing an affirmative response and 3 representing a negative response. The pre-survey mean for this question decreased significantly ($t(30)=6.04$, $p=.000$) from 2.58 (SD=.62) to 2.03 (SD=.605), with a large standardized effect size index, *d*, of 1.08.

The data also suggest that the English students had a higher tendency to volunteer to work on a political campaign after participating in service activities in their course. The responses to this question were once again coded on a scale of 1 to 3, with 1 being an affirmative response and 3 being a negative response. The difference was statistically significant (t(30)=5.30, p=.000), and the data suggest an increase in the tendency to participate in such volunteer activities post-service, indicated by a decrease in means from 1.94 (SD=.73) to 1.45 (SD=.57) with a large standardized effect size index, *d*, of .95. The results of the paired-samples *t* tests are summarized in the table below:

Table 23. Electoral indicators among service-learners in English.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Registered to Vote - Registered to Vote	.129	.619	.111	-.098	.356	1.161	30	.255
Pair 2	Vote in Local - Vote in Local	.194	.601	.108	-.027	.414	1.793	30	.083
Pair 3	Vote in National - Vote in National	.774	1.055	.190	.387	1.161	4.084	30	.000
Pair 4	Running for Office - Running for Office	.548	.506	.091	.363	.734	6.036	30	.000
Pair 5	Volunteer in Political Campaign - Volunteer in Political Campaign	.484	.508	.091	.298	.670	5.303	30	.000

Finally, the responses to the question about respondents' frequency of voting in national elections were coded on a 1 to 4 scale with 1 representing a response of "always," 2 representing

a response of “sometimes,” 3 representing a response of “never,” and 4 representing a response of “I’m not eligible.” The mean response on the pre-survey was 2.94 (SD=1.44) and the mean response on the post-survey was 2.16 (SD=1.29), representing a significant decrease of .78. And the standardized effect size, *d*, for this difference in means was relatively high at .73. The voting activities of the non-service-learners in the English course did not change significantly. However, the inclusion of the responses noting ineligibility to vote confounds these statistics. An examination of the frequencies of responses reveals that of those eligible to vote, the percentage of service-learners reporting having voted “always” or “sometimes” in local elections increased from 20% to 27% (a 7% increase), and the percentage of service-learners reporting having voted “always” or “sometimes” in national elections increased from 41% to 76% (a 35% increase). The percentage of eligible non-service-learners reporting having voted “always” or “sometimes” in local elections increased from 23% to 41%, (an 18% increase) and the percentage of eligible non-service-learners reporting having voted “always” or “sometimes” in national elections increased from 56% to 66% (a 10% increase). Thus, based on an examination of frequencies and a comparison of means, it appears that the non-service-learners experienced greater gains in tendency to vote in local elections, whereas the service-learners experienced greater gains in the tendency to vote in national elections. The data, therefore, suggests that students have a higher tendency to vote in national elections post-service and that students who participate in service as part of their course have a higher tendency to vote in national elections than students in comparable courses who do not participate in service. The frequency of responses to these questions is illustrated in the figures below:

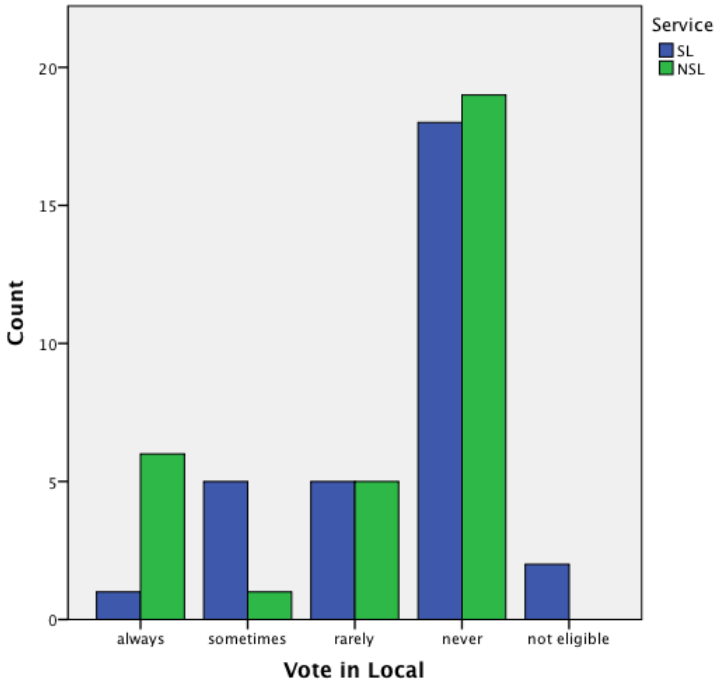


Figure 8. English students' pre-survey responses to the voting in local elections question.

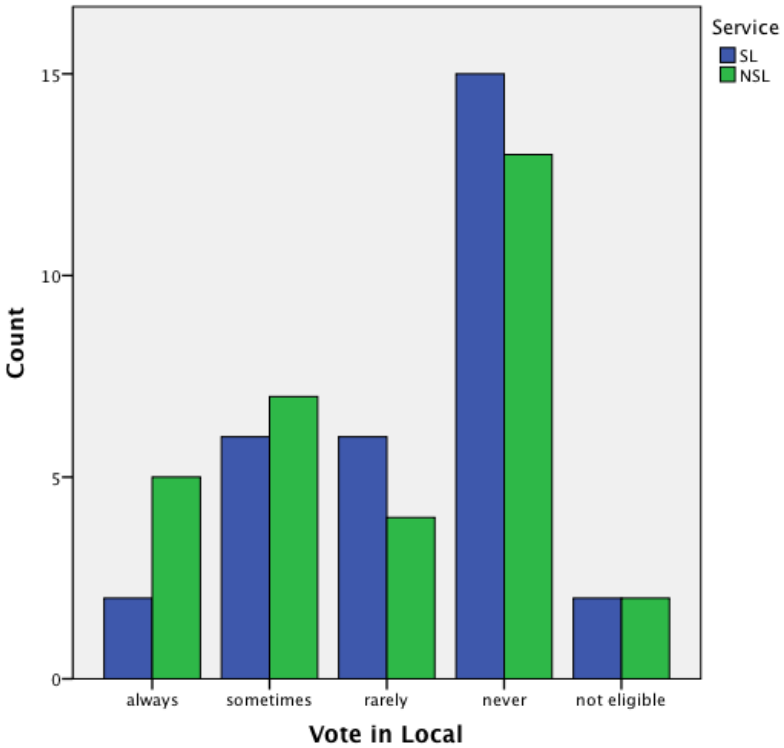


Figure 9. English students' post-survey responses to the voting in local elections question.

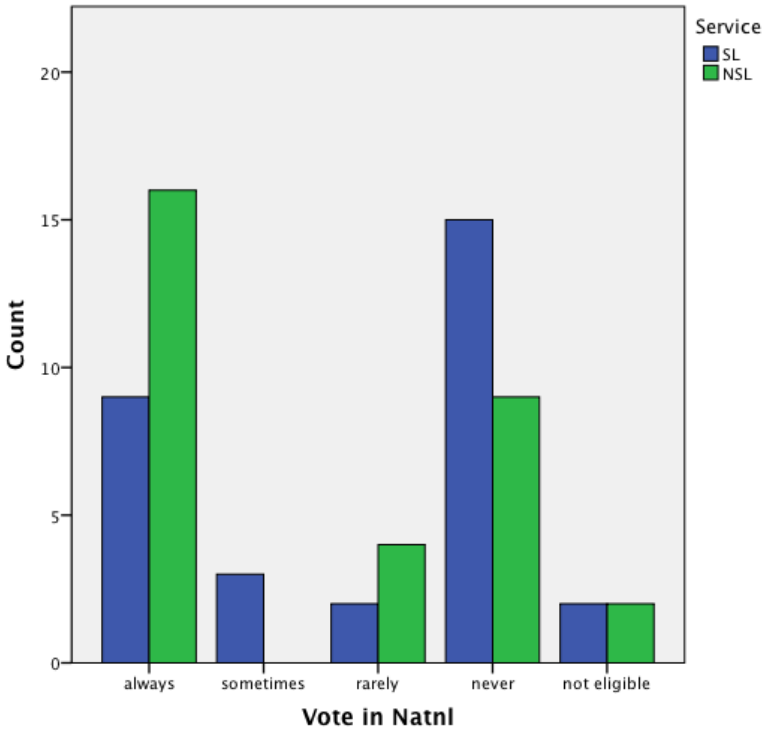


Figure 10. English students' pre-survey responses to the voting in national elections question.

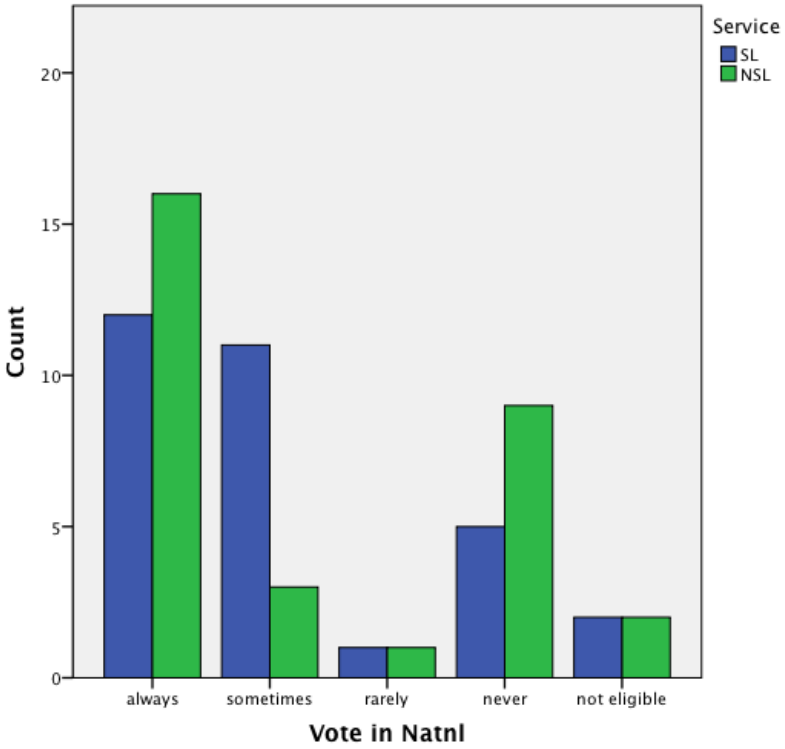


Figure 11. English students' post-survey responses to the voting in national elections question.

Like the service-learners in the English course, the non-service-learners' responses to the questions pertaining to running for office ($t(30)=3.72$, $p=.001$) and volunteering in political campaigns ($t(30)=2.9$, $p=.007$) represented significant differences between pre- and post-surveys. The means for the running for office question decreased from 2.87 (SD=.341) to 2.39 (SD=.715) among non-service-learners, with a standardized effect size, *d*, of .67. Worth noting, though, is that the means for the NSL group were higher than the means for the SL group in both the pre- and post-survey responses to this question: the pre-survey mean response for the NSL group was .29 higher than that of the SL group, and the mean post-survey response was .36 higher than that of the SL group. Thus, the SL English students had a higher tendency to run for office than their NSL counterpart, although both experienced significant changes in this area from pre- to post-survey.

An analysis of the data suggests that NSL students had a higher tendency to volunteer in political campaigns at the end of the English course than at the beginning of the course, which is suggested by a decrease in mean response from 2.13 (SD=.619) to 1.71 (SD=.693) and a standardized effect size index, *d*, of .52. Again, though, the NSL mean response for both the pre- and the post-survey question on this topic were higher than those of the SL students. On the pre-survey, the NSL students had a mean response of 2.13, whereas the SL students had a mean response of 1.94 (a difference of .19). On the post-survey, the NSL students had a mean response of 1.71, whereas the SL students had a mean response of 1.45 (a difference of .26). Thus, while both groups experienced significant changes from pre- to post-survey in this area, the SL group's responses suggested a higher tendency to volunteer for political campaigns than their NSL counterpart both before and after service. Worth mentioning also is the fact that the difference in

SL and NSL means on the post-assessment was greater than the difference in SL and NSL means on the pre-assessment for both this question about volunteering and the question about running for office, suggesting that the SL group experienced greater gains in this area between pre- and post-assessment than the NSL group. The table below summarizes the electoral data collected and analyzed on the non-service-learners in the English course:

Table 24. Electoral indicators among non-service-learners in English.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Registered to Vote - Registered to Vote	-.258	.815	.146	-.557	.041	-1.763	30	.088
Pair 2	Vote in Local - Vote in Local	.194	1.600	.287	-.393	.781	.673	30	.506
Pair 3	Vote in National - Vote in National	.097	2.135	.383	-.686	.880	.252	30	.802
Pair 4	Running for Office - Running for Office	.484	.724	.130	.218	.750	3.719	30	.001
Pair 5	Volunteer in Political Campaign - Volunteer in Political Campaign	.419	.807	.145	.123	.715	2.892	30	.007

Because the responses to the questions about running for office and volunteering in political campaigns were coded on the same 3-point scale with exactly the same answer choices, a correlation analysis could be used to determine whether a relationship exists between service participation and these variables. The correlation between service and running for office was significant among the English students ($r(62)=.263$, $p=.039$), suggesting that a positive

relationship exists between service participation and students' willingness to run for office to address a problem in the community.

Awareness indicators

A comparison of means reflects a significant difference between the pre- and post-responses of the service-learning group to only one question in the category of civic awareness. There was a significant difference ($t(30)=5.73$, $p=.000$) between the group's awareness of a community service agency to help the homeless before and after participation in service, which was expected, given the English instructor's description of the service activities involved in her course: "collecting and donating funds and goods to the Coalition for the Homeless." The standardized effect size index, *d*, was large for this difference in means: 1.03. Responses to this question were coded on a scale of 1 to 2, with a 1 representing an affirmative response and a 2 representing a negative response. The SL group's mean response to this question grew more positive from the pre-survey ($M=1.65$, $SD=.486$) to the post-survey ($M=1.06$, $SD=.250$), suggesting that more students were aware of an organization that could help the homeless after participation in service. The results of the paired-samples *t* test for the SL group are summarized in the table below. Note that the responses to the question asking whether respondents knew of when their town, city, or tribal council meetings are held could not be analyzed because there was no difference between pre- and post-means and the standard error was, therefore, 0.

Table 25. Awareness indicators among service-learners in English.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Know Elected Officials' Names - Know Elected Officials' Names	.065	.359	.065	-.067	.196	1.000	30	.325
Pair 3	Know names of state/national legislators - Know names of state/national legislators	.194	.543	.097	-.006	.393	1.985	30	.056
Pair 4	Know of Community Service Agency - Know of Community Service Agency	.581	.564	.101	.374	.788	5.730	30	.000

A significant difference between the pre- and post-responses to the same question was also found in the non-service-learning English group. Surprisingly, there was a significant difference ($t(30)=2.96$, $p=.006$) between the NSL group's awareness of a community service agency to help the homeless at the end of the course. The standardized effect size index, *d*, was .53. The NSL group's mean response to this question decreased from the pre-survey ($M=1.94$, $SD=.250$) to the post-survey ($M=1.71$, $SD=.461$), suggesting a greater awareness of an organization that could help the homeless at the conclusion of the course. This change may be due to the fact that the English Composition I textbook includes several stories dealing with the issue of homelessness, and it is possible, therefore, that the topic was discussed at length with the students to prompt this change in awareness. No other differences in pre- to post-responses in this category were found to be significant in the NSL group. The results of the paired-samples *t* test for the NSL group are summarized in the table below:

Table 26. Awareness indicators among non-service-learners in English.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Know Elected Officials' Names - Know Elected Officials' Names	.032	.547	.098	-.168	.233	.329	30	.745
Pair 2	Know When Meetings Held - Know When Meetings Held	-.032	.315	.056	-.148	.083	-.571	30	.572
Pair 3	Know names of state/national legislators - Know names of state/national legislators	.065	.629	.113	-.166	.295	.571	30	.572
Pair 4	Know of Community Service Agency - Know of Community Service Agency	.226	.425	.076	.070	.382	2.958	30	.006

Comparing the mean SL and NSL responses to the question about an agency that helps the homeless further reveals distinctions. The SL group's mean response was lower than the NSL group's mean response on both the pre- and post-assessment. Whereas the NSL group's mean response on the pre-survey was 1.94, the SL group's mean response was 1.65, which is a difference of .29; the NSL group's mean response on the post-survey was 1.71, and the SL group's mean response was 1.06, a noteworthy difference of .65. The NSL group's mean response decreased by only .23. In comparison, the SL group's mean response decreased by .59 from pre- to post-survey. Moreover, a mean response of 1.06 (SL) represents a much higher frequency of affirmative answers than a mean response of 1.71 (NSL), the distinction of which is graphically represented in the figures below:

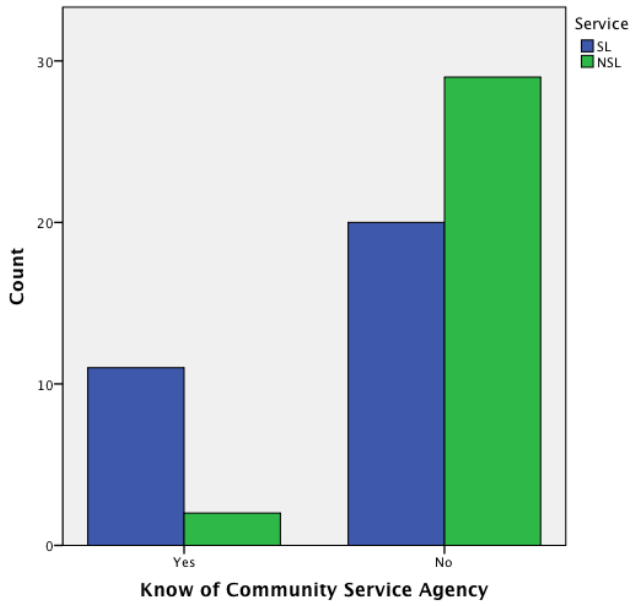


Figure 12. Pre-survey responses: Awareness of community service agency to help homeless.

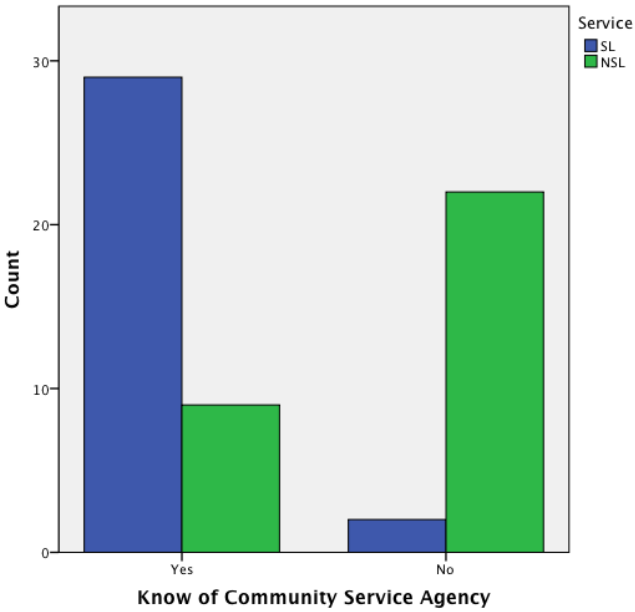


Figure 13. Post-survey responses: Awareness of community service agency to help homeless.

Indicators of future participation

In the English class, the service-learners' mean response to the question on whether they planned to volunteer in the next 12 months decreased from the pre-survey (M=2.16, SD=.638) to the post-survey (M=1.68, SD=.599), suggesting a higher tendency to volunteer after participation in service. The difference was significant (t(30)=5.30, p=.000) with a large standardized effect size index, *d*, of .95. The paired samples *t* test results for the SL group are summarized in the table below:

Table 27. Indicators of future participation among service-learners in English.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Volunteer in next 12 months - Volunteer in next 12 months	.484	.508	.091	.298	.670	5.303	30	.000

The non-service-learners did not experience significant changes in their responses to the question on future volunteer activities (t(30)=1.61, p=.118). A summary of the comparative analysis of mean responses among the NSL group is provided in the table below:

Table 28. Indicators of future participation among non-service-learners in English.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Volunteer in next 12 months - Volunteer in next 12 months	.258	.893	.160	-.070	.586	1.609	30	.118

Furthermore, the SL group's mean response on the pre-survey (M=2.16) was lower than the NSL group's mean response on the pre-survey (M=2.42), suggesting that the SL group began the course with a slightly higher tendency toward volunteering in the future. The SL group's mean response on the post-survey (M=1.68) was lower than the NSL group's mean response on the post-survey (M=2.16). In fact, the NSL group finished the course with the same mean response with which the SL group began the course. You will recall that a lower mean suggests a greater tendency to volunteer in the future. The data suggest, therefore, that the service-learners finished the course with a greater tendency to volunteer in the future than they started with and that they finished the course with a higher tendency to volunteer than did the non-service-learners.

Willingness to help others

In the SL group in the English class, no significant difference was found between the pre-survey and post-survey response to the question on whether the respondent would try to help a homeless student; however, a significant difference (d(30)=2.68, p=.012, *d*=.48) was found

between the pre-survey and post-survey response to this question in the NSL group. The NSL group's mean response decreased from pre-survey (M=1.90, SD=.700) to post-survey (M=1.52, SD=.626). Likewise, the SL group's mean response decreased from pre-survey (M= 1.35, SD=.551) to post-survey (M=1.16, SD=.454). Recall that a lower mean response represents a higher tendency to help. Thus, the significant difference between pre- and post-survey response among the non-service-learners suggests that they had a higher tendency to help at the end of the course than they did at the beginning of the course. Worth noting, though, is the fact that the SL group began the course with a slightly higher tendency to help and finished the course with an even higher tendency to help than the NSL group. The NSL group's mean response on the post-survey was even higher than the SL group's mean response on the pre-survey, suggesting that the service-learners began with a greater tendency to help than the non-service-learners had when they finished the course. The paired samples *t* test results are summarized in the tables below:

Table 29. Willingness to help others among service-learners in English.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Helping Homeless Student - Helping Homeless Student	.194	.654	.117	-.046	.434	1.647	30	.110

Table 30. Willingness to help others among non-service-learners in English.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Helping Homeless Student - Helping Homeless Student	.387	.803	.144	.092	.682	2.683	30	.012

Political voice indicators

The service-learners in English had a higher tendency to sign written petitions and contact local, state, or national officials after participation in service. The mean response to the signing written petitions question decreased from pre-survey (M=2.42, SD=.849) to post-survey (M=2.29, SD=.864). The difference was statistically significant (t(30)=2.108, p=.043), with a standardized effect size, *d*, of .38. The mean response of the service-learners on the question about contacting officials also decreased from 1.32 (SD=.475) to 1.13 (SD=.341) and the difference in means was statistically significant (t(30)=2.257, p= .031), with a standardized effect size index, *d*, of .41. A summary of this data is provided in the table below:

Table 31. Political voice among service-learners in English.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Written Letter - Written Letter	-.032	.407	.073	-.182	.117	-.441	30	.662
Pair 2	Signed Written Petition - Signed Written Petition	.129	.341	.061	.004	.254	2.108	30	.043
Pair 3	Signed Email Petition - Signed Email Petition	.387	1.116	.200	-.022	.796	1.931	30	.063
Pair 4	Would Contact Local, State, or National Office - Would Contact Local, State, or National Office	.194	.477	.086	.018	.369	2.257	30	.031

Interestingly, the non-service-learners in English had a higher tendency to sign *email* petitions and contact local, state, or national officials at the conclusion of the course. The higher tendency to sign email petitions was suggested by the significant difference ($t(30)=3.21$, $p=.003$) between the pre-survey mean response ($M=4.06$, $SD=1.389$) and the post-survey mean response ($M=2.97$, $SD=1.329$), as well as the standardized effect size index, *d*, of .58. A statistically significant difference ($t(30)=2.997$, $p=.005$) was also found in the non-service-learners' responses to the question about contacting officials with a mean decrease from 1.55 ($SD=.506$) to 1.23 ($SD=.425$) and a standardized effect size index, *d*, of .54. A summary of this data is provided below:

Table 32. Political voice among non-service-learners in English.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Written Letter - Written Letter	.032	.836	.150	-.274	.339	.215	30	.831
Pair 2	Signed Written Petition - Signed Written Petition	.194	.946	.170	-.153	.540	1.139	30	.264
Pair 3	Signed Email Petition - Signed Email Petition	1.097	1.904	.342	.399	1.795	3.208	30	.003
Pair 4	Would Contact Local, State, or National Office - Would Contact Local, State, or National Office	.323	.599	.108	.103	.542	2.997	30	.005

Recall that one difficulty with using mean difference to evaluate these questions about political voice is that some of the answer choices do not reflect either a positive or negative response. Thus, it is necessary to further examine the frequencies of responses. See the figures below for a graphical depiction of the frequency of responses on the post-surveys:

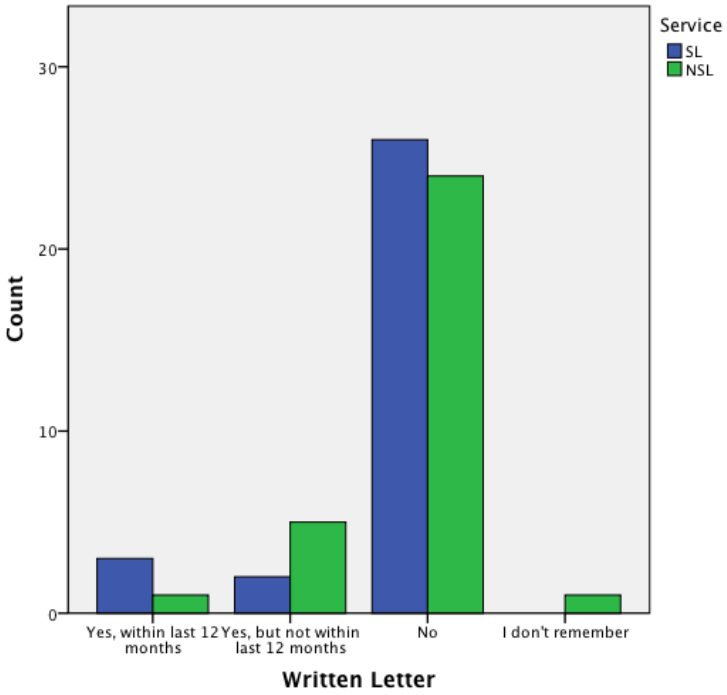


Figure 14. Frequency of English students' post-survey responses to writing letters question.

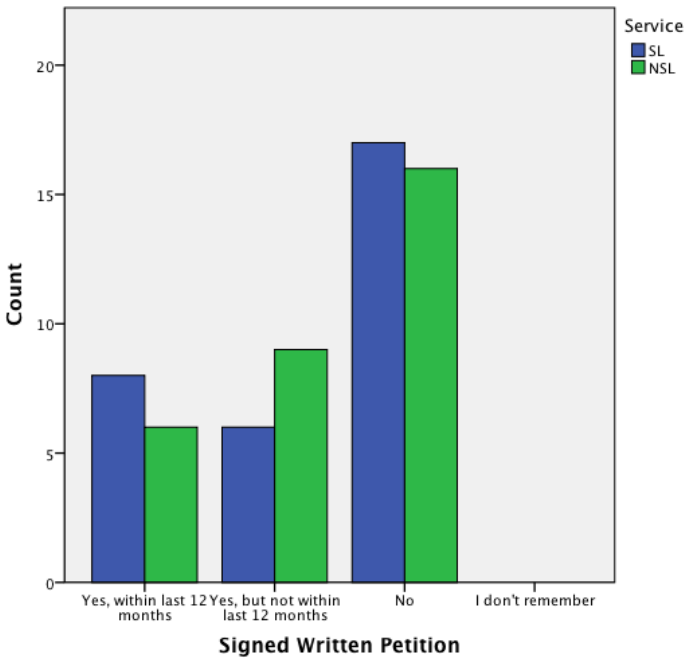


Figure 15. Frequency of English students' post-survey responses to written petitions question.

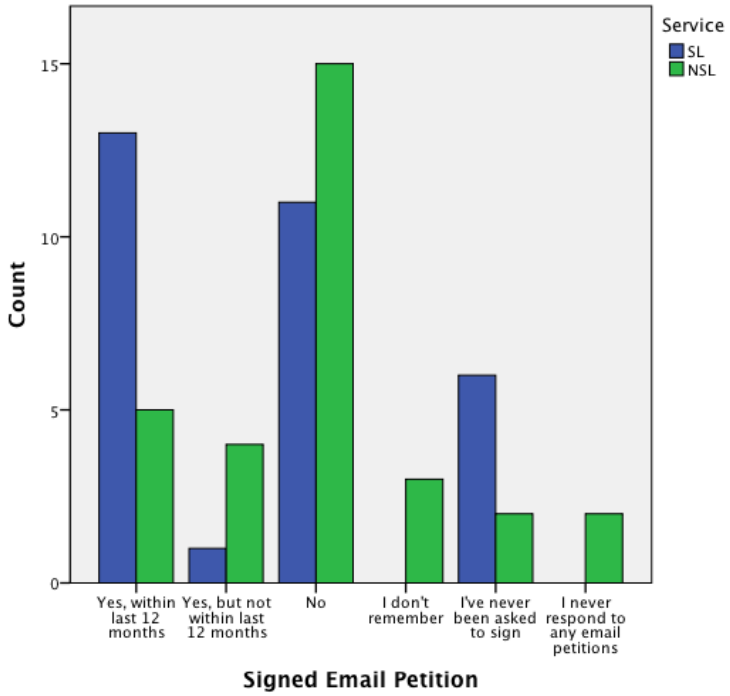


Figure 16. Frequency of English students' responses to email petition question.

As one can see in the figures above, the SL and NSL students enrolled in the English course had similar responses to the questions about writing letters and signing written petitions on the post-survey; however, there is a clear distinction between the two groups' responses to the question about signing email petitions. Looking more closely at the frequency of responses, one can see that the number of "Yes" answers (14 out of 31) in the SL group was much higher than that of the NSL group (9 out of 31). Although no significant difference was seen in pre- and post-responses, an examination of the frequencies suggests that the service-learners had a higher tendency to sign email petitions than the non-service-learners.

Table 33. Frequency of English students' pre-survey responses to question on signing email petitions.

		Frequency PRE (SL)	Frequency PRE (NSL)	Percent PRE (SL)	Percent PRE (NSL)
Valid	Yes, within last 12 months	8	2	25.8	6.5
	Yes, but not within last 12 months	3	11	9.7	35.5
	No	12	4	38.7	12.9
	I've never been asked to sign	8	9	25.8	29.0
	I never respond to any email petitions	0	5	0	16.1

Table 34. Frequency of English students' post-survey responses to question on signing email petitions.

		Frequency POST (SL)	Frequency POST (NSL)	Percent POST (SL)	Percent POST (NSL)
Valid	Yes, within last 12 months	13	5	41.9	16.1
	Yes, but not within last 12 months	1	4	3.2	12.9
	No	11	15	35.5	48.4
	I've never been asked to sign	6	3	19.4	9.7
	I never respond to any email petitions	0	2	0	6.5

Comfort with diversity

The students were asked whether diversity in race, gender, ethnicity, sexual orientation, or religion among group members would cause them to be less likely to participate in that group. The responses were coded on a 1 to 3 scale, with an affirmative response coded as a 1, representing a high discomfort with diversity, and a negative response coded as a 3, representing

a low discomfort with diversity. The mean response to this question increased from pre- (M=2.68, SD=.6359) to post-survey (M=2.94, SD=.359), indicating that there were more negative responses on the post-survey as compared to the pre-survey. The difference between pre- and post-survey responses to this question was significant (t(30)=2.497, p=.018) with a standardized effect size index, *d*, of .45, suggesting that after participation in service, the English students had a higher tendency to be comfortable enough with diversity to participate in a diverse group. The comparison of SL mean responses to this question is summarized in the table below:

Table 35. Comfort with diversity among service-learners in English.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Willingness to Participate in Diverse Group - Willingness to Participate in Diverse Group	-.258	.575	.103	-.469	-.047	-2.497	30	.018

In contrast, the non-service-learners' mean response to this question *decreased* slightly from pre-survey (M=2.68, SD=.599) to post-survey (M=2.52, SD=.811), suggesting that they were somewhat more uncomfortable with diversity at the end of the course as compared to the beginning of the course. However, no significant difference was found between the non-service-learners' pre- and post-survey responses to this question (t(30)=.841, p=.407). The comparison of NSL mean responses is summarized in the table below:

Table 36. Comfort with diversity among non-service-learners in English.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Willingness to Participate in Diverse Group - Willingness to Participate in Diverse Group	.161	1.068	.192	-.230	.553	.841	30	.407

A comparison of the mean responses of the service-learners and non-service-learners in English class reveals that while both groups began the course with the same mean response (M=2.68), the SL group finished the course with a greater comfort with diversity (M=2.94) than the NSL group, which experienced a slight decrease in comfort with diversity (M=2.52) over the course of the semester. The data, therefore, suggest that students experienced greater comfort with diversity after participation in service and that SL students experienced greater gains in this area than NSL students in a comparable course.

Summary

Service-learners in the English course experienced significant gains in six of the seven dimensions of civic engagement measured in this study: civic indicators, electoral indicators, awareness indicators, indicators for future participation, political voice indicators, and indicators of comfort with diversity. Specifically, a significant difference between the service-learners' pre-

and post-survey responses were found in 12 of the survey items. The data suggest that after participation in service, the English students had a higher tendency to work to address a problem in the community, to organize a group to address a problem in the community, to attend a meeting of a community group or organization, to volunteer for both non-electoral and electoral activities, to vote in national elections, to run for office, to be aware of an agency that helps the homeless, to volunteer in the future, to sign written petitions, to contact government officials, and to be comfortable with diversity. Thus, after participation in the semester-long service project in which they worked to raise funds and collect goods for the Coalition for the Homeless, the English students experienced significant gains in civic engagement overall.

The NSL group's pre- and post-surveys reflected significant changes in the responses to six survey items, which fall into the categories of civic indicators, electoral indicators, awareness indicators, indicators of willingness to help others, and political voice indicators. Specifically, the data suggest that at the conclusion of the English course, the NSL students had a higher tendency to organize a group to address a problem in the community, to run for office, to volunteer in a political campaign, to be aware of an agency that helps the homeless, to be willing to help others, to contact an official, and to sign email petitions. However, in every post-survey item except for the voting in local elections, the knowledge of when meetings are held, and the writing of letters to legislators/print publications, the SL students finished the course with mean responses that reflect higher tendencies for the civic activities being assessed than those of their NSL counterpart (as represented by the item-specific mean responses summarized in the table below):

Table 37. Summary of mean post-survey responses of service-learners vs. non-service-learners in English.

	NSL Mean	SL Mean
Volunteer in Last 12 months	2.58	2.26
Registered to Vote	1.32	1.23
Vote in Local	3.00	3.29
Vote in National	2.29	2.16
Written Letter	2.52	2.74
Signed Written Petition	2.32	2.29
Signed Email Petition	2.97	2.52
Know Elected Officials' Names	1.74	1.71
Know When Meetings Held	1.90	1.97
Ever Attended Meeting	2.87	2.55
Know names of state/national legislators	1.61	1.45
Worked to Address Community Problem	2.68	2.48
Would Organize Group to Address Problem	2.56	1.65
Would Contact Local, State, or National Office	1.23	1.13
Running for Office	2.39	2.03
Volunteer in Political Campaign	1.71	1.45
Willingness to Participate in Diverse Group	2.52	2.94
Helping Homeless Student	1.52	1.16
Know of Community Service Agency	1.71	1.06
Volunteer in next 12 months	2.16	1.68

Course 2: Speech

The service-learners in speech class worked on what the instructor referred to as *a literacy project*. They spent two days helping teach young adults to read and then presented a speech describing their experiences. Two sections of Fundamentals of Speech yielded 34 matching pre- and post-surveys, with 16 SL students and 18 NSL students. The mean pre- and post-responses for each item were, once again, analyzed using paired-samples *t* tests to

determine if any differences between them were significant. The mean responses for the SL group were then compared to the mean responses of the NSL group to determine which group had higher tendencies for each of the civic activities that were assessed in the survey instrument. The results of these analyses are organized by dimension of civic engagement (civic, electoral, awareness, future participation, willingness to help others, political voice, comfort with diversity) and are presented below.

Civic indicators

Neither the NSL group nor the SL group in speech class experienced significant gains or losses in the items in this category. A summary of the comparative analyses of the pre- and post-mean responses of each group is provided in the tables below:

Table 38. Civic indicators among service-learners in speech.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Worked to Address Community Problem - Worked to Address Community Problem	-.125	.619	.155	-.455	.205	-.808	15	.432
Pair 2	Would Organize Group to Address Problem - Would Organize Group to Address Problem	-.063	.443	.111	-.298	.173	-.565	15	.580
Pair 3	Ever Attended Meeting - Ever Attended Meeting	.000	.365	.091	-.195	.195	.000	15	1.000
Pair 4	Volunteer in Last 12 months - Volunteer in Last 12 months	-.063	.574	.143	-.368	.243	-.436	15	.669

Table 39. Civic indicators among non-service-learners in speech.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Worked to Address Community Problem - Worked to Address Community Problem	-.111	.471	.111	-.346	.123	-1.000	17	.331
Pair 2	Would Organize Group to Address Problem - Would Organize Group to Address Problem	-.278	.826	.195	-.689	.133	-1.426	17	.172
Pair 3	Ever Attended Meeting - Ever Attended Meeting	.000	.594	.140	-.295	.295	.000	17	1.000
Pair 4	Volunteer in Last 12 months - Volunteer in Last 12 months	.000	.594	.140	-.295	.295	.000	17	1.000

Not only were there no significant changes in this category from pre- to post-survey among the speech students, but also the results of the mean responses reflect a slight decrease in the service-learners' tendency to participate in these civic activities. For example, the SL group's mean response to the question of whether respondents have worked to address a problem in their community increased from 2.44 to 2.56. None of the participants in the speech classes selected the "I don't remember" response, so a comparison of means is appropriate in this case. Since the responses in this category are coded such that a lower response suggests a greater tendency to participate, the increase in means indicates a decrease in the tendency toward working to address community problems. The NSL group also experienced a slight increase in response mean from

2.67 to 2.87 on this item. In fact, the SL group's mean responses increased in all but one of the civic indicator items, in which their responses remained the same, and the NSL group's mean responses also increased on two of the civic indicator items and remained the same on the other two. A summary of the mean responses to the items in this category is provided below. These results are surprising and will need to be carefully examined in light of the service projects infused into the course.

Table 40. Summary of mean responses of speech students to civic indicator questions.

		NSL Mean	SL Mean
Pair 1	PRE Worked to Address Community Problem	2.67	2.44
	POST Worked to Address Community Problem	2.78	2.56
Pair 2	PRE Would Organize Group to Address Problem	1.94	2.25
	POST Would Organize Group to Address Problem	2.22	2.31
Pair 3	PRE Ever Attended Meeting	2.89	2.50
	POST Ever Attended Meeting	2.89	2.50
Pair 4	PRE Volunteer in Last 12 months	2.00	1.56
	POST Volunteer in Last 12 months	2.00	1.63

Electoral indicators

No significant differences were found between service-learners' pre- and post-responses to the items in the electoral category. However, the service-learners' mean responses for each item decreased from pre- to post-survey, suggesting that the students had a higher tendency to vote in local and national elections, run for office, and volunteer in political campaigns after participating in service. Specifically, the mean response to the question about voting in local elections decreased from the pre-survey (M=2.50, SD=1.32) to the post-survey (M=2.19, SD=1.17). The mean response to the question about voting in national elections also decreased

from the pre-survey (M=2.00, SD=1.32) to the post-survey (M=1.88, SD=1.31), as did the mean response to the question about running for office (pre M=2.38, SD=.806; post M=2.44, SD=.727). Finally, the mean response to the question about volunteering in political campaigns decreased from the pre-survey (M=2.00, SD=.894) to the post-survey (M=1.81, SD=.750).

The NSL group did not experience any significant changes from pre- to post-survey in the electoral category. The mean responses reveal, however, an increase in the voting in local elections item and the volunteering in political campaigns item, suggesting a decrease in the students' tendencies to participate in these activities at the conclusion of the course. The mean response decreased in the voting in national elections and the running for office items, suggesting that students had a higher tendency to participate in those activities at the conclusion of the course than they did at the beginning of the course. However, as mentioned, none of the differences were statistically significant. The electoral results of the paired-samples *t* tests for the SL speech group and the NSL speech group are summarized in the tables below:

Table 41. Electoral indicators among service-learners in speech.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Vote in Local - Vote in Local	.313	.704	.176	-.063	.688	1.775	15	.096
Pair 2	Vote in National - Vote in National	.125	.342	.085	-.057	.307	1.464	15	.164
Pair 3	Running for Office - Running for Office	-.063	.574	.143	-.368	.243	-.436	15	.669
Pair 4	Volunteer in Political Campaign - Volunteer in Political Campaign	.188	.750	.188	-.212	.587	1.000	15	.333

Table 42. Electoral indicators among non-service-learners in speech.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Vote in Local - Vote in Local	-.278	1.227	.289	-.888	.333	-.960	17	.350
Pair 2	Vote in National - Vote in National	.111	1.451	.342	-.610	.833	.325	17	.749
Pair 3	Running for Office - Running for Office	.222	.548	.129	-.050	.495	1.719	17	.104
Pair 4	Volunteer in Political Campaign - Volunteer in Political Campaign	-.333	.686	.162	-.674	.008	-2.062	17	.055

The SL group's mean responses to the voting questions in this category were lower than those of the NSL group, suggesting that the service-learners have a higher tendency toward

voting in both local and national elections before and after participation in service than students in a comparable course without a service component. Whereas 31% of the non-service-learners reported voting “always” or “sometimes” in local elections on the pre-survey, 25% reported voting “always” or “sometimes” in local elections on the post-survey. Fifty percent of non-service-learners on the pre-survey and 56% on the post-survey reported having voted “always” or “sometimes” in national elections, an increase of 6%. The percentage of service-learners reporting having voted “always” or “sometimes” in local elections increased from 56% to 75%, and the percentage of service-learners reporting having voted “always” or “sometimes” in national elections increased from 69% to 75%, an increase of 6%. Thus, an examination of the frequencies of responses indicates that the service-learners did experience greater gains in their tendencies to vote in local elections but did not experience greater gains in their tendency to vote in national elections. The figures below provide an illustration of these frequencies:

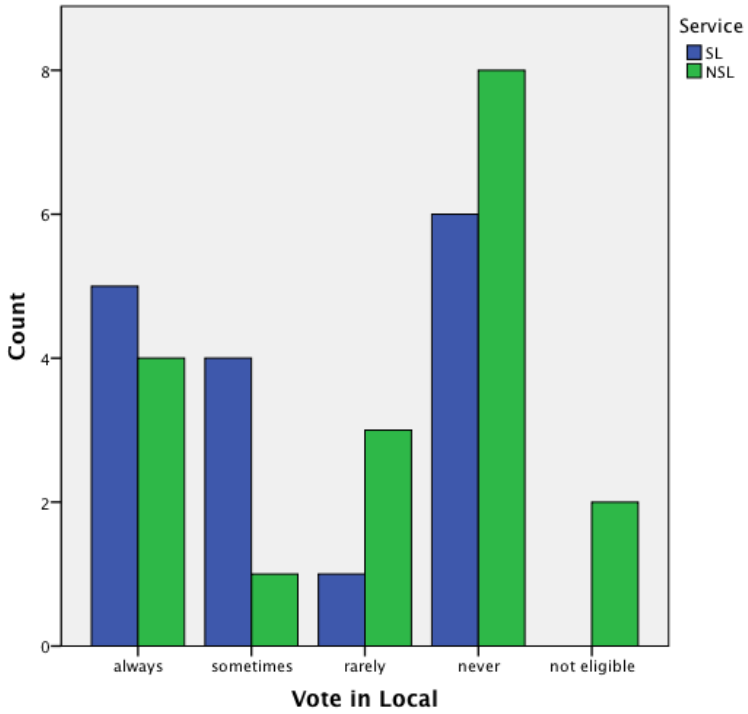


Figure 17. Speech students' pre-survey responses to the question about voting in local elections.

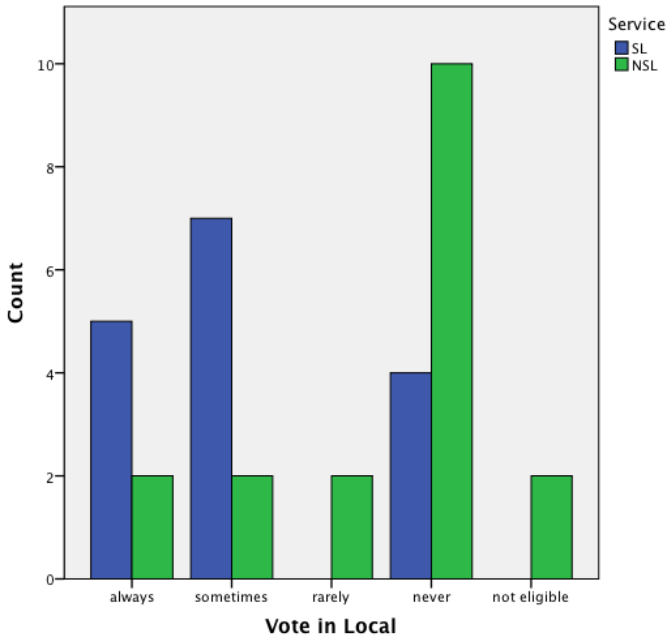


Figure 18. Speech students' post-survey responses to the question about voting in local elections.

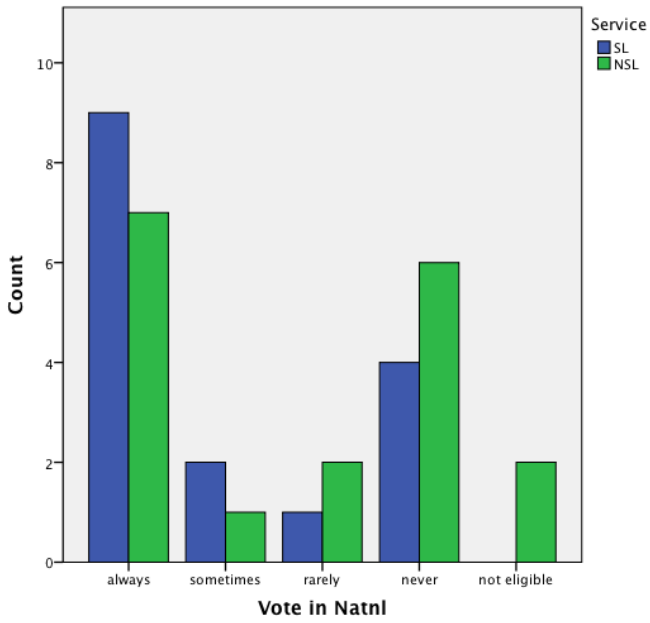


Figure 19. Speech students' pre-survey responses to the question about voting in national elections.

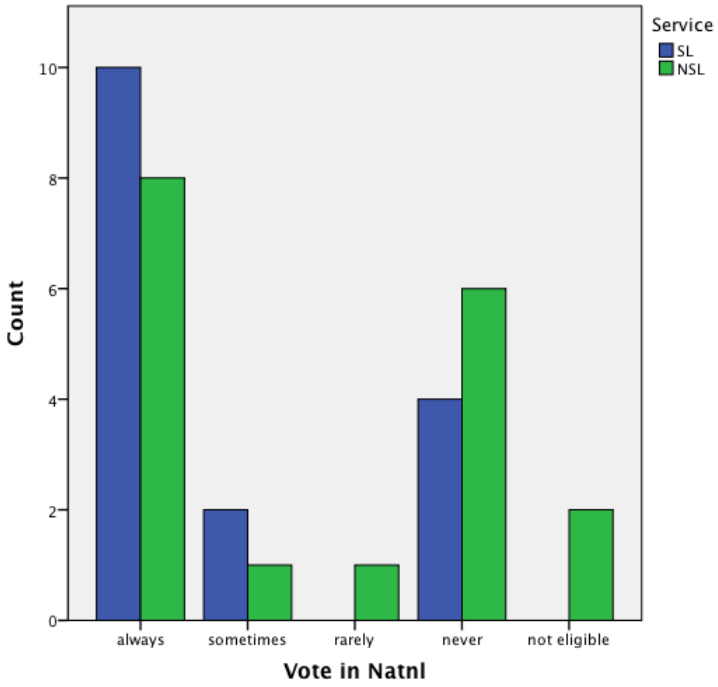


Figure 20. Speech students' post-survey responses to the question about voting in national elections.

While both the SL group and the NSL group experienced a decrease in mean response to the volunteering in political campaigns question, the non-service-learners experienced a larger decrease. The table below provides a summary of the mean responses of both the SL group and the NSL group on each of the items in the electoral category.

Table 43. Summary of mean responses of speech students on electoral indicator questions.

		NSL Mean	SL Mean
Pair 1	PRE Vote in Local	3.17	2.50
	POST Vote in Local	3.44	2.19
Pair 2	PRE Vote in National	2.72	2.00
	POST Vote in National	2.61	1.88
Pair 3	PRE Running for Office	2.61	2.38
	POST Running for Office	2.39	2.44
Pair 4	PRE Volunteer in Political Campaign	1.94	2.00
	POST Volunteer in Political Campaign	1.81	1.81

Awareness indicators

Once again, neither the service-learners nor the non-service-learners experienced significant gains or losses in the category of civic awareness. The NSL group remained relatively static on all items in this category except for knowing the names of state or national legislators, which decreased from 1.50 (SD=.514) to 1.39 (SD=.502). The SL group did not change on the question of whether the respondents knew of a community service agency that helps the homeless (M=1.50, SD=.516) and decreased slightly in all other categories. For example, the service-learners' mean response to the question of whether they know their elected officials' names decreased from the pre-survey (M=1.63, SD=.50) to the post-survey (M=1.50, SD=.52). Similarly, the SL group's mean response to the question of whether they know when their town,

city, or tribal council meetings are held decreased from pre-survey (M=1.75, SD=.447) to post-survey (M=1.69, SD=.479). Lastly, the SL group's mean response to the question of whether they know the names of their state and national legislators decreased from the pre-survey (M=1.44, SD=.512) to the post-survey (M=1.38, SD=.50). However, none of the differences were significant. The results of a comparison of the speech students' pre-survey responses and post-survey responses to the civic awareness questions are summarized in the tables below:

Table 44. Civic awareness among service-learners in speech.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Know Elected Officials' Names - Know Elected Officials' Names	.125	.500	.125	-.141	.391	1.000	15	.333
Pair 2	Know When Meetings Held - Know When Meetings Held	.063	.443	.111	-.173	.298	.565	15	.580
Pair 3	Know names of state/national legislators - Know names of state/national legislators	.063	.250	.063	-.071	.196	1.000	15	.333
Pair 4	Know of Community Service Agency - Know of Community Service Agency	.000	.365	.091	-.195	.195	.000	15	1.000

Table 45. Civic awareness among non-service-learners in speech.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Know Elected Officials' Names - Know Elected Officials' Names	.000	.594	.140	-.295	.295	.000	17	1.000
Pair 3	Know names of state/national legislators - Know names of state/national legislators	.111	.323	.076	-.050	.272	1.458	17	.163
Pair 4	Know of Community Service Agency - Know of Community Service Agency	.000	.485	.114	-.241	.241	.000	17	1.000

Because the standard error of the difference between the non-service-learners' pre- and post-mean survey response to the question about knowing when meetings are held was 0, as reflected in the table below, the correlation and *t* could not be computed and are, therefore, not reported in Table 45:

Table 46. Paired samples statistics for non-service-speech-learners' responses to civic awareness items.

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Know Elected Officials' Names	1.78	18	.428	.101
	Know Elected Officials' Names	1.78	18	.428	.101
Pair 2	Know When Meetings Held	1.89[a]	18	.323	.076
	Know When Meetings Held	1.89[a]	18	.323	.076
Pair 3	Know names of state/national legislators	1.50	18	.514	.121
	Know names of state/national legislators	1.39	18	.502	.118
Pair 4	Know of Community Service Agency	1.78	18	.428	.101
	Know of Community Service Agency	1.78	18	.428	.101

a. The correlation and t cannot be computed because the standard error of the difference is 0.

From a side-by-side comparison of the mean responses of the speech students in this category as reflected in the table below, one can easily see that the service-learners had a higher tendency to know the names of their elected officials, as well as the names of their state and national legislators, to know when their council meetings are held, and to know of a community service agency that helps the homeless than students in a comparable course who did not participate in service-learning.

Table 47. Summary of mean responses of speech students to the civic awareness indicator questions.

		NSL Mean	SL Mean
Pair 1	PRE Know Elected Officials' Names	1.78	1.63
	POST Know Elected Officials' Names	1.78	1.50
Pair 2	PRE Know When Meetings Held	1.89	1.75
	POST Know When Meetings Held	1.89	1.69
Pair 3	PRE Know names of state/national legislators	1.50	1.44
	POST Know names of state/national legislators	1.39	1.38
Pair 4	PRE Know of Community POST Service Agency	1.78	1.50
	POST Know of Community Service Agency	1.78	1.50

Indicators of future participation

No significant difference was found in the speech students' pre- and post-survey responses to the question of whether they would volunteer in the next 12 months. The service-learners' mean response decreased slightly from pre-survey (M=1.25, SD=.577) to post-survey (M=1.19, SD=.403), whereas the non-service-learners' mean response to this question increased slightly from pre-survey (M=1.89, SD=.963) to post-survey (M=2.06, SD=.725). Since this question was coded on a 4-point scale with a 1 representing a definitive yes response, a 2 representing a probable yes response, a 3 representing a probable no response, and a 4 representing a definitive no response; it is clear that the SL group's mean response was closest to a definitive yes and the NSL group's mean response was closest to a probable yes. Thus, the data suggest that the service-learners in the speech class showed a higher tendency to be certain in their decision to volunteer in the subsequent year than the non-service-learners in a comparable course. The data comparing the speech students' mean responses to this question are summarized in the tables below:

Table 48. Future participation among service-learners in speech.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Volunteer in next 12 months - Volunteer in next 12 months	.063	.680	.170	-.300	.425	.368	15	.718

Table 49. Future participation among non-service-learners in speech.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Volunteer in next 12 months - Volunteer in next 12 months	-.167	.857	.202	-.593	.260	-.825	17	.421

Indicators of willingness to help others

No significant difference was found in the service-learners' response to the question about whether they would help a homeless student; however, what is surprising is that the mean response actually increased rather than decreased from the pre-survey (M=1.31, SD=.479) to the post-survey (M=1.50, SD=.632), which suggests that their tendency to help diminished over the course of the semester or, more specifically, that they had a lower tendency to help after participation in service. Of course, such a finding was not expected, and I am hopeful that the analyses of the moderating variables will help me draw some interesting conclusions as to why

this may have occurred. While there was also no significant difference found in the pre- and post-responses of the NSL group, their mean response decreased from the pre-survey (M=1.44, SD=.511) to the post-survey (M=1.39, SD=.502), suggesting a greater tendency toward helping a homeless student at the end of the course. The results of the paired-samples *t* tests are summarized in the tables below:

Table 50. Willingness to help others among service-learners in speech.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Helping Homeless Student - Helping Homeless Student	-.188	.544	.136	-.477	.102	-1.379	15	.188

Table 51. Willingness to help others among non-service-learners in speech.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Helping Homeless Student - Helping Homeless Student	.056	.539	.127	-.213	.324	.437	17	.668

Political voice indicators

Again, no significant differences were found between the pre- and post-survey responses to the political voice question items in the SL group in speech class. The service-learners' mean response to the question about writing letters increased from the pre-survey (M=2.63, SD=.719)

to the post-survey (M=2.69, SD=.704), as did their mean response to the question on signing email petitions, which increased from a mean of 2.56 (SD=1.03) to a mean of 2.63 (SD=.957). In contrast, the SL group's mean response to the questions on signing written petitions and contacting local, state, or national officials decreased, the first from 2.38 (SD=.806) to 2.25 (.856) and the second from 1.19 (.403) to 1.13 (.342).

The non-service-learners' pre-survey mean response to the question on signing written petitions decreased from pre-survey (M=2.89, SD=.323) to post-survey (M=2.39, SD=1.04), and the difference was significant (t(17)=2.153, p=.046) with a standardized effect size index, *d*, of .51. This suggests the NSL group had a greater tendency to sign written petitions at the end of the speech course than they did at the beginning of the course, whereas the SL students did not. The NSL group's mean response to the question on contacting local, state, or national officials increased from pre-survey (M=1.39, SD=.502) to post-survey (M=1.44, SD=.511), and the difference was significant (t(17)=-2.17, p=.045). However, the standardized effect size index, *d*, of .088 suggests that the difference may not even be worth considering. The tables below summarize the analyses of the mean responses in this category:

Table 52. Political voice among service-learners in speech.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Written Letter - Written Letter	-.063	.250	.063	-.196	.071	-1.000	15	.333
Pair 2	Signed Written Petition - Signed Written Petition	.125	.500	.125	-.141	.391	1.000	15	.333
Pair 3	Signed Email Petition - Signed Email Petition	-.063	.929	.232	-.557	.432	-.269	15	.791
Pair 4	Would Contact Local, State, or National Office - Would Contact Local, State, or National Office	.063	.250	.062	-.071	.196	1.000	15	.333

Table 53. Political voice among non-service-learners in speech.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Written Letter - Written Letter	.056	.236	.056	-.062	.173	1.000	17	.331
Pair 2	Signed Written Petition - Signed Written Petition	.500	.985	.232	.010	.990	2.153	17	.046
Pair 3	Signed Email Petition - Signed Email Petition	-.611	1.195	.282	-1.205	-.017	-2.170	17	.045
Pair 4	Would Contact Local, State, or National Office - Would Contact Local, State, or National Office	-.056	.639	.151	-.373	.262	-.369	17	.717

Table 54. Summary of speech students' mean responses to the political voice item questions.

		NSL Mean	SL Mean
Pair 1	PRE Written Letter	2.94	2.63
	POST Written Letter	2.89	2.69
Pair 2	PRE Signed Written Petition	2.89	2.38
	POST Signed Written Petition	2.39	2.25
Pair 3	PRE Signed Email Petition	2.67	2.56
	POST Signed Email Petition	3.28	2.63
Pair 4	PRE Would Contact Local, State, or National Office	1.39	1.19
	POST Would Contact Local, State, or National Office	1.44	1.13

You will recall that several of the questions in the category of political voice include answer choices that have the potential to distort the results of a comparison of means; thus, I will examine the frequencies as well. In Figures 21 and 22 below, we can see that more SL students than NSL students answered “Yes” to the question of whether they had written letters to government officials or print publications, and Figures 23 and 24 suggest that both groups’ affirmative responses to the question on the signing of written petitions increased at a similar rate. Finally, in Figures 25 and 26, we see very little difference in the frequency of responses between the SL and NSL groups.

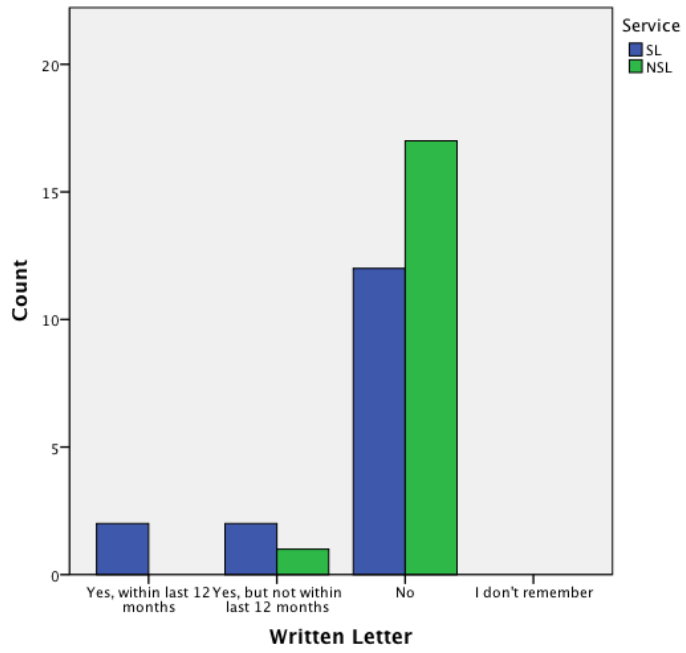


Figure 21. Frequency of pre-survey responses in speech class to question on writing letters.

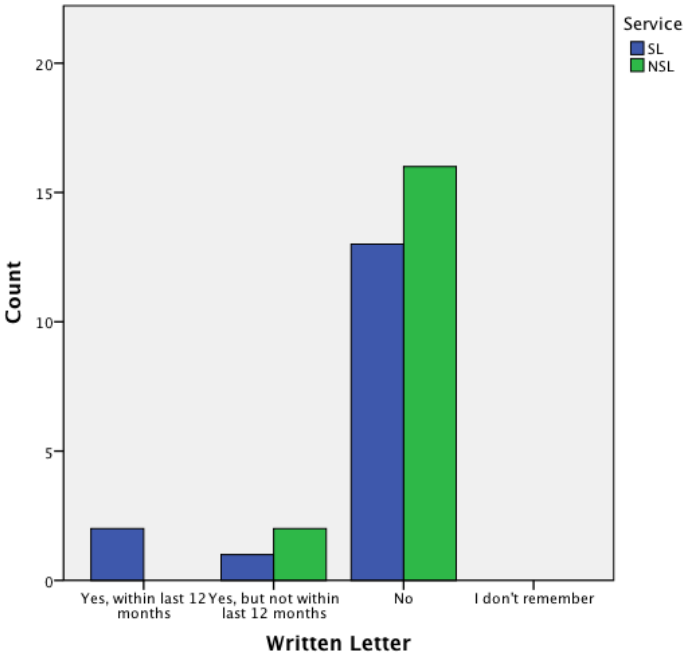


Figure 22. Frequency of post-survey responses in speech class to question on writing letters.

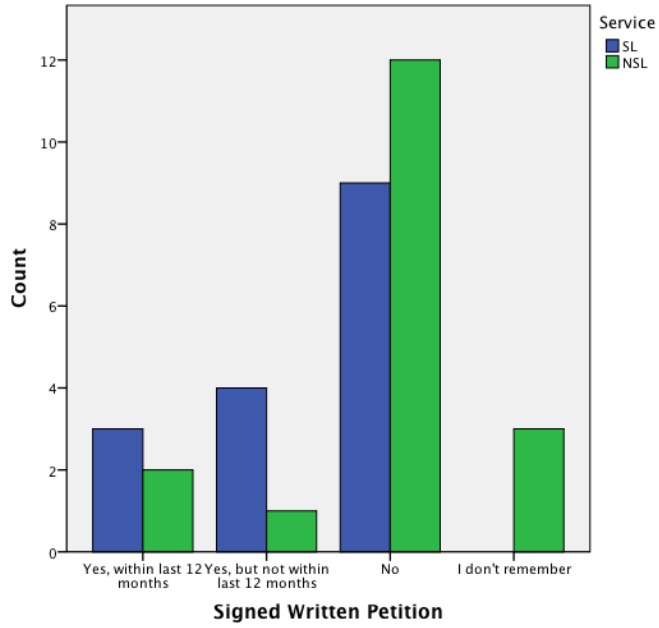


Figure 23. Frequency of speech students' pre-survey responses to the question on written petitions.

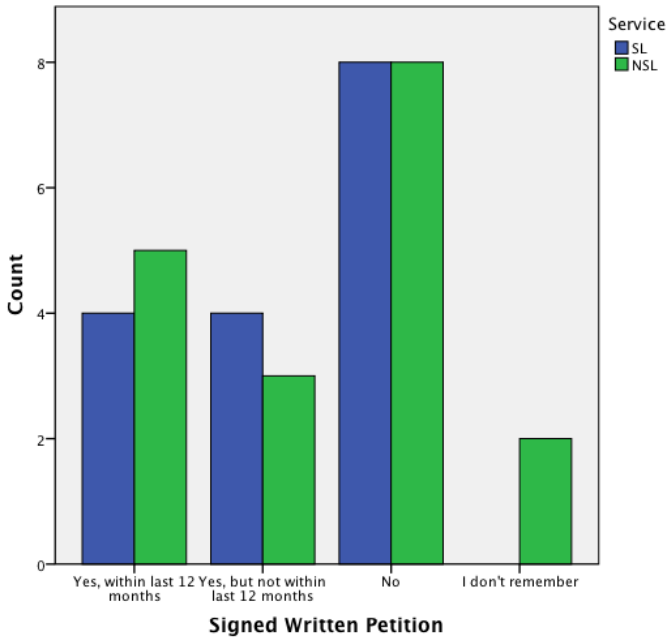


Figure 24. Frequency of speech students' post-survey responses to the question on written petitions.

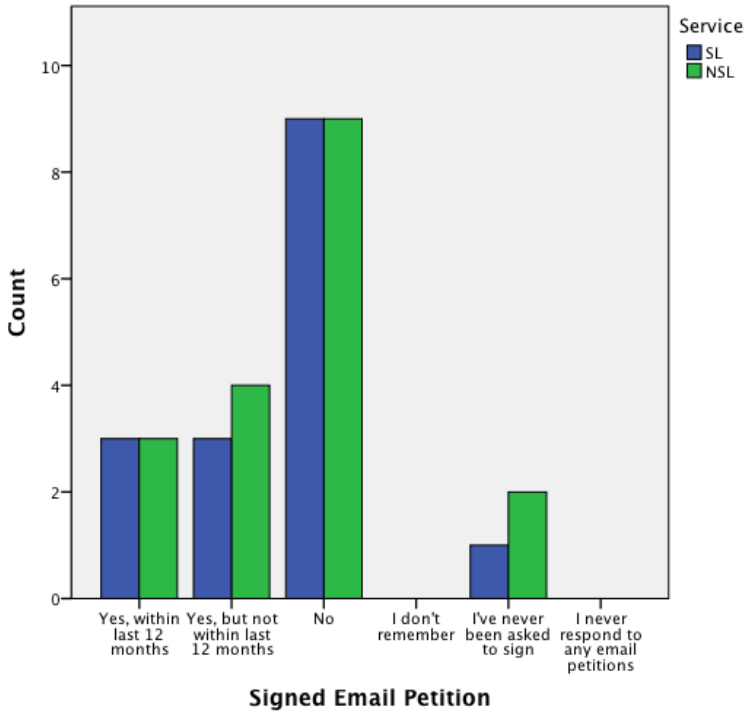


Figure 25. Frequency of speech students' pre-survey responses to the question on signing email petitions.

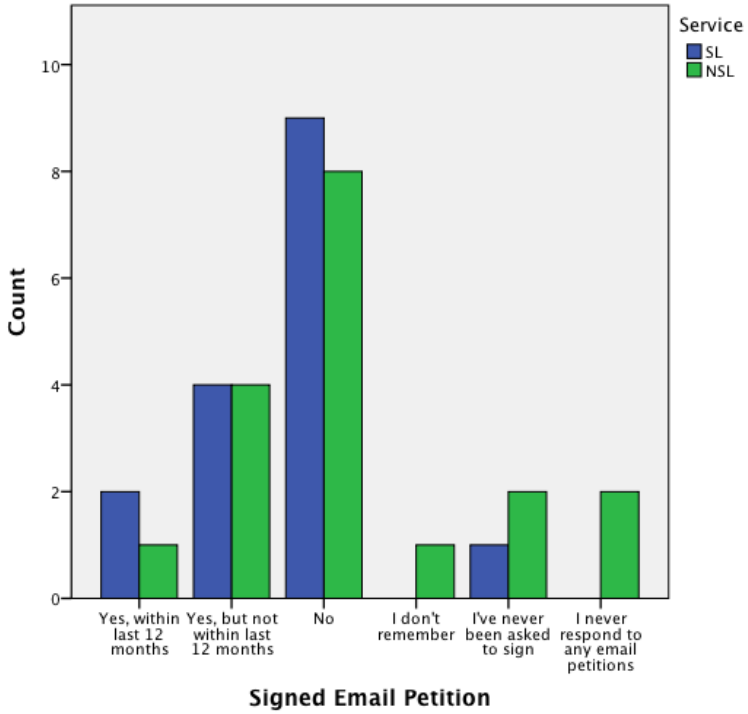


Figure 26. Frequency of speech students' post-survey responses to the question on email petition.

Indicators of comfort with diversity

The service-learners' mean response to the diversity question increased from the pre-survey (M=2.81, SD=.544) to the post-survey (M=2.94, SD=.250), suggesting that, after participation in service activities, the students in this group had a greater tendency to be comfortable enough with diversity to choose to participate in a group made up of diverse people. The difference in pre- and post-means, however, was not significant, as evidenced in the table below:

Table 55. Comfort with diversity among service-learners in speech.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Willingness to Participate in Diverse Group - Willingness to Participate in Diverse Group	-.125	.619	.155	-.455	.205	-.808	15	.432

The non-service-learners' mean response to the diversity question also increased from the pre-survey (M=2.44, SD=.856) to the post-survey (M=2.72, SD=.669); however, the difference was not significant. The analysis of the difference in mean responses to this item is summarized in the table below:

Table 56. Comfort with diversity among non-service-learners in speech.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Willingness to Participate in Diverse Group - Willingness to Participate in Diverse Group	-.278	.895	.211	-.723	.167	-1.317	17	.205

A comparison of the mean responses of the two groups (see table below) makes it clear that the SL group had a higher tendency to select a negative response to this question. A response coded 3 was a "No" answer; thus, a mean response of 2.94 is closer to a "No" than a mean response of 2.72.

Table 57. Comparison of mean responses of speech students to diversity question.

		NSL Mean	SL Mean
Pair 1	PRE Willingness to Participate in Diverse Group	2.44	2.81
	POST Willingness to Participate in Diverse Group	2.72	2.94

Summary

No significant differences were found between the pre- and post-survey responses of the service-learners in speech class. This suggests that participation in the course-related literacy service activities did not result in any significant gains or losses in the students' level of civic engagement, measured across the seven dimensions. A comparison of the mean responses of the

SL and NSL groups in speech class, however, suggests that the service-learners had higher tendencies to participate in the majority of assessed activities and demonstrate the majority of assessed behaviors than the non-service-learners. In fact, the SL group showed higher tendencies than the NSL group to participate in all of the activities assessed, except for organizing a group to address a problem in the community, running for office, and volunteering in political campaigns. A surprising result is the fact that the service-learners showed deficits in several civic engagement indicators following their participation in service. For example, the data suggest that the SL group had less of a tendency to help a homeless student after engaging in the course-related service activities. The service-learners also had less of a tendency to participate in several of the activities assessed by the civic indicator questions after participating in service: community problem solving, organizing a group, and volunteering for non-electoral activities. Curiously, the service-learners' post-survey responses to the question pertaining to volunteer activities in the previous 12 months indicate that they participated in less volunteer activities than was reported on the pre-survey, which, of course, is nonsensical, given that the question is inquiring about *past* activities. As was mentioned earlier, self-reporting strategies are suspect because the respondents can be dishonest, can forget information, and can make mistakes.

Course 3: Dental Hygiene

The service students in the dental hygiene class participated in two fluoride and sealant clinics and were involved in community outreach projects at local schools and health facilities. The two sections of dental hygiene yielded 38 matching pre- and post-surveys, with 19 service-learners and 19 non-service-learners. The mean pre- and post-responses for each item were

analyzed using paired-samples *t* tests to determine if any difference between them were significant. The mean responses for the SL group were then compared to the mean responses of the NSL group to determine which group had higher tendencies for each of the civic activities that were assessed in the survey instrument. The results of these analyses are organized by civic engagement measurement category (civic, electoral, awareness, future participation, willingness to help others, political voice, comfort with diversity) and are presented below.

Civic indicators

In the civic indicator category of measures of civic engagement, the service-learners' mean response to the question about volunteer activities over the last twelve months decreased from the pre-survey (M=2.16, SD=.688) to the post-survey (M=1.79, SD=.535), suggesting that they volunteered more or that they volunteered more regularly over the previous twelve months. The difference was significant (t(18)=2.35, p=.031) with a standardized effect size index, *d*, of .54. The results of this analysis are summarized in the table below:

Table 58. Civic indicators among service-learners in dental hygiene.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Worked to Address Community Problem - Worked to Address Community Problem	-.053	.621	.143	-.352	.247	-.369	18	.716
Pair 2	Would Organize Group to Address Problem - Would Organize Group to Address Problem	.263	.872	.200	-.157	.683	1.316	18	.205
Pair 3	Ever Attended Meeting - Ever Attended Meeting	.105	.459	.105	-.116	.326	1.000	18	.331
Pair 4	Volunteer in Last 12 months - Volunteer in Last 12 months	.368	.684	.157	.039	.698	2.348	18	.031

Specifically, the number of students volunteering for activities involving youth, children, and education doubled from pre-survey (8) to post-survey (16). Volunteer activities involving health services also increased from 7 students on the pre-survey to 13 students on the post-survey. And one additional student noted being involved in public safety volunteer work on the post-survey.

The NSL group's mean response to the question of whether they have worked to address a problem in their communities increased from pre-survey (M=2.63, SD=.761) to post-survey (M=3.05, SD=.524), suggesting that they had a lower tendency to work to address a community problem at the end of the course. In fact, the percentage of NSL students reporting having

worked to address such a problem decreased from 21% to 5% after service. The difference was significant (t(18)=-2.191, p=.042) with a standardized effect size index, *d*, of .50. An examination of the frequency of service-learners' responses to this question reveal that they also experienced a loss: 42% on the pre-survey and 39% on the post-survey reported having worked with others to address a problem in the community. However, they had a higher tendency to participate in such an activity than the NSL group both before and after service. A summary of this data is provided in the table below:

Table 59. Civic indicators among non-service-learners in dental hygiene.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Worked to Address Community Problem - Worked to Address Community Problem	-.421	.838	.192	-.825	-.017	-2.191	18	.042
Pair 2	Would Organize Group to Address Problem - Would Organize Group to Address Problem	-.053	.405	.093	-.248	.142	-.567	18	.578
Pair 3	Ever Attended Meeting - Ever Attended Meeting	-.053	.229	.053	-.163	.058	-1.000	18	.331
Pair 4	Volunteer in Last 12 months - Volunteer in Last 12 months	.000	.471	.108	-.227	.227	.000	18	1.000

A comparison of the mean responses of the NSL and SL groups (see the table below) suggests that the service-learners had a higher tendency to work to address a community

problem, attend a council meeting, and volunteer than did their non-service learning counterpart even *before* participating in service. The data suggest that they had a higher tendency to participate in these activities than the non-service-learners after service as well. Also, while both the service-learners and non-service-learners had the same mean pre-survey response to the question about organizing a group to address a problem in the community (M=2.47), the SL group's mean response dropped to 2.21 on the post-survey, while the NSL group's mean response increased to 2.53 on the post-survey. This suggests that the non-service-learning dental hygiene students' tendency to work to address a problem diminished over the course of the semester, but that the same tendency increased for those that participated in service. Moreover, the mean responses for the SL group decreased in three of the civic indicator items: organizing a group to address a problem in the community, having attended a meeting, and volunteering in the previous 12 months. The mean responses for the NSL group increased in three of the civic indicator items: working to address a community problem, organizing a group to address a problem, and attending a meeting.

Table 60. Comparison of mean civic indicator question item responses of dental hygiene students.

		NSL Mean	SL Mean
Pair 1	PRE Worked to Address Community Problem	2.63	2.42
	POST Worked to Address Community Problem	3.05	2.47
Pair 2	PRE Would Organize Group to Address Problem	2.47	2.47
	POST Would Organize Group to Address Problem	2.53	2.21
Pair 3	PRE Ever Attended Meeting	2.89	2.74
	POST Ever Attended Meeting	2.95	2.63
Pair 4	PRE Volunteer in Last 12 months	2.37	2.16
	POST Volunteer in Last 12 months	2.37	1.79

Thus, the data suggest that the SL group had a significantly higher tendency to volunteer after participation in service, and the NSL group had a significantly lower tendency to work to address a community problem at the end of the course. A comparison of the SL and NSL groups' mean responses suggest that the SL group had a higher tendency to participate in several of the civic indicator items than the NSL group at the time of the pre-survey, and that their tendency increased over the course of the semester, whereas the NSL group's tendency decreased over the course of the semester.

Electoral indicators

No significant differences were found in the dental hygiene students' mean responses to the electoral indicator question items after participating in service, suggesting that their tendency to register to vote, vote in local and national elections, run for office, and volunteer in political campaigns did not change significantly after their participation in service activities in their course. However, the service-learners' mean responses to several of the electoral item questions did decrease from pre- to post-survey, suggesting a slightly higher tendency, though not a significant one, to participate in these activities after service. For example, the SL group's mean response to the question of whether they were registered to vote decreased from 1.53 (SD=.964) to 1.37 (SD=.597), suggesting that more students were registered by the time of the post-survey. The SL students' mean response to the question about voting in local elections remained static, while the SL students' mean response to the question about voting in national elections decreased from pre-survey (M=2.47, SD=1.541) to post-survey (M=2.11, SD=1.524), suggesting

that they had a higher tendency to vote in national elections after participation in service. The data also suggest that the SL students' tendency to volunteer in political campaigns increased as well, with a mean difference of .53. The SL students' mean response to the running for office question increased from pre-survey (M=2.47, SD=.697) to post-survey (M=2.58, SD=.692), suggesting that their tendency to run for office diminished over the course of the semester. A summary of the paired-samples *t* test results is provided in the table below:

Table 61. Electoral indicators among service-learners in dental hygiene.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Registered to Vote - Registered to Vote	.158	.765	.175	-.211	.526	.900	18	.380
Pair 2	Vote in Local - Vote in Local	.000	.882	.202	-.425	.425	.000	18	1.000
Pair 3	Vote in National - Vote in National	.368	1.012	.232	-.119	.856	1.587	18	.130
Pair 4	Running for Office - Running for Office	-.105	.809	.186	-.495	.285	-.567	18	.578
Pair 5	Volunteer in Political Campaign - Volunteer in Political Campaign	.053	.780	.179	-.323	.429	.294	18	.772

The non-service-learners' responses in the dental hygiene class also did not change significantly on any of the electoral item questions over the course of the semester. Very slight decreases in mean responses were seen in the registering to vote item (a difference of .06), the voting in local elections item (a difference of .05), and the running for office item (a difference

of .05), suggesting a slightly higher tendency for these activities. Increases were seen in the voting in national elections item (a difference of .06) and the volunteering in political campaigns item (a difference of 2.1), suggesting a lower tendency for these activities. A summary of the analysis of the mean responses of the NSL group is provided in the table below:

Table 62. Electoral indicators among non-service-learners in dental hygiene.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Registered to Vote - Registered to Vote	.053	.229	.053	-.058	.163	1.000	18	.331
Pair 2	Vote in Local - Vote in Local	.053	.621	.143	-.247	.352	.369	18	.716
Pair 3	Vote in National - Vote in National	-.053	.229	.053	-.163	.058	-1.000	18	.331
Pair 4	Running for Office - Running for Office	.053	.524	.120	-.200	.305	.438	18	.667
Pair 5	Volunteer in Political Campaign - Volunteer in Political Campaign	-.211	.535	.123	-.469	.047	-1.714	18	.104

A comparison of the SL and NSL groups' mean responses to each electoral indicator question item reveals that the service-learners had a higher tendency for the electoral behaviors than the non-service-learners in a comparable course both pre- and post-survey, with the exception of volunteering in political campaigns on the pre-survey. The table below provides the groups' mean responses to the electoral item questions:

Table 63. Dental hygiene students' mean responses to the electoral indicator question items.

		NSL Mean	SL Mean
Pair 1	PRE Registered to Vote	2.32	1.53
	POST Registered to Vote	2.26	1.37
Pair 2	PRE Vote in Local	3.63	3.26
	POST Vote in Local	3.58	3.26
Pair 3	PRE Vote in National	3.26	2.47
	POST Vote in National	3.32	2.11
Pair 4	PRE Running for Office	2.68	2.47
	POST Running for Office	2.63	2.58
Pair 5	PRE Volunteer in Political Campaign	1.95	2.16
	POST Volunteer in Political Campaign	2.16	2.11

Since some of these students may have indicated that they were not eligible to vote (coded as a 4), which would confound these statistics, an examination of frequencies will help to provide a more accurate representation of the respondents' answer choices. The figures below provide a graphical depiction of the voter registration response rates of both the SL and NSL dental hygiene students. Of those eligible to register, 76.5% of the SL students reported having been registered at the time of the pre-survey and 72.2% at the time of the post-survey. In comparison, of those NSL students eligible to register, 66.7% reported having been registered at the time of the pre-survey and 75% at the time of the post-survey. As we can see, the frequencies reveal a slight decrease among the SL students and an increase among the NSL students. While a greater percentage of SL students than NSL students reported having been registered at the time of the pre-survey, a smaller percentage of SL students reported having been registered at the time

of the post-survey, which again, indicates a lack of accuracy in the students' self-reports. Thus, we may conclude that the students in the dental hygiene class were *not* more likely to be registered after participation in service.

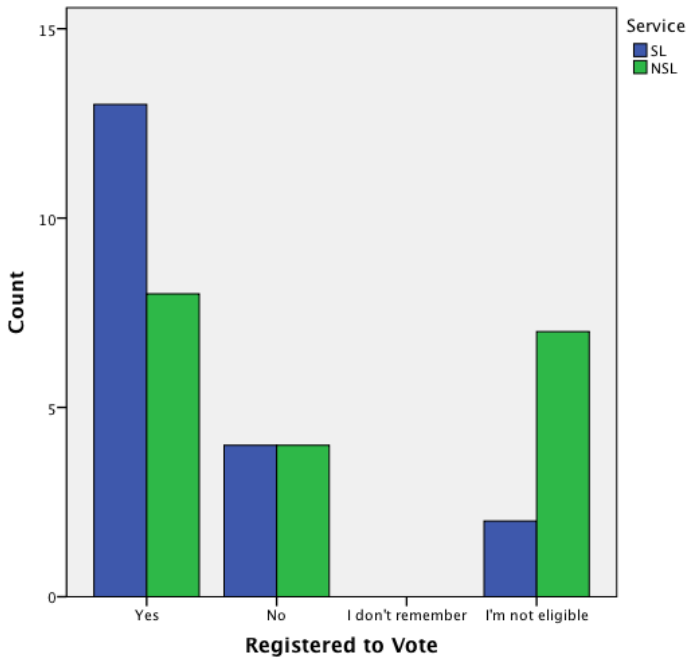


Figure 27. Voter registration among dental hygiene students on pre-survey.

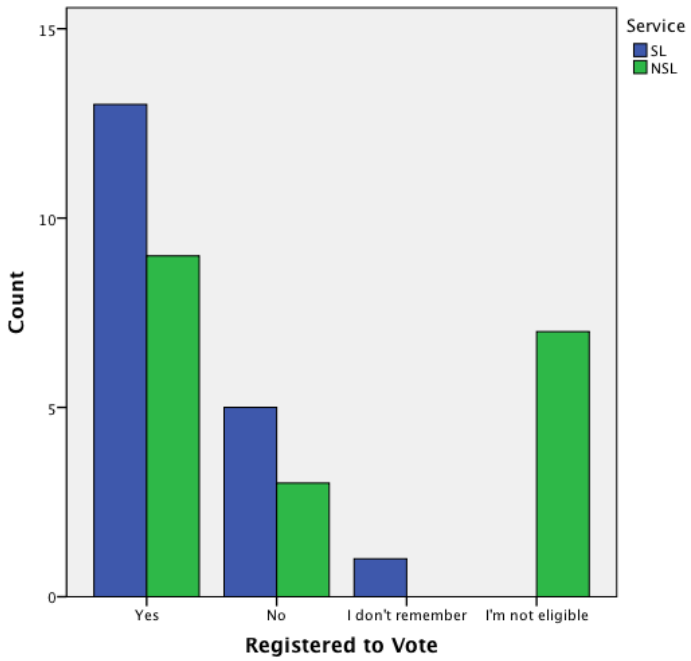


Figure 28. Voter registration among dental hygiene students on post-survey.

In the questions about voting activities, the frequency of responses reveals little change in the SL students' habits related to voting in local elections, but reveals a higher tendency for voting in national elections following participation in service. Of course the fact that the presidential election occurred between the administration of the pre- and the post-survey may have influenced these results. Of the SL students who were eligible to vote, 16.7% on the pre-survey and 5.6% on the post-survey reported having "always" voted in local elections, 11% on the pre-survey and 22% on the post-survey reported having "sometimes" voted in local elections, 11% on the pre-survey and 22% on the post-survey reported having "rarely" voted in local elections, and 61% on the pre-survey and 50% on the post-survey reported having "never" voted. While there was a decrease in students reporting always voting in local elections, there was an increase in those reporting sometimes voting in local elections. Similarly, while there was a decrease in those reporting never voting in local elections, there was an increase in those

reporting rarely voting in local elections. To look at this a different way, 28% on the pre-survey and 28% on the post-survey had a positive response ("sometimes" or "always") to the question and 72% on the pre- and 72% on the post-survey had a negative response ("rarely" or "never"). Thus, we can see that there was little change. Of the SL students who were eligible to vote, 50% on the pre-survey and 67% on the post-survey reported having "always" voted in national elections, 5% on the pre-survey and 0% on the post-survey reported having "sometimes" voted in national elections, 5% on both the pre- and post-survey reported having "rarely" voted in national elections, and 39% on the pre-survey and 28% on the post-survey reported having "never" voted in national elections. Thus, the percentage of those students always voting in national elections increased while the percentage of those students never voting in national elections decreased following participation in service. Fifty-five percent of service-learners had a positive response ("always" or "sometimes") on the pre-survey as opposed to 67% on the post-survey, and 44% of service-learners had a negative response ("rarely" or "never") on the pre-survey as opposed to 33% on the post-survey. Thus, more dental hygiene students reported voting in national elections after participation in service. In contrast, an examination of the frequencies of the reported voting habits of non-service-learners in dental hygiene reveals no change. Among the eligible non-service-learners in dental hygiene class, 38% on both the pre- and post-survey reported having "always" or "sometimes" voted in local elections, and 62% reported having "rarely" or "never" voted in local elections. Likewise, 54% of eligible non-service-learners reported having "always" or "sometimes" voted in national elections on both the pre- and the post-survey, whereas 46% reported having "rarely" or "never" voted in national elections.

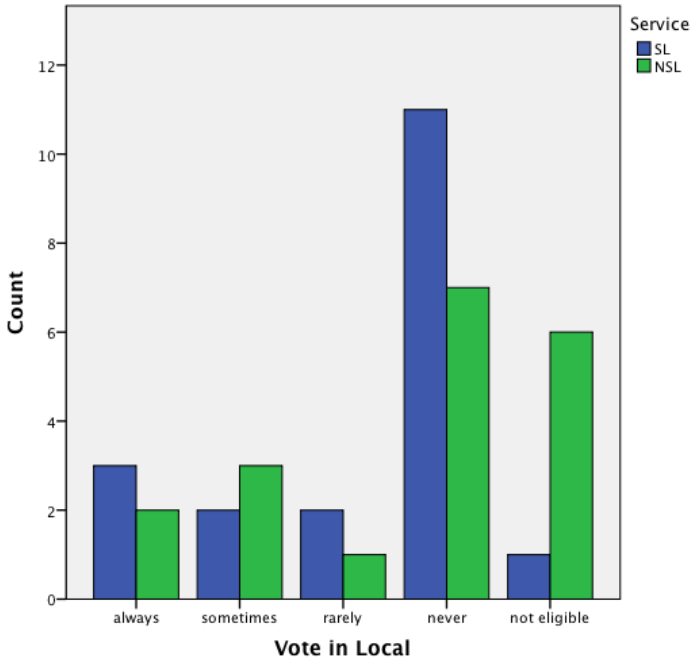


Figure 29. Dental hygiene students' pre-survey responses to the question about voting in local elections.

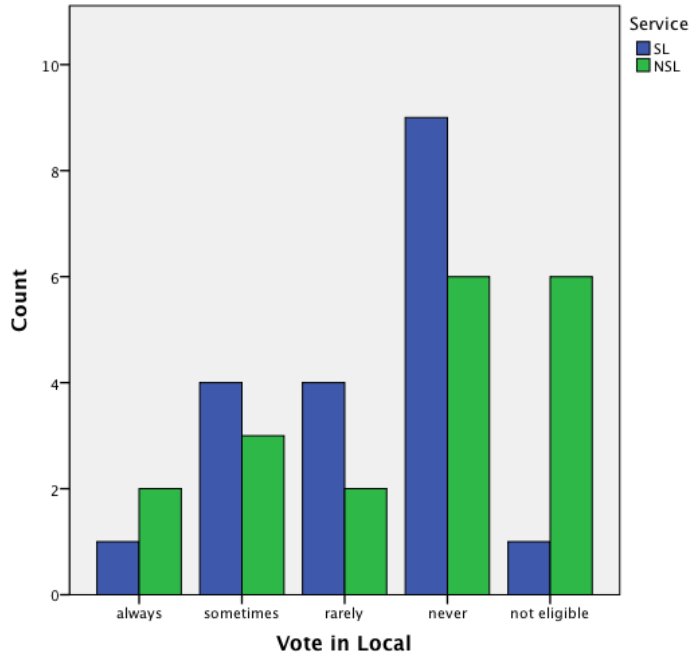


Figure 30. Dental hygiene students' post-survey responses to the question about voting in local elections.

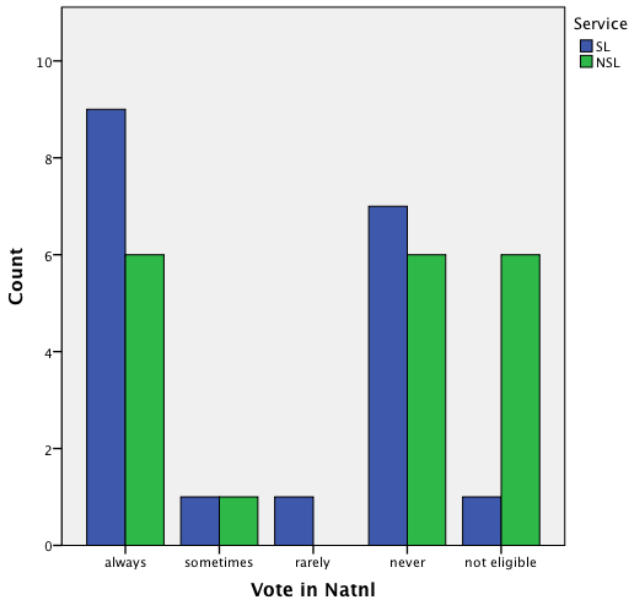


Figure 31. Dental hygiene students' pre-survey responses to the question about voting in national elections.

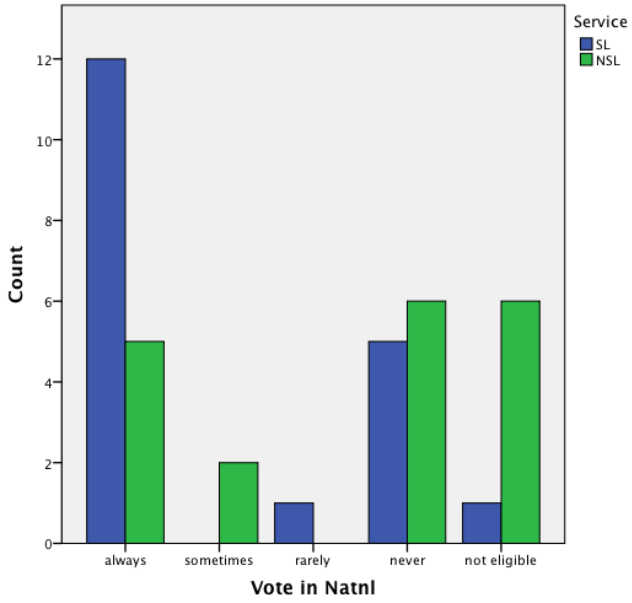


Figure 32. Dental hygiene students' post-survey responses to the question about voting in national elections.

To summarize these findings, the data on the dental hygiene students suggest that while there was no significant change from pre- to post-survey, the frequency of service-learners'

responses to the electoral indicator question items suggests a higher tendency to vote in national elections after participating in service and a higher tendency to vote in national elections as compared to the non-service-learners in a comparable course.

Awareness indicators

No significant difference was found between the service-learners' pre-survey and post-survey responses to the civic awareness items, suggesting that they did not have a significantly higher or lower tendency to know the names of their elected officials or state or national legislators after participation in service, nor did they have a significantly higher or lower tendency to know when their council meetings were held or the name of a particular community service agency that helps the homeless. A summary of the results of the paired-samples *t* tests performed on these items is provided below:

Table 64. Awareness indicators among service-learners in dental hygiene.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Know Elected Officials' Names - Know Elected Officials' Names	-.105	.658	.151	-.422	.212	-.697	18	.494
Pair 2	Know When Meetings Held - Know When Meetings Held	.053	.405	.093	-.142	.248	.567	18	.578
Pair 3	Know names of state/national legislators - Know names of state/national legislators	.053	.621	.143	-.247	.352	.369	18	.716
Pair 4	Know of Community Service Agency - Know of Community Service Agency	.053	.229	.053	-.058	.163	1.000	18	.331

An examination of the service-learners' mean responses for the items in this category suggests a very slight increase in the service-learners' reported knowledge of when their council meetings were held (a mean difference of .06), the names of their state and national legislators (a mean difference of .05) and the name of a community service agency that helps the homeless (a mean difference of .05). There was also a decrease in the SL group's reported knowledge of the names of their elected officials (a mean difference of .11).

The non-service-learners in dental hygiene class also did not experience significant changes from pre- to post-survey on any of the awareness items. A comparison of the mean responses of the NSL group suggests a slight increase in the respondents' knowledge of when

meetings are held (a mean difference of .05) and the names of their state and national legislators (a mean difference of .06). However, the NSL group's mean response to the question on whether they know their elected officials' names increased by .06, suggesting that their knowledge in that category diminished over the course of the semester.

Since all of the question responses in this category were coded 1 for "Yes" and 2 for "No," a comparison of mean responses provides rich information about the potential differences between service-learners and non-service-learners. As the table below indicates, the SL group had a lower mean response than the NSL group on two of the items, suggesting that they had a higher tendency to know their elected officials' names and to know a community service agency that helps the homeless both before and after participation in service. In contrast, the NSL group had a lower mean response than the SL group on two items as well, suggesting that they had a higher tendency to know when meetings were held and to know the names of their state and national legislators both at the beginning of their course and at the end of their course.

Table 65. Dental hygiene students' mean responses to the civic awareness question items.

		NSL Mean	SL Mean
Pair 1	Know Elected Officials' Names	1.89	1.68
	Know Elected Officials' Names	1.95	1.79
Pair 2	Know When Meetings Held	1.79	1.95
	Know When Meetings Held	1.74	1.89
Pair 3	Know names of state/national legislators	1.53	1.89
	Know names of state/national legislators	1.47	1.84
Pair 4	Know of Community Service Agency	1.79	1.68
	Know of Community Service Agency	1.79	1.63

Indicators of future participation

The service-learners in the dental hygiene class did not experience significant changes in their intention to volunteer in the subsequent twelve months, although their mean responses did decrease from 1.89 (SD=.169) to 1.63 (SD=.175), a mean difference of .263, suggesting a slightly higher tendency for future volunteering after participation in service. The non-service-learners also did not experience significant changes on this item, but their mean response on the pre-survey (M=2.26, SD=.806) increased rather than decreased by .16 on the post-survey (M=2.42, SD=.769). A comparison of mean responses of the SL and NSL groups suggests that the service-learners had a higher tendency for future volunteering both before and after participation in service, and that the service-learners experienced greater gains in this area than did the non-service-learners. The results of the statistical analyses of the SL and NSL groups' mean responses to this item are summarized in the tables below:

Table 66. Future participation among service-learners in dental hygiene.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Volunteer in next 12 months - Volunteer in next 12 months	.263	.733	.168	-.090	.617	1.564	18	.135

Table 67. Future participation among non-service-learners in dental hygiene.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Volunteer in next 12 months - Volunteer in next 12 months	-.158	.375	.086	-.338	.023	-1.837	18	.083

Indicators of willingness to help others

No significant difference was found in the dental hygiene students' willingness to help a student whom they found out was homeless before and after participation in course-related service activities. The pre-survey mean response of 1.42 increased following participation in service to a post-survey mean response of 1.47 (a mean difference of only .05), which suggests a slightly lower tendency to help. The non-service-learners' mean response to this question remained the same from pre- to post-survey (M=1.63, SD=.684), suggesting no change in their tendency to help. A comparison of the SL and NSL groups' mean responses suggests that the service-learners had a higher tendency to help than the non-service-learners both before service

and after service. Also, the mean difference between pre- and post-survey indicates that the service-learners experienced greater gains in this area than the non-service-learners, although the gain was almost too small to mention. The results of the statistical analysis of response means of these two groups is summarized in the tables below:

Table 68. Willingness to help others among service-learners in dental hygiene.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Helping Homeless Student - Helping Homeless Student	-.053	.621	.143	-.352	.247	-.369	18	.716

Table 69. Willingness to help others among non-service-learners in dental hygiene.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Helping Homeless Student - Helping Homeless Student	.000	.333	.076	-.161	.161	.000	18	1.000

Political voice indicators

No significant differences were found between the dental hygiene students' mean pre- and post-responses to the political voice question items. The service-learners' mean response to the question about whether they have written letters to government officials or print publications expressing their opinions increased from pre-survey (M=2.74, SD=.806) to post-survey (M=2.84,

SD=.375), as did their mean response to the question about signing written (a mean difference of .32) and email petitions (a mean difference of .26). No change was seen in the response to the question about whether they would contact local, state, or national officials. The non-service-learners' mean response decreased on all items in this category: writing letters (mean difference of .105), signing written petitions (mean difference of .158), signing email petitions (mean difference of .105) and contacting local, state, or national offices (mean difference of .105). However, none of the differences were statistically significant. A summary of the results of these statistical tests is provided in the tables below:

Table 70. Political voice indicators among service-learners in dental hygiene.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Written Letter - Written Letter	-.105	.875	.201	-.527	.317	-.524	18	.607
Pair 2	Signed Written Petition - Signed Written Petition	-.316	1.336	.306	-.959	.328	-1.031	18	.316
Pair 3	Signed Email Petition - Signed Email Petition	-.263	1.368	.314	-.922	.396	-.839	18	.413
Pair 4	Would Contact Local, State, or National Office - Would Contact Local, State, or National Office	.000	.471	.108	-.227	.227	.000	18	1.000

Table 71. Political voice indicators among non-service-learners in dental hygiene.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Written Letter - Written Letter	.105	.459	.105	-.116	.326	1.000	18	.331
Pair 2	Signed Written Petition - Signed Written Petition	.158	.765	.175	-.211	.526	.900	18	.380
Pair 3	Signed Email Petition - Signed Email Petition	.105	1.243	.285	-.494	.704	.369	18	.716
Pair 4	Would Contact Local, State, or National Office - Would Contact Local, State, or National Office	.105	.459	.105	-.116	.326	1.000	18	.331

A comparison of the mean responses of both groups (summarized in the table below) suggests that the service-learners had a higher tendency, both before and after service, to participate in several of the political voice activities than their non-service-learning counterpart, including writing letters, signing email petitions, and contacting local, state, and national offices. However, you will recall that some of the answer choices for these questions have the potential to confound these statistics, thereby necessitating an examination of the frequency of responses. The figures below provide a graphical depiction of these frequencies:

Table 72. Dental hygiene students' mean responses to the political voice indicator question items.

		NSL Mean	SL Mean
Pair 1	PRE Written Letter	3.00	2.74
	POST Written Letter	2.89	2.84
Pair 2	PRE Signed Written Petition	2.58	2.26
	POST Signed Written Petition	2.42	2.58
Pair 3	PRE Signed Email Petition	3.21	2.74
	POST Signed Email Petition	3.11	3.00
Pair 4	PRE Would Contact Local, State, or National Office	1.58	1.37
	POST Would Contact Local, State, or National Office	1.47	1.37

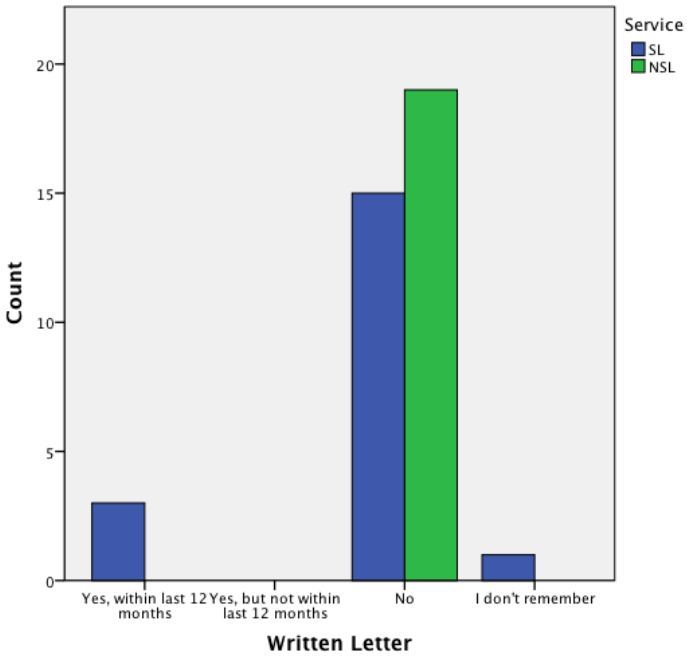


Figure 33. Frequency of dental hygiene students' pre-survey responses to the question about writing letters.

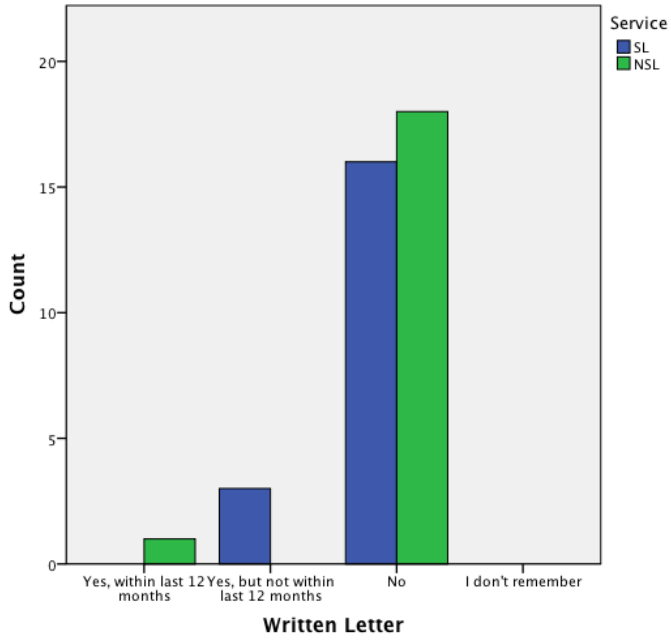


Figure 34. Frequency of dental hygiene students' post-survey responses to the question about writing letters.

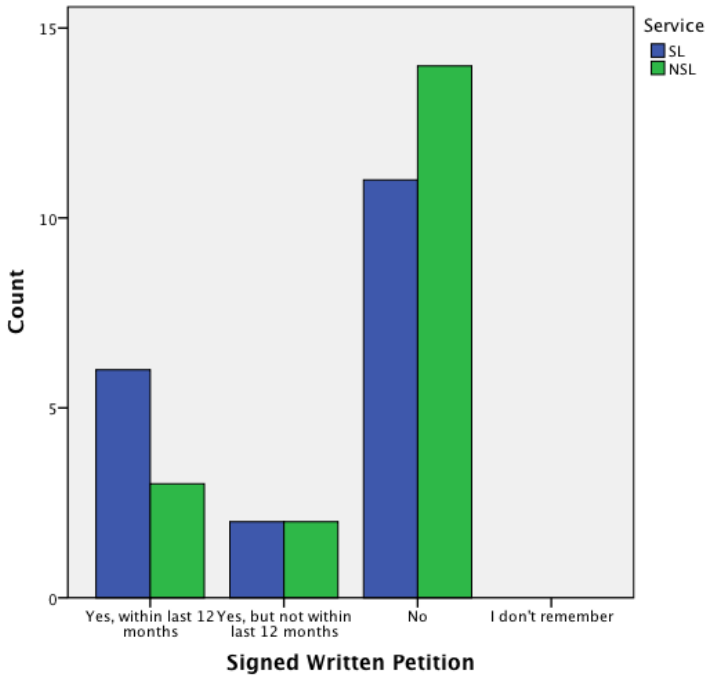


Figure 35. Dental hygiene students' pre-survey responses to the question about written petitions.

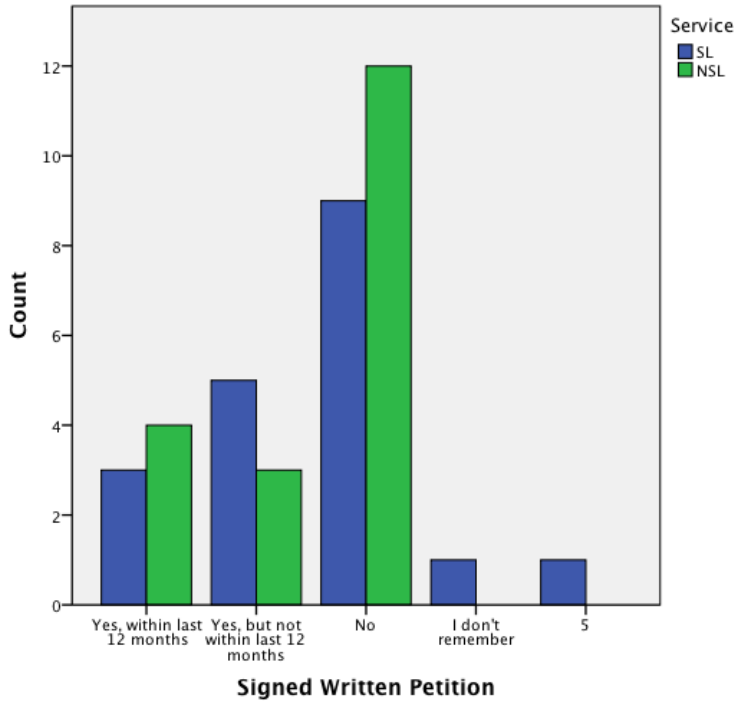


Figure 36. Dental hygiene students' post-survey responses to the question about written petitions.

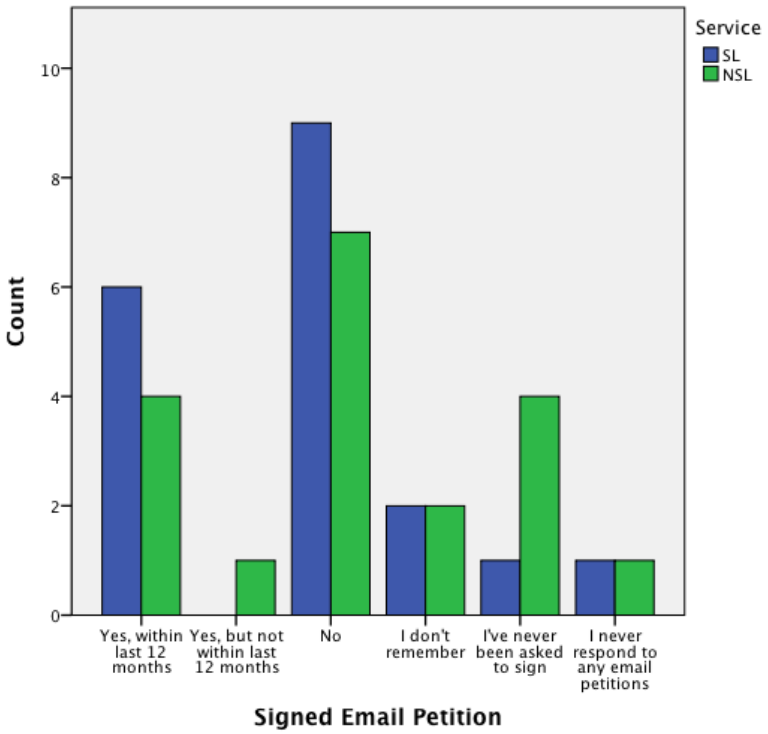


Figure 37. Dental hygiene students' pre-survey responses to the question on email petitions.

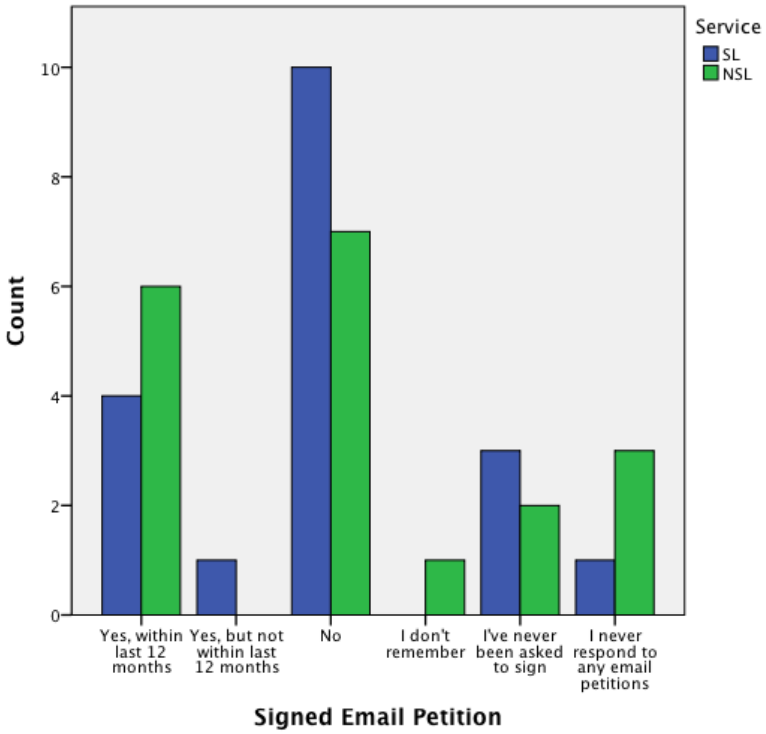


Figure 38. Dental hygiene students' post-survey responses to the question on email petitions.

The SL group's responses to the question on writing letters did not change, with 17% answering affirmatively on both the pre- and post-surveys. Their responses to the question about signing written petitions also did not change, with 44% answering affirmatively. However, there was a decrease in the percentage of students reporting having signed email petitions, from 32% on the pre-survey to 26% on the post-survey. Thus, the data suggest that the dental hygiene students did not make any gains on any of the measures of political voice after service. The non-service-learners, in contrast, did make some gains in this area. The percentage of affirmative responses to the writing letters question increased from 0% to 5%, to the signing written petitions question increased from 26% to 37%, and to the signing email petitions question increased from 31% to 38%. Thus, the data suggest that the non-service-learners experienced gains in each of the political voice items, though none were significant, whereas the service-learners did not.

Indicators of comfort with diversity

The dental hygiene students' pre- and post-responses did not change for the question assessing their comfort with diversity. The mean pre- and post-response for the SL group was 2.74 (SD=.562), suggesting that the students had a high comfort with diversity both before and after participating in service. The mean pre- and post-response for the NSL group was 2.84 (SD=.375 for pre, SD=.501 for post), suggesting an even greater tendency toward comfort with diversity than the SL group.

Table 73. Comfort with diversity among service-learners in dental hygiene.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Willingness to Participate in Diverse Group - Willingness to Participate in Diverse Group	.000	.816	.187	-.394	.394	.000	18	1.000

Table 74. Comfort with diversity among non-service-learners in dental hygiene.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Willingness to Participate in Diverse Group - Willingness to Participate in Diverse Group	.000	.577	.132	-.278	.278	.000	18	1.000

Summary

The dental hygiene students experienced significant gains in non-electoral volunteer activities after participating in service. No other significant differences were found between the pre- and post-responses of this group. A comparison of the mean responses of the SL and NSL groups in the dental hygiene class suggests that the service-learners had higher tendencies to volunteer to participate in non-electoral activities, to vote in national elections, to volunteer in the future, and to help others in need.

Course 4: Radiography

As their service project, the students in the radiography class spent a four-hour shift volunteering as a transporter at a local non-profit health facility. The two sections of Patient Care in Radiography yielded a total of 53 matching pre- and post-surveys, consisting of 28 non-service-learners and 25 service-learners. The mean pre- and post-responses for each item were, once again, analyzed using paired-samples *t* tests to determine if any difference between them were significant. The mean responses for the SL group were then compared to the mean responses of the NSL group to determine which group had higher tendencies for each of the civic activities that were assessed in the survey instrument. The results of these analyses are organized by civic engagement dimension (civic, electoral, awareness, future participation, willingness to help others, political voice, comfort with diversity) and are presented below.

Civic indicators

The service-learners' mean response to the question on whether they have worked to address a problem in their community increased from pre-survey (M=2.52, SD=.714) to post-survey (M=2.84, SD=.688), suggesting a lower tendency to participate in such activities after service. The difference in means was significant (t(24)=-2.317, p=.029) with a standardized effect size index, *d*, of .46. In no other civic indicator question item was a significant difference between pre-survey mean response and post-survey mean response found among the service-learners. An analysis of the pre- and post-survey mean responses of the NSL group yielded no significance. The results of these analyses are summarized in the tables below:

Table 75. Civic indicators among service-learners in radiography.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Worked to Address Community Problem - Worked to Address Community Problem	-.320	.690	.138	-.605	-.035	-2.317	24	.029
Pair 2	Would Organize Group to Address Problem - Would Organize Group to Address Problem	.000	.645	.129	-.266	.266	.000	24	1.000
Pair 3	Ever Attended Meeting - Ever Attended Meeting	-.200	.645	.129	-.466	.066	-1.549	24	.134
Pair 4	Volunteer in Last 12 months - Volunteer in Last 12 months	.080	.400	.080	-.085	.245	1.000	24	.327

Table 76. Civic indicators among non-service-learners in radiography.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Worked to Address Community Problem - Worked to Address Community Problem	.143	1.044	.197	-.262	.548	.724	27	.475
Pair 2	Would Organize Group to Address Problem - Would Organize Group to Address Problem	-.107	.629	.119	-.351	.137	-.902	27	.375
Pair 3	Ever Attended Meeting - Ever Attended Meeting	.036	.576	.109	-.188	.259	.328	27	.745
Pair 4	Volunteer in Last 12 months - Volunteer in Last 12 months	-.036	.429	.081	-.202	.131	-.441	27	.663

A comparison of the SL and NSL groups' mean responses to the questions in this category surprisingly reveals that the service-learners experienced deficits in their tendency to work to address a problem in their community and in their tendency to attend a meeting. The data also suggest that the SL group made slight gains in their tendency to volunteer. The NSL group experienced a marginal decrease in mean responses (.05) to the question of whether they worked to address a community problem, while the SL group experienced a significant increase in the same question item (.32). An examination of the frequency of responses reveals a decrease in the percentage of service-learners reporting having worked with others to address a community problem (from 36% to 27%) and an increase in the percentage of non-service-

learners reporting the same (from 11% to 24%). The discrepancy between the mean difference and the response percentages in the NSL group is due to an additional two people selecting the "I don't remember" response, which was discounted in the calculation of the percentage but not in the calculation of mean response. The NSL group experienced an increase in mean response to the question of whether they would organize a group (.11), and an examination of the frequency of responses for that item shows an increase from 7% to 11%. In the SL group, the mean difference suggests no change, but an examination of the frequency of responses shows a slight decrease from 28% to 17% in affirmative responses. The NSL group experienced a negligible change in the mean responses to the question about having attended a meeting, and the SL group experienced an increase in the same item (.20). Lastly, the NSL group's mean responses to the question of whether they expect to volunteer in the next 12 months increased from 2.11 (SD=.629) to 2.14 (SD=.621), whereas the SL group decreased from 2.20 (SD=.816) to 2.12 (SD=.726). The mean responses of both groups have been provided in the table below:

Table 77. Radiography students' mean responses to the civic indicator question items.

		NSL Mean	SL Mean
Pair 1	PRE Worked to Address Community Problem	2.86	2.52
	POST Worked to Address Community Problem	2.71	2.84
Pair 2	PRE Would Organize Group to Address Problem	2.18	2.28
	POST Would Organize Group to Address Problem	2.29	2.28
Pair 3	PRE Ever Attended Meeting	2.89	2.60
	POST Ever Attended Meeting	2.86	2.80
Pair 4	PRE Volunteer in Last 12 months	2.11	2.20
	POST Volunteer in Last 12 months	2.14	2.12

Electoral indicators

No significant differences between the pre- and post-survey responses on the electoral indicator questions were found among the radiography students. In the SL group, the mean responses to several of the questions in this category increased slightly. For example, the mean response to the registered to vote question increased form pre-survey (M=1.32, SD=.690) to post-survey (M=1.49, SD=.918), the mean response to the vote in local elections question increased from pre-survey (M=2.96, SD=1.369) to post-survey (M=3.20, SD=1.19), and the mean response to the running for office question also increased from pre-survey (M=2.52, SD=.714) to post-survey (M=2.64, SD=.569), suggesting that the SL group's tendency toward these activities diminished after participation in service. There was a decrease in the SL group's mean response to the question about whether the survey participants would volunteer in a political campaign. The decrease from pre-survey (M=2.04, SD=.790) to post-survey (M=1.88, SD=.666), suggests a higher tendency toward volunteering in political campaigns after service participation. Similarly, no significant differences were found between the pre- and post-responses of the NSL group. The NSL group's mean responses decreased in all of the question items in this category, except for volunteering in political campaigns, which increased slightly from the pre-survey (M=1.82, SD=.819) to the post-survey (M=2.00, SD=.816). The results of the statistical analysis of the mean responses in this category have been summarized in the tables below:

Table 78. Electoral indicators among service-learners in radiography.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Registered to Vote - Registered to Vote	-.160	.473	.095	-.355	.035	-1.693	24	.103
Pair 2	Vote in Local - Vote in Local	-.240	.779	.156	-.562	.082	-1.541	24	.136
Pair 3	Vote in National - Vote in National	.000	.577	.115	-.238	.238	.000	24	1.000
Pair 4	Running for Office - Running for Office	-.120	.600	.120	-.368	.128	-1.000	24	.327
Pair 5	Volunteer in Political Campaign - Volunteer in Political Campaign	.160	.624	.125	-.098	.418	1.281	24	.212

Table 79. Electoral indicators among non-service-learners in radiography.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Registered to Vote - Registered to Vote	.107	.629	.119	-.137	.351	.902	27	.375
Pair 2	Vote in Local - Vote in Local	.071	1.215	.230	-.400	.543	.311	27	.758
Pair 3	Vote in National - Vote in National	.536	1.895	.358	-.199	1.271	1.496	27	.146
Pair 4	Running for Office - Running for Office	.071	.539	.102	-.138	.281	.701	27	.490
Pair 5	Volunteer in Political Campaign - Volunteer in Political Campaign	-.179	.819	.155	-.496	.139	-1.154	27	.259

An examination of the frequencies of responses to the questions on voting activities reveals that the SL group experienced no gains in these measures of civic engagement following participation in service. Among the eligible voters in the SL group, 79% on the pre-survey and 78% on the post-survey reported having registered to vote. Of those eligible service-learners, 39% on the pre-survey and 31% on the post-survey reported having "always" or "sometimes" voted in local elections, and 65% on the pre-survey and 61% on the post-survey reported having "always" or "sometimes" voted in national elections. Thus, we can conclude that the radiography students appear to have experienced no gains in voting activities after participation in service. Among the eligible voters in the NSL group, 85% on both the pre-survey and the post-survey reported having registered to vote, 44% on the pre-survey and 52% on the post-survey reported having "always" or "sometimes" voted in local elections, and 52% on the pre-survey and 88% on the post-survey reported having "always" or "sometimes" voted in local elections. Thus, the NSL group experienced gains in their tendency to vote in both local and national elections, whereas the SL group did not.

Awareness indicators

No significant differences were found between the radiography students' pre- and post-survey responses to the questions in the civic awareness category, suggesting that the radiography students experienced no significant gains or losses in their knowledge of the names of their elected officials, the locations of their council meetings, the names of their state and national legislators, or the names of community service agencies that help the homeless after participating in course-related service activities. The non-service-learners also did not experience

any significant gains or losses in these civic awareness question items. The results of the paired-samples *t* tests have been summarized in the tables below:

Table 80. Awareness indicators among service-learners in radiography.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Know Elected Officials' Names - Know Elected Officials' Names	-.080	.400	.080	-.245	.085	-1.000	24	.327
Pair 2	Know When Meetings Held - Know When Meetings Held	.040	.200	.040	-.043	.123	1.000	24	.327
Pair 3	Know names of state/national legislators - Know names of state/national legislators	-.080	.277	.055	-.194	.034	-1.445	24	.161
Pair 4	Know of Community Service Agency - Know of Community Service Agency	.080	.277	.055	-.034	.194	1.445	24	.161

Table 81. Awareness indicators among non-service-learners in radiography.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Know Elected Officials' Names - Know Elected Officials' Names	-.036	.429	.081	-.202	.131	-.441	27	.663
Pair 2	Know When Meetings Held - Know When Meetings Held	.036	.429	.081	-.131	.202	.441	27	.663
Pair 3	Know names of state/national legislators - Know names of state/national legislators	-.036	.331	.063	-.164	.093	-.570	27	.573
Pair 4	Know of Community Service Agency - Know of Community Service Agency	.000	.385	.073	-.149	.149	.000	27	1.000

A comparison of mean responses in this category reveals little difference between the SL and NSL groups. Neither group experienced gains or losses between pre- and post-survey worth examining in any depth. The table below provides a side-by-side comparison of the groups' mean responses:

Table 82. Radiography students' mean responses to awareness indicator question items.

		NSL Mean	SL Mean
Pair 1	PRE Know Elected Officials' Names	1.68	1.64
	POST Know Elected Officials' Names	1.71	1.72
Pair 2	PRE Know When Meetings Held	1.93	1.88
	POST Know When Meetings Held	1.89	1.84
Pair 3	PRE Know names of state/national legislators	1.57	1.64
	POST Know names of state/national legislators	1.61	1.72
Pair 4	PRE Know of Community Service Agency	1.68	1.68
	POST Know of Community Service Agency	1.68	1.60

Indicators of future participation

Although the radiography SL students experienced a decrease in mean response to the question of whether they would volunteer in the subsequent 12 months from pre-survey (M=2.16 SD=.800) to post-survey (M=2.08, SD=.862), the difference was not significant. The decrease in mean responses suggests, though, a higher tendency for future volunteering after participating in service. The non-service-learners also experienced a decrease in mean responses to this question from pre-survey (M=2.07, SD=.813) to post-survey (M=1.96, SD=.922), but again the difference was not significant. A comparison of mean difference between groups, though, reveals that the non-service-learners experienced greater gains, a mean difference of .11, in their tendency for future volunteering than did the service-learners, with a mean difference of .08. The results of the statistical analysis are summarized in the tables below:

Table 83. Future participation among service-learners in radiography.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Volunteer in next 12 months - Volunteer in next 12 months	.080	.702	.140	-.210	.370	.569	24	.574

Table 84. Future participation among non-service-learners in radiography.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Volunteer in next 12 months - Volunteer in next 12 months	.107	.497	.094	-.086	.300	1.140	27	.264

Indicators of willingness to help others

Again, there was no significant difference between the SL students' mean response to the question about whether they would help a student whom they found out was homeless on the pre-survey and post-survey. The SL group's mean response increased slightly from 1.48 (SD=.653) to 1.52 (SD=.586), suggesting a slightly lower tendency to help others after participating in service. The results of the paired-samples *t* test performed on this data is provided below:

Table 85. Willingness to help others among service-learners in radiography.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Helping Homeless Student - Helping Homeless Student	-.040	.351	.070	-.185	.105	-.569	24	.574

In contrast, the non-service-learners in radiography did experience a significant change in this category. The NSL group's mean response of 1.36 (SD=.599) on the pre-survey increased to a mean response of 1.57 (SD=.573) on the post-survey, suggesting a lower tendency toward helping a homeless student at the end of the course. The difference was significant (t(27)=-2.274, p=.031), with a standardized effect size index, *d*, of .43. The results of the statistical analysis of this data are summarized in the table below:

Table 86. Willingness to help others among non-service-learners in radiography.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Helping Homeless Student - Helping Homeless Student	-.214	.499	.094	-.408	-.021	-2.274	27	.031

Political voice indicators

No significant differences were found between the SL group's pre- and post-responses to the political voice indicator items. The SL group experienced a slight increase in mean response to the signing written petitions question and a slight decrease in mean response to the signing email petitions question. The largest difference in mean responses experienced by the SL group was in the contacting local, state, or national officials question item. Their mean response in that question item increased from 1.28 (SD=.458) to 1.40 (SD=.500), suggesting a lower tendency for this behavior after participation in service. The NSL group also experienced no significant changes from pre- to post-survey. The results of a statistical analysis of this data are summarized in the tables below:

Table 87. Political voice indicators among service-learners in radiography.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Written Letter - Written Letter	.000	.500	.100	-.206	.206	.000	24	1.000
Pair 2	Signed Written Petition - Signed Written Petition	-.120	.726	.145	-.420	.180	-.827	24	.417
Pair 3	Signed Email Petition - Signed Email Petition	.160	1.375	.275	-.407	.727	.582	24	.566
Pair 4	Would Contact Local, State, or National Office - Would Contact Local, State, or National Office	-.120	.440	.088	-.301	.061	-1.365	24	.185

Table 88. Political voice indicators among non-service-learners in radiography.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Written Letter - Written Letter	-.036	.189	.036	-.109	.038	-1.000	27	.326
Pair 2	Signed Written Petition - Signed Written Petition	-.357	.951	.180	-.726	.012	-1.987	27	.057
Pair 3	Signed Email Petition - Signed Email Petition	-.036	2.027	.383	-.822	.750	-.093	27	.926
Pair 4	Would Contact Local, State, or National Office - Would Contact Local, State, or National Office	.000	.609	.115	-.236	.236	.000	27	1.000

Table 89. Radiography students' mean responses to political voice indicator question items.

		NSL Mean	SL Mean
Pair 1	PRE Written Letter	2.96	2.68
	POST Written Letter	3.00	2.68
Pair 2	PRE Signed Written Petition	2.39	2.08
	POST Signed Written Petition	2.75	2.20
Pair 3	PRE Signed Email Petition	2.75	2.96
	POST Signed Email Petition	2.79	2.80
Pair 4	PRE Would Contact Local, State, or National Office	1.25	1.28
	POST Would Contact Local, State, or National Office	1.25	1.40

An examination of the frequencies of responses for the political voice questions reveals no change in the percentage of SL students (24%) reporting having written letters to government officials or print publications. However, the percentage of SL students reporting having signed

written petitions decreased from 63% to 58% after service. Moreover, the percentage of SL students reporting having signed email petitions increased from 36% to 50% post-service. In the NSL group, the percentage of students reporting having written letters dropped form 4% to 0% over the course of the semester, as did the percentage of students reporting having signed written petitions (from 37% to 20%) and the percentage of students reporting having signed email petitions (from 92% to 76%). Both the SL and NSL groups experienced losses in the tendency to sign written petitions, but the SL group experienced gains in the tendency to sign email petitions as compared to their NSL counterpart.

Indicators of comfort with diversity

The SL group's willingness to participate in a diverse group did not change. The service-learners' mean response remained static at 2.84 (SD=.473), and the non-service-learners' mean response decreased from pre-survey (M=2.71, SD=.535) to post-survey (M=2.54, SD=.693); suggesting a slightly lower tendency to be comfortable with diversity; however, the change was not significant. The group means, though, suggest that the service-learners had a higher tendency to be comfortable with diversity both before and after service participation as compared to the non-service-learners in a comparable course. However, in terms of gains and losses, the SL group experienced no change, while the NSL group experienced a deficit in this category. The results of the statistical analysis of this item are summarized below:

Table 90. Comfort with diversity among service-learners in radiography.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Willingness to Participate in Diverse Group - Willingness to Participate in Diverse Group	.000	.645	.129	-.266	.266	.000	24	1.000

Table 91. Comfort with diversity among non-service-learners in radiography.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Willingness to Participate in Diverse Group - Willingness to Participate in Diverse Group	.179	.548	.104	-.034	.391	1.724	27	.096

Summary

The only significant difference between pre-and post-survey responses among the service-learners was in the civic category. There was a significant difference between the radiography students' tendency to work to address a problem in the community before and after service; however, the mean difference suggests that this tendency *decreased* rather than increased. Thus, after spending four hours volunteering at a health facility, the radiography students were somewhat less likely to work to address a problem in their communities. The non-

service-learners experienced a significant difference in their willingness to help others, suggesting less of a tendency to help others at the end of the radiography course. Finally, a comparison between groups shows that, while not significant, the SL group experienced greater gains in volunteering, helping others, and signing email petitions as compared to the NSL group, suggesting that the radiography students who participated in service had a higher tendency to demonstrate these behaviors than the radiography students who did not participate in service. Surprisingly, the SL group also experienced greater losses than the NSL group in the area of working to address a problem in the community.

Course 5: Humanities

The service project for the students in humanities class involved researching a non-profit community service agency and preparing a paper and speech to inform others of the agency's practices. The two sections of Introduction to Humanities yielded a total of 40 matching pre- and post-surveys with 19 service-learners and 21 non-service-learners. The mean pre- and post-responses for each item were, once again, analyzed using paired-samples *t* tests to determine if any significant differences existed. The mean responses for the SL group were compared to the mean responses of the NSL group to determine which group had higher tendencies for each of the civic activities that were assessed using this survey instrument. The results of these analyses are organized by civic engagement measurement category (civic, electoral, awareness, future participation, willingness to help others, political voice, comfort with diversity) and are presented below.

Civic indicators

No significant differences were found between the pre- and post-survey mean responses of the service-learners in humanities, suggesting that this group did not experience any significant gains or losses in the civic indicator measures of civic engagement after participating in service. However, the SL group did show slightly greater gains than the NSL group in tendency to volunteer for non-electoral activities.

The service-learners' mean responses decreased on three of the four question items in the civic indicator category, suggesting slightly higher tendencies for the assessed behaviors/activities after service. Specifically, the mean response decreased from 2.84 (SD=.501) to 2.63 (SD=.684) on the question item about working to address a problem in the community; the mean response also decreased on the question about organizing a group, from a pre-survey mean of 2.37 (.597) to a post-survey mean of 2.21 (SD=.631); lastly, the mean response decreased on the question about volunteer activities over the previous twelve months, from pre-survey (M=2.16, SD=.688) to post-survey (M=1.95, SD=.705). These differences, while not significant, indicate slightly higher tendencies toward participating in community problem solving and volunteer activities after service. The kinds of volunteer activities that the service-learners in this group reported having participated in were non-electoral activities; the largest percentage of responses fell into the category involving youth, children, and education. An examination of the frequencies of responses to the questions in this category reveals little change, though, in the SL group: only one additional person answered the organizing groups question and the working to address a community problem question affirmatively on the post-survey, and less respondents selected an affirmative response to the question about ever having

attended a meeting after service. There was an increase in the number of students reporting having volunteered “regularly” or “once in a while” in the last 12 months, a jump from 69% to 79%.

The non-service-learners, in contrast, experienced only very slight decreases in mean responses to the question about working to address a problem (a difference of .05) and to the question about ever having attended a meeting (a mean difference of .48). The NSL group did, however, experience a significant change ($t(20)=2.50$, $p=.021$) in mean response to the question about organizing a group, from pre-survey ($M=2.38$, $SD=.805$) to post-survey ($M=2.14$, $SD=.727$), with a standardized effect size index, *d*, of .54, suggesting that they had a higher tendency toward organizing a group to address problems in the community at the end of the course. Also, an examination of the frequencies reveals that, like the SL group, the NSL group experienced gains in tendency to volunteer: the percentage of respondents reporting “regular” or “once in a while” volunteering increased from 67% to 71%.

Thus, while both groups experienced small gains in volunteering, the SL group experienced slightly greater gains in that area, suggesting that the humanities students had a higher tendency to volunteer after participating in service than students in a comparable course that did not have a service component. They also, however, had a lower tendency to run for office than their NSL counterpart. The results of the statistical analyses of the mean responses of the humanities students are summarized in the tables below:

Table 92. Civic indicators among service-learners in humanities.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Worked to Address Community Problem - Worked to Address Community Problem	.211	.535	.123	-.047	.469	1.714	18	.104
Pair 2	Would Organize Group to Address Problem - Would Organize Group to Address Problem	.158	.602	.138	-.132	.448	1.143	18	.268
Pair 3	Ever Attended Meeting - Ever Attended Meeting	-.211	.535	.123	-.469	.047	-1.714	18	.104
Pair 4	Volunteer in Last 12 months - Volunteer in Last 12 months	.211	.631	.145	-.093	.514	1.455	18	.163

Table 93. Civic indicators among non-service-learners in humanities.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Worked to Address Community Problem - Worked to Address Community Problem	.048	.384	.084	-.127	.223	.568	20	.576
Pair 2	Would Organize Group to Address Problem - Would Organize Group to Address Problem	.238	.436	.095	.039	.437	2.500	20	.021
Pair 3	Ever Attended Meeting - Ever Attended Meeting	.048	.384	.084	-.127	.223	.568	20	.576
Pair 4	Volunteer in Last 12 months - Volunteer in Last 12 months	-.048	.498	.109	-.274	.179	-.439	20	.666

Electoral indicators

A significant difference was found between the SL humanities students' pre- and post-responses to the question about running for office. The mean response decreased from the pre-survey (M=2.74, SD=.452) to post-survey (M=2.37, SD=.684), and the difference was significant (t(18)=2.111, p=.049) with a standardized effect size index, *d*, of .48. Two of the other items in this category reflected slight decreases from pre- to post-survey: registering to vote (mean difference of .105) and voting in local elections (mean difference of .158). A more pronounced difference was seen between the pre-survey response (M=2.58, SD=1.575) and the

post-survey response (M=2.11, SD=1.487) (a mean difference of .37) to the question about voting in national elections. An examination of the frequencies reveals that of those eligible, 83% on the pre-survey and 79% on the post-survey reporting having registered to vote; 33% on the pre-survey and 50% on the post-survey reporting having "always" or "sometimes" voted in local elections; 50% on the pre-survey and 72% on the post-survey reported having "always" or "sometimes" voted in national elections. Thus, the SL group experienced gains in the percentage of students reporting having registered to vote and those reporting having "always" or "sometimes" voted in both local and national elections. The SL group's mean response to the question on volunteering in political campaigns increased with a mean difference of .105; the percentage of students selecting "Yes" or "Maybe" responses dropped from 68% to 50% and the percentage of students selecting "No" responses increased from 32% to 47%. Thus, the data suggest that the SL humanities students experienced significant gains in their tendency to run for office; slight, but not significant, gains in their tendency to be registered, as well as their tendency to vote in local and national elections; and slight, but not significant, losses in their tendency to volunteer for political campaigns.

The non-service-learners did not experience any significant gains or losses in their mean responses in this category. The mean responses to the question on volunteering in political campaigns also decreased from pre-survey (M=2.24, SD=.995) to post-survey (M=2.00, SD=.837), suggesting higher tendencies to participate in these activities. The mean responses to the questions on voting in local elections and being registered to vote increased, suggesting a lower tendency for these activities at the end of the course. An examination of the frequencies reveals that of those eligible, 94% on the pre-survey and 89% on the post-survey reported having

been registered, 50% on the pre-survey and 44% on the post-survey reported having “always” or “sometimes” voted in local elections, and 64% on the pre-survey and 61% on the post-survey reported having “always” or “sometimes” voted in national elections.

Thus, the data suggest that the humanities students who participated in service as part of their course showed greater gains in their tendency to run for office, to be registered to vote, and to vote in local and national elections than did students in a comparable course without a service component. A summary of the statistical analyses of these items has been provided in the tables below:

Table 94. Electoral indicators among service-learners in humanities.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Registered to Vote - Registered to Vote	.105	.459	.105	-.116	.326	1.000	18	.331
Pair 2	Vote in Local - Vote in Local	.158	1.425	.327	-.529	.844	.483	18	.635
Pair 3	Vote in National - Vote in National	.474	1.219	.280	-.114	1.061	1.694	18	.107
Pair 4	Running for Office - Running for Office	.368	.761	.175	.002	.735	2.111	18	.049
Pair 5	Volunteer in Political Campaign - Volunteer in Political Campaign	-.105	.737	.169	-.461	.250	-.622	18	.542

Table 95. Electoral indicators among non-service-learners in humanities.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Registered to Vote - Registered to Vote	-.048	.218	.048	-.147	.052	-1.000	20	.329
Pair 2	Vote in Local - Vote in Local	-.048	.865	.189	-.441	.346	-.252	20	.803
Pair 3	Vote in National - Vote in National	.143	.854	.186	-.246	.531	.767	20	.452
Pair 4	Running for Office - Running for Office	.000	.548	.120	-.249	.249	.000	20	1.000
Pair 5	Volunteer in Political Campaign - Volunteer in Political Campaign	.238	.700	.153	-.081	.557	1.558	20	.135

Awareness indicators

The service-learners in the humanities class experienced no significant gains or losses in the civic awareness category. The mean responses of the SL group decreased slightly in two of the four civic awareness question items: knowing the names of state and national legislators (a mean difference of .053) and knowing a community service agency that helps the homeless (a mean difference of .105). Their mean response to the question about knowing when meetings are held increased (a mean difference of .053), and their mean response to the question about knowing their elected officials' names remained static. The data suggest that the service-learners had a slightly higher tendency to know the names of state and national legislators, and a slightly lower tendency to know when council meetings are held in their areas after participating in the

course-related service activities. In contrast, the data suggest that the NSL group had a lower tendency to know their state and national legislators at the end of the course (a mean difference of .95), and a slightly higher tendency to know their elected officials' names (a mean difference of .048) and to know a community service agency that helps the homeless (a mean difference of .143).

A comparison of mean responses between the SL and NSL groups suggests that while the service-learners had a lower tendency to be aware of these items than the non-service-learners both before and after experiencing the service component of the class, they made greater gains than the non-service-learners in the area of knowing the names of their state and national legislators. A summary of the statistical analysis of these civic awareness items is summarized in the tables below:

Table 96. Awareness indicators among service-learners in humanities.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Know Elected Officials' Names - Know Elected Officials' Names	.000	.577	.132	-.278	.278	.000	18	1.000
Pair 2	Know When Meetings Held - Know When Meetings Held	-.053	.229	.053	-.163	.058	-1.000	18	.331
Pair 3	Know names of state/national legislators - Know names of state/national legislators	.053	.524	.120	-.200	.305	.438	18	.667
Pair 4	Know of Community Service Agency - Know of Community Service Agency	.105	.459	.105	-.116	.326	1.000	18	.331

Table 97. Awareness indicators among non-service-learners in humanities.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Know Elected Officials' Names - Know Elected Officials' Names	.048	.384	.084	-.127	.223	.568	20	.576
Pair 3	Know names of state/national legislators - Know names of state/national legislators	-.095	.301	.066	-.232	.042	-1.451	20	.162
Pair 4	Know of Community Service Agency - Know of Community Service Agency	.143	.478	.104	-.075	.360	1.369	20	.186

Table 98. Humanities students' mean responses to awareness indicator question items.

		NSL Mean	SL Mean
Pair 1	PRE Know Elected Officials' Names	1.71	1.74
	POST Know Elected Officials' Names	1.67	1.74
Pair 2	PRE Know When Meetings Held	1.95[a]	1.95
	POST Know When Meetings Held	1.95[a]	2.00
Pair 3	PRE Know names of state/national legislators	1.62	1.84
	POST Know names of state/national legislators	1.71	1.79
Pair 4	PRE Know of Community Service Agency	1.67	1.84
	POST Know of Community Service Agency	1.52	1.74

Indicators of future participation

The SL humanities students' mean response to the question about future volunteering decreased from pre-survey (M=2.26, SD=.653) to post-survey (M=2.16, SD=.765), suggesting a higher tendency toward future volunteering after service; however, the difference was not significant. The NSL humanities students' mean responses to this question item also decreased from pre-survey (M=2.24, SD=.995) to post-survey (M=2.00, SD=.837), with a notably greater mean difference (.238) than the SL group (.105).

The data, thus, suggests that the service-learners did not experience greater gains in the area of future participation than the students in a comparable course without a service component. The results of the statistical analyses performed on this question item are summarized in the table below:

Table 99. Future participation among service-learners in humanities.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Volunteer in next 12 months - Volunteer in next 12 months	.105	.567	.130	-.168	.379	.809	18	.429

Table 100. Future participation among non-service-learners in humanities.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Volunteer in Political Campaign - Volunteer in Political Campaign	.238	.700	.153	-.081	.557	1.558	20	.135

Indicators of willingness to help others

The service-learners' mean response to the question about whether they would help a homeless student increased from pre-survey (M=1.53, SD=.612) to post-survey (M=1.84, SD=.602), suggesting a slightly lower tendency to help after service; however, the difference was not significant. In contrast, the non-service-learners' mean response to the same question decreased slightly from pre-survey (M=1.67, SD=.730) to post-survey (M=1.62, SD=.590), suggesting a higher tendency to help at the end of the course, however, also not significant.

Thus, the data suggest that the service-learners in humanities did not experience greater gains in their tendency to help others than the non-service-learners in a comparable course. Tables summarizing the results of the statistical analyses of this item have been provided below:

Table 101. Willingness to help others among service-learners in humanities.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Helping Homeless Student - Helping Homeless Student	-.316	.671	.154	-.639	.008	-2.051	18	.055

Table 102. Willingness to help others among non-service-learners in humanities.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Helping Homeless Student - Helping Homeless Student	.048	.498	.109	-.179	.274	.439	20	.666

Political voice indicators

The humanities students experienced no significant gains or losses in the political voice question items. The SL group experienced no change in their mean response to the question about writing letters and the question about signing email petitions, a slight increase (a mean difference of .105) in their mean response to the question about signing written petitions, and a slight increase (a mean difference of .158) in their mean response to the question about contacting local, state, or national officials, which suggests errors related to the self-report strategy. An examination of the frequency of responses reveals no change in those reporting

having written letters, but does reveal higher tendencies of the humanities students to sign both written and email petitions, and lower tendencies to contact local, state, or national officials after experiencing the service-component of the class. Specifically, 35% of service-learners on the pre-survey and 39% on the post-survey reported having signed written petitions, 11% of service-learners on the pre-survey and 19% on the post-survey reported having signed email petitions, and 74% of service-learners on the pre-survey and 58% on the post-survey reported being willing to contact local, state, or national offices.

Although not significant, the non-service-learners saw increases from pre- to post-survey in three of the four political voice items: writing letters (a mean difference of .143), signing email petitions (a mean difference of .95), and contacting local, state, and national offices (a mean difference of .95), the differences of which suggest slightly lower tendencies to participate in such activities at the end of the course. The NSL group experienced a decrease in mean response (a mean difference of .476) to the question about signing written petitions from pre-survey (M=2.90, SD=.700) to post-survey (M=2.43, SD=.700), suggesting a higher tendency toward signing written petitions at the end of the course. An examination of the frequency of responses reveals a decrease in the percentage of NSL students reporting having written letters (from 11% to 9%), an increase in the percentage of NSL students reporting having signed written petitions (11% to 35%), no change in the percentage of NSL students reporting having signed email petitions (13%), and a decrease in the percentage of NSL students reporting a willingness to contact local, state, or national officials (from 57% to 48%).

Thus, the data suggest that the service-learners experienced greater gains than the non-service-learners in the tendency to sign email petitions. Both groups experienced gains in the

tendency to sign written petitions, but the SL group's gains were not greater than the NSL group. The service-learners had a higher tendency to contact local, state, or national offices than the non-service-learners both before and after participation in service, but they did not experience gains in this area.

Table 103. Political voice indicators of service-learners in humanities.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 2	Signed Written Petition - Signed Written Petition	.105	1.049	.241	-.400	.611	.438	18	.667
Pair 3	Signed Email Petition - Signed Email Petition	.000	1.155	.265	-.557	.557	.000	18	1.000
Pair 4	Would Contact Local, State, or National Office - Would Contact Local, State, or National Office	-.158	.602	.138	-.448	.132	-1.143	18	.268

Table 104. Political voice indicators among non-service-learners in humanities.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Written Letter - Written Letter	-.143	.478	.104	-.360	.075	-1.369	20	.186
Pair 2	Signed Written Petition - Signed Written Petition	.476	.928	.203	.054	.899	2.351	20	.029
Pair 3	Signed Email Petition - Signed Email Petition	-.095	1.221	.266	-.651	.460	-.357	20	.724
Pair 4	Would Contact Local, State, or National Office - Would Contact Local, State, or National Office	-.095	.539	.118	-.341	.150	-.810	20	.428

Indicators of comfort with diversity

Neither the SL nor the NSL group experienced any significant gains or losses in their comfort with diversity. The SL group's mean response to this item decreased from 2.84 (SD=.375) to 2.58 (SD=.838), suggesting a slightly lower tendency to be comfortable with diversity after participation in service. The NSL group's mean response to this item increased from 2.67 (SD=.730) to 2.81 (SD=.512), suggesting a slightly higher tendency to be comfortable with diversity at the end of the course. The results of the statistical analyses on this item are summarized in the tables below:

Table 105. Comfort with diversity among service-learners in humanities.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Willingness to Participate in Diverse Group - Willingness to Participate in Diverse Group	.263	.872	.200	-.157	.683	1.316	18	.205

Table 106. Comfort with diversity among non-service-learners in humanities class.

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Willingness to Participate in Diverse Group - Willingness to Participate in Diverse Group	-.143	.655	.143	-.441	.155	-1.000	20	.329

Summary

Analyses of the humanities students suggest that after participating in the research service project, the students experienced significant gains in only one area: running for office. The data also suggest that the students who participated in service showed greater gains in their tendency to run for office, to volunteer, to register to vote, to vote in local and national elections, to know the names of their state and national legislators, and to sign email petitions than students in a comparable course without a service component.

Conclusion: Research Question 1

Whereas the comparative analysis of the service-learners and the non-service-learners reveals promising results with significant gains in a number of measures of civic engagement, the analyses of the data sorted by subject area is not so promising, with only the English class reflecting significant gains in multiple measures. Unfortunately, the comparative analysis of the service-learners and the non-service-learners in comparable courses reveals no specific trends. Whereas the English students showed significant gains in the majority of measures of civic engagement after participating in service, as compared to the non-service-learners in English, the speech students showed no significant gains at all. After service, the dental hygiene students showed significant gains in the tendency to participate in non-electoral volunteer activities, the humanities students showed significant gains in the tendency to run for office, and the radiography students showed significant losses in the tendency to work to address a problem in the community. Thus, the answer to the question of whether students that participate in service-learning show greater gains on measures of civic engagement than students in comparable courses who do not participate in service-learning is both yes *and* no. In fact, a more appropriate answer is that it depends. The service activities in the English, speech, dental hygiene, radiography, and humanities classes were necessarily different; they had different goals, they were led and designed by different instructors, they lasted for different lengths of time, and they included different amounts of student reflection. As the literature review suggests, these factors may have moderated the relationship between service-learning and civic engagement, which will be examined in the next section of this chapter.

The Relationship between Service Characteristics and Civic Engagement Outcomes

The second research question was "Do characteristics of the service-learning experience moderate the relationship between service-learning participation and civic engagement?" Characteristics of the service-learning experiences considered in this study included the following: type of service-learning activity (direct, indirect, or advocacy), duration of the service-learning experience, quality of the service-learning experience, and amount of student reflection.

Type of Service-learning Activity

In each of the courses surveyed, the instructor designated the kinds of service activities the students participated in, and the instructors were asked to describe those activities on the Teacher Survey. The two English class sections "developed, organized, and implemented a college-wide supply drive for the Coalition for the Homeless." The speech students "were involved in a literacy project, where they spent two Saturdays helping young adults learn to read. Their experiences became the subject of one of the major speeches in the class." The dental hygiene students "participated in a Fluoride/sealant clinic two times in the fall semester and two times in the spring semester. In the second year of the program, the students participated in community outreach at local schools, nursing homes, and public healthcare facilities." The radiography instructor described the service activities in her course thusly: "the students volunteered for a four-hour shift to work with a transporter at a local non-profit hospital." Despite the use of the term *volunteer* here, all of the radiography students participated in the service activities. Finally, the humanities course project focused on advocacy:

> Students researched one of five non-profit agencies in Central Florida and wrote a research paper about one aspect on the organization (programs offered, financial records, donations, who they help, and volunteering). They developed a PowerPoint speech as a component of the final exam where they were required to teach the class what they had learned and how others can participate in helping.

The students were also asked to classify the kind of service activities they participated in as *direct*, having face-to-face interactions with the recipients of project efforts, *indirect*, providing financial aid or goods without face-to-face interactions, or *advocacy*, working to raise awareness of an existing need or issue without providing financial aid or goods and without making direct contact with the recipients. The students' selections and the instructors' narratives reveal that the English course participated in indirect service; the speech, dental hygiene, and radiography courses participated in direct service; and the humanities course participated in advocacy service.

A one-way analysis of variance was conducted to evaluate the relationship between types of service experience and 11 measures of civic engagement. The independent variable, the type of service factor, included three levels: direct, indirect, and advocacy. The dependent variables in the civic category included the respondents' volunteer activities in the last 12 months and their willingness to organize a group to address a problem. In the awareness category, the dependent variables were the respondents' knowledge of the name of their community's chief elected official; their knowledge of when their town, city, or tribal council meetings are held; their knowledge of a community service agency that helps the homeless; and their knowledge of the names of their state and/or national legislators. In the political voice category, the dependent

variable was the respondents' willingness to contact local, state, or national officials. In the electoral category, the dependent variables were the respondents' willingness to run for office and the respondents' willingness to volunteer in political campaigns. Lastly, two other dependent variables included the respondents' willingness to help others and their willingness to volunteer in the future. Note that certain survey question items have been excluded from these analyses because ANOVA assumes a variable with a quantitative measure and consistent scale. Only those items for which a lower score represented a higher level of engagement and a higher score represented a lower level of engagement have been included in these analyses to ensure that the results are statistically sound. Two internal consistency estimates of reliability were computed for the civic engagement scale of these11 items: a split-half coefficient expressed as Spearman-Brown corrected correlation and coefficient alpha. The coefficient alpha of .726 suggests that the scale scores are reasonably reliable for respondents like those in the study, as does the split-half coefficient of .725.

In the civic category, the ANOVA results suggest a significant relationship between type of service and two variables: tendency to volunteer in non-electoral activities and tendency to organize a group to address a problem in the community. The relationship between the tendency to volunteer in non-electoral activities and type of service was significant ($F(2,107)=3.659$, $p=.029$). The strength of relationship between type of service and non-electoral volunteering assessed by η^2 accounted for 6% of the variance of the dependent variable. Follow-up tests were conducted to evaluate pairwise differences among the means. Because the variances ranged from .33 to .42 and Levene's Test of Equality was not significant, I chose not to assume that the variances were homogeneous and conducted post hoc comparisons with the use of the Dunnett's

C test. There was a significant difference in the means between the groups that experienced indirect service and direct service; the group that participated in indirect service showed the highest tendency to volunteer. The 95% confidence intervals for the pairwise differences, as well as the means and standard deviations for the three service types are reported in the table below:

Table 107. 95% Confidence intervals of pairwise differences in tendency to volunteer by service type.

Kind of Service	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Direct service	2.254	.084	2.089	2.420
Indirect service	1.645	.115	1.417	1.874
Advocacy service	2.250	.143	1.966	2.534

Moreover, the relationship between service type and tendency to organize a group to address a problem in the community was significant ($F(2,107)=10$, $p=.000$, $\eta^2=.16$). Follow-up tests were conducted to evaluate pairwise differences among the means. Because the variances ranged from .40 to .48, I chose not to assume that the variances were homogeneous and conducted post hoc comparisons with the use of the Dunnett's C test. There was a significant difference between the group involved in direct service and the group involved in indirect service; there was also a significant difference between the group involved in advocacy service and the group involved in indirect service; the group that participated in indirect service group showed the highest tendency to organize a group. The 95% confidence intervals for the pairwise differences, as well as the means and standard deviations for the three service types are reported in the table below:

Table 108. 95% Confidence intervals of pairwise differences in tendency to organize a group by service type.

Kind of Service	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Direct service	2.254	.084	2.089	2.420
Indirect service	1.645	.115	1.417	1.874
Advocacy service	2.250	.143	1.966	2.534

In the electoral category, the ANOVA suggests a significant relationship between type of service and two variables: running for office and volunteering in political campaigns. The relationship between service type and tendency to run for office was significant ($F(2,107)=7.035$, $p=.001$, $\eta^2=.12$). Follow-up tests were conducted to evaluate pairwise differences among the means. Because the variances were homogeneous according to Levene's Test of Equality, I conducted post hoc comparisons with the use of the Tukey HSD test. There was a significant difference between the group involved in direct service and the group involved in indirect service. The group that participated in indirect service showed the highest tendency to run for office. The 95% confidence intervals for the pairwise differences, as well as the means and standard deviations for the three service types are reported in the table below:

Table 109. 95% Confidence intervals of pairwise differences in tendency to run for office by service type.

Kind of Service	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Direct service	2.576	.085	2.407	2.745
Indirect service	2.032	.118	1.799	2.266
Advocacy service	2.350	.146	2.060	2.640

In the awareness category, the ANOVA suggests that the type of service was significantly related to respondents' knowledge of a community service agency to help the homeless. The

relationship between service type and knowledge of a community service agency to help the homeless was significant ($F(2,107)=18.563$, $p=.000$, $\eta^2=.26$). Post hoc tests were conducted to evaluate pairwise differences among the means. Because the variances were homogeneous according to Levene's Test of Equality, I conducted post hoc comparisons with the use of the Tukey HSD test. There was a significant difference between the group involved in direct service and the group involved in indirect service; there was also a significant difference between the group involved in indirect service and the group involved in advocacy service, but no significant difference between the group involved in direct service and the group involved in advocacy service. The group that participated in indirect service showed the highest tendency to know of a community service agency to help the homeless. The 95% confidence intervals for the pairwise differences, as well as the means and standard deviations for the three service types are reported in the table below:

Table 110. 95% Confidence intervals of pairwise differences in tendency to know of community service agency by service type.

Kind of Service	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Direct service	1.593	.057	1.481	1.706
Indirect service	1.065	.078	.909	1.220
Advocacy service	1.700	.097	1.507	1.893

There was also a significant relationship between type of service and respondents' willingness to help others. The relationship between service type and willingness to help others was significant ($F(2,107)=7.721$, $p=.001$, $\eta^2=.13$). Follow-up tests were conducted to evaluate pairwise differences among the means. Because the variances were homogeneous according to Levene's Test of Equality, I conducted post hoc comparisons with the use of the Tukey HSD

test. There was a significant difference between the group involved in direct service and the group involved in indirect service; there was also a significant difference between the group involved in indirect service and the group involved in advocacy service, but no significant difference between the group involved in direct service and the group involved in advocacy service. The group that participated in indirect service showed the highest tendency to run for office. The 95% confidence intervals for the pairwise differences, as well as the means and standard deviations for the three service types are reported in the table below:

Table 111. 95% Confidence intervals of pairwise differences in tendency to help others by service type.

Kind of Service	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Direct service	1.508	.076	1.358	1.658
Indirect service	1.161	.104	.954	1.368
Advocacy service	1.800	.130	1.542	2.058

Finally, there was a significant relationship between type of service and the tendency to volunteer in the future. The relationship between service type and tendency to volunteer in the subsequent twelve months was significant ($F(2,107)=4.057$, $p=.020$, $\eta^2=.07$). Follow-up tests were conducted to evaluate pairwise differences among the means. Because the variances were homogeneous according to Levene's Test of Equality, I conducted post hoc comparisons with the use of the Tukey HSD test. There was a significant difference between the group involved in direct service and the group involved in advocacy service. There was also a significant difference between the group involved in indirect service and the group involved in advocacy service, but there was no significant difference between the group involved in direct service and the group

involved in indirect service. The indirect service group had the lowest mean, and, thus, the highest tendency to volunteer in the future. The 95% confidence intervals for the pairwise differences, as well as the means and standard deviations for the three service types are reported in the table below:

Table 112. 95% Confidence intervals of pairwise differences in tendency to volunteer in the future by service type.

Kind of Service	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Direct service	1.678	.097	1.487	1.869
Indirect service	1.677	.133	1.413	1.941
Advocacy service	2.200	.166	1.871	2.529

Thus, the data suggest that the type of service, classified as direct, indirect, or advocacy, was significantly related to 7 of the 11 measures of civic engagement. Specifically, the data suggest that type of service is a significant moderator for the relationship between participation in service and students' non-electoral volunteer activities, community problem solving activities, electoral activities, civic awareness, and willingness to help others. The group involved in indirect service appeared to experience the greatest gains in these measures of civic engagement.

Duration of Service

Students were asked to approximate the number of hours they spent involved in service activities. The responses were organized in ten-hour increments, with the highest level designating "More than 40 hours." A one-way analysis of variance was conducted to evaluate the relationship between duration of service and each measure of civic engagement. The independent variable, duration of service, originally included six levels but was reduced to four because no

participants selected “0” or “more than 40”: 1 – 10 hours, 11 – 20 hours, 21-30 hours, 31-40 hours. Seven participants selected “31 – 40,” 32 selected “21 – 30,” 11 selected “11 - 20,” and 60 selected “1-10.” The same 11 dependent variables assessed in the analysis of type of service were assessed here. The dependent variables in the civic category included the respondents’ volunteer activities in the last 12 months and their willingness to organize a group to address a problem. In the awareness category, the dependent variables were the respondents’ knowledge of the name of their community’s chief elected official; their knowledge of when their town, city, or tribal council meetings are held; their knowledge of a community service agency that helps the homeless; and their knowledge of the names of their state and/or national legislators. In the political voice category, the dependent variable was the respondents’ willingness to contact local, state, or national officials. In the electoral category, the dependent variables were the respondents’ willingness to run for office and the respondents’ willingness to volunteer in political campaigns. Lastly, two other dependent variables included the respondents’ willingness to help others and their willingness to volunteer in the future.

Significant relationships were found in several of the dimensions of civic engagement. In the civic category, for example, there was a significant relationship between the duration of service and the tendency to organize a group ($F(3,106)=3.342$, $p=.113$). The strength of relationship assessed by η^2 was strong and accounted for 12% of the variance of the dependent variable. Follow-up tests were conducted to evaluate pairwise differences among the means. Because the variances were not homogeneous according to Levene’s Test of Equality, I conducted post hoc comparisons with the use of the Dunnett C test. As we would expect, there was a significant difference between the group that spent 1-10 hours involved in service

activities and the group that spent 31-40 hours involved in service activities. The group that spent 31-40 hours in service had the lowest mean, and, thus, the highest tendency to organize a group to address a problem in the community. You will recall that all of the 11 item responses used in this analysis were coded with the lower score representing the higher tendency to participate in the activity or demonstrate the behavior. The 95% confidence intervals for the pairwise differences, as well as the means and standard deviations for the four duration groups are reported in the table below:

Table 113. 95% Confidence intervals of pairwise differences in tendency to organize groups for students experiencing different durations of service.

Number of hours in SL	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
31-40	1.571	.251	1.075	2.068
21-30	1.844	.117	1.611	2.076
11-20	2.091	.200	1.695	2.487
1-10	2.267	.086	2.097	2.436

In the electoral category, a significant relationship was found between duration of service experience and two variables: tendency to run for office ($F(3,106)=7.282$, $p=.000$) and tendency to volunteer in political campaigns ($F(3,106)=8.674$, $p=.000$). The strength of the relationship between duration of service and tendency to run for office assessed by η^2 was strong and accounted for 17% of the variance of the dependent variable. Follow-up tests were again conducted to evaluate pairwise differences among the means. Because Levene's Test of Equality showed that the variances were not homogeneous, I conducted post hoc comparisons with the use of the Dunnett C test, which resulted in a significant difference between the group that spent 1-10 hours involved in service activities and the group that spent 21-30 hours involved in service

activities. There was no significant difference between the 1-10 hour group and the 31-40 hours group in this question item. However, the group that spent 31-40 hours in service had the lowest mean, and, thus, the highest tendency to run for office. As the time intervals increased, the means decreased, suggesting that the greater the amount of time, the higher the tendency to run for office. The 95% confidence intervals for the pairwise differences, as well as the means and standard deviations for the four groups are reported in the table below:

Table 114. 95% Confidence intervals of pairwise differences in tendency to run for office for students experiencing different durations of service.

Number of hours in SL	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
31-40	2.000	.241	1.522	2.478
21-30	2.031	.113	1.808	2.255
11-20	2.273	.192	1.892	2.654
1-10	2.633	.082	2.470	2.797

The strength of relationship between duration of service and tendency to volunteer in political campaigns assessed by η^2 was strong and accounted for 20% of the variance of the dependent variable. Follow-up tests were conducted to evaluate pairwise differences among the means. Because the variances were not homogeneous according to Levene's Test of Equality, I conducted post hoc comparisons with the use of the Dunnett C test. Again, there was a significant difference between the group that spent 1-10 hours involved in service activities and the group that spent 21-30 hours involved in service activities. There was no significant difference between the 1-10 hour group and the 31-40 hours group. The group involved in 1-10 hours of service had a higher mean response than the group involved in 21-30 hours of service, suggesting that they had less of a tendency to volunteer for political campaigns than those with

more hours. However, the group that spent 31-40 hours in service had the lowest mean of all the groups, and, thus, the highest tendency to volunteer in political campaigns. Again, as the time increases, the means decrease. The 95% confidence intervals for the pairwise differences, as well as the means and standard deviations for the four groups are reported in the table below:

Table 115. 95% Confidence intervals of pairwise differences in tendency to volunteer in political campaigns for students experiencing different durations of service.

Number of hours in SL	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
31-40	1.429	.251	.931	1.926
21-30	1.531	.117	1.299	1.764
11-20	1.545	.200	1.148	1.942
1-10	2.167	.086	1.997	2.337

In the political voice category, a significant relationship was found between duration of service and tendency to contact local, state, or national officials ($F(3,106)=3.839$, $p=.012$, $\eta^2=.09$). Follow-up tests were conducted to evaluate pairwise differences among the means. Because the variances were homogeneous according to Levene's Test of Equality, I conducted post hoc comparisons with the use of the Tukey HSD test. Again, there was a significant difference between the group that spent 1-10 hours involved in service activities and the group that spent 21-30 hours involved in service activities; there was also a significant difference between the group that spent 1-10 hours involved in service activities and the group that spent 31-40 hours. There was no significant difference between the 11-20 hour group and any of the other groups. The group involved in 1-10 hours of service had a higher mean response than the group involved in 21-30 hours of service, suggesting that they had less of a tendency to contact officials than those with more hours. The means decreased as the hours grew, suggesting that the more time

students spent involved in service, the greater gains they experienced in this area. The 31-40 group had the lowest mean of all the groups, and, thus, the highest tendency to contact local, state, or national officials. The 95% confidence intervals for the pairwise differences, as well as the means and standard deviations for the four groups are reported in the table below:

Table 116. 95% Confidence intervals of pairwise differences in tendency to contact officials for students experiencing different durations of service.

Number of hours in SL	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
31-40	1.000	.165	.674	1.326
21-30	1.125	.077	.972	1.278
11-20	1.273	.131	1.013	1.533
1-10	1.400	.056	1.289	1.511

In the awareness category, a significant relationship was found between duration of service and two variables: tendency to know names of state/national legislators and tendency to know of a community service agency that helps the homeless. The relationship between duration and tendency to know the names of legislators was significant ($F(3,106)=3.248$, $p=.025$, $\eta^2= .08$). Given the results of Levene's Test of Equality, equality of variances was not assumed. Thus, a Tukey HSD test was used to examine pairwise differences between the groups. Significant differences were found between the group that participated in service for 1-10 hours and the group that participated in service for 21-30 hours. The means increased as the number of hours decreased, suggesting, once again, that the more time one spends in service, the greater gains she experiences. The 31-40 hours group had the lowest mean, suggesting that students in that group had the highest tendency to know the names of their state and national legislators. The 95%

confidence intervals, means, and standard deviations for the four groups have been provided in the table below:

Table 117. 95% Confidence intervals of pairwise differences in tendency to know names of legislators for students experiencing different durations of service.

Number of hours in SL	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
31-40	1.429	.185	1.062	1.795
21-30	1.438	.087	1.266	1.609
11-20	1.636	.148	1.344	1.929
1-10	1.750	.063	1.625	1.875

The relationship between duration of service and tendency to know the name of a community service agency that helps the homeless was significant ($F(3,106)=7.829$, $p=.000$, $\eta^2=.18$). Equality of variances was assumed given significance on Levene's Test. Thus, a Dunnett C test was used to examine pairwise differences. A significant difference was found between the group participating in service for 1-10 hours and the group participating in service for 21-30 hours. The 21-30 hour group had the highest mean in this category, suggesting the lowest tendency to know of such an agency. The 31-40 hour group had the lowest mean and, thus, the highest greatest tendency to demonstrate this behavior. The 11-20 group had a lower mean than the 1-10 or the 21-30 group, suggesting a greater tendency for this behavior. The 95% confidence levels, means, and standard deviations for each group have been provided in the table below:

Table 118. 95% Confidence intervals of pairwise differences in tendency to know of a community service agency for students experiencing different durations of service.

Number of hours in SL	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
31-40	1.143	.174	.798	1.487
21-30	1.188	.081	1.026	1.349
11-20	1.545	.139	1.271	1.820
1-10	1.633	.059	1.516	1.751

There was also a significant relationship between duration of service and respondents' willingness to help a students whom they found out was homeless ($F(3,106)=6.116$, $p=.001$, $\eta^2=.15$). Post hoc tests were conducted to evaluate pairwise differences among the means. Because the variances were homogeneous according to Levene's Test of Equality, I conducted post hoc comparisons with the use of the Tukey HSD test. There was a significant difference between the group that spent 1-10 hours involved in service activities and the group that spent 31-40 hours in service. There was also a significant difference between the 1-10 group and the 21-30 group. The group involved in 1-10 hours of service had the highest mean response, and the means in the other groups decreased as the hours increased, suggesting that the more time one spends involved in service, the greater her tendency to help a homeless student. The 95% confidence intervals for the pairwise differences, as well as the means and standard deviations for the four groups are reported in the table below:

Table 119. 95% Confidence intervals of pairwise differences in tendency to help for students experiencing different durations of service.

Number of hours in SL	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
31-40	1.000	.218	.568	1.432
21-30	1.188	.102	.985	1.390
11-20	1.545	.174	1.201	1.890
1-10	1.650	.074	1.502	1.798

To conclude, the duration of the service experience was significantly related to 7 of the 11 civic engagement measures. In particular, duration of service was a significant moderator for the relationship between participation in service and participants' gains in activities related to community problem solving, politics, political voice, civic awareness, and helping others. In almost every case, the mean responses decreased as the hours increased, suggesting that the more time one participates in service activities, the greater the gains in civic engagement she experiences. This was not true in the data related to the tendency to know of a community service agency to help the homeless, in which the students who experienced 11 – 20 hours of service had the lowest mean. However, the majority of English students selected the response of 11 - 20 hours, and, as mentioned earlier, their project was directly related to working to raise money for a Central Florida agency that helps the homeless: Coalition for the Homeless. Thus, we would expect significant gains in this group.

Quality of Service Experience

The students were asked to rank on a scale of 1-5 how much several statements described their service experience with a 1 being the lowest amount and a 5 being the highest amount. Five

statements were provided, assessing the quality of the service by how well it was linked to the academic goals and learning outcomes of the course; how well it responded to a need in the community; how much it encouraged students to think critically about their role in local, regional, or international social or political systems; how much students were asked to reflect on the experience and its relationship to their values, attitudes, or goals; and, finally, how much students were asked to engage in critical evaluation of the experience. A total quality score was calculated by summing the students' rankings for each of the five quality statements; a higher score reflects a higher perceived quality and a lower score reflects a lower perceived quality. Total quality scores ranged from 9 to 25. Sixteen students submitted a total quality score of 15 or less, which was considered low quality. Thirty-four students submitted a total quality score of 16 to 20, which was considered average quality. And 60 students submitted a total quality score of 21 to 25, which was considered high quality.

A one-way analysis of variance was performed to determine whether a ranking of low, average, or high quality was significantly related to the 11 civic engagement measures. A significant relationship was found between quality level and only two measures of civic engagement, both in the electoral category: the tendency to run for office and the tendency to volunteer in political campaigns.

A significant relationship was found between student perceived quality of service and tendency to run for office ($F(2,107)=8.069$, $p=.001$). The strength of the relationship between quality and tendency to run for office assessed by η^2 was strong and accounted for 13% of the variance of the dependent variable. Follow-up tests were conducted to evaluate pairwise differences among the means. Because the variances were homogeneous according to Levene's

Test of Equality, post hoc comparisons with the use of the Tukey HSD test were conducted. Post hoc tests showed a significant difference between the high and low quality groups, as well as between the high and average quality groups. The high quality group had the lowest mean, which suggests a higher tendency for students in that group to run for office as compared to both the average and low quality groups. In fact, the higher the quality, the lower the mean score, suggesting that higher quality service activities produce greater gains in this measure of civic engagement. The 95% confidence intervals, means, and standard deviations have been provided in the table below:

Table 120. 95% Confidence intervals of pairwise differences in tendency to run for office by quality level.

Quality Group	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Low Quality	2.813	.162	2.491	3.134
Average Quality	2.559	.111	2.338	2.780
High Quality	2.167	.084	2.000	2.333

A significant relationship was found between student perceived quality of service and tendency to volunteer in political campaigns ($F(2,107)=4.170$, $p=.018$, $\eta^2=.07$). Follow-up tests were conducted to evaluate pairwise differences among the means. Because the variances were not homogeneous according to Levene's Test of Equality, post hoc comparisons with the use of the Dunnett C test were conducted. Post hoc tests, however, showed no significant differences between the groups. The high quality group had the lowest mean, which suggests a higher tendency for students in that group to volunteer in political campaigns as compared to both the average and low quality groups. Once again, the higher the quality, the lower the mean score, suggesting that higher quality service activities produce greater gains in this measure of civic

engagement. The 95% confidence intervals, means, and standard deviations have been provided in the table below:

Table 121. 95% Confidence intervals of pairwise differences in electoral volunteering by quality level.

Quality Group	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Low Quality	2.188	.178	1.835	2.540
Average Quality	2.029	.122	1.788	2.271
High Quality	1.700	.092	1.518	1.882

Thus, a significant relationship was found between the student perceived quality of the service component of the class and two electoral indicators, suggesting that higher quality programs produce greater gains in these electoral measures of civic engagement, specifically, volunteering in political campaigns and running for office. While no significance was found between quality and the other measures of civic engagement, an examination of the means of the three groups reveals a pattern: the higher the quality, the lower the mean. This suggests that the higher students perceive the quality of the service activities, the more gains they experience in civic engagement. A table providing the means of the three groups is provided below:

Table 122. Mean civic engagement measures between quality groups.

Measure of Civic Engagement	Low Quality	Average Quality	High Quality
Volunteer in Last 12 months	2.13	2.12	1.90
Know Elected Officials' Names	1.81	1.62	1.72
Know When Meetings Held	1.88	1.88	1.90
Would Organize Group to Address Problem	2.38	2.09	2.00
Would Contact Local, State, or National Office	1.38	1.29	1.25
Running for Office	2.81	2.56	2.17
Volunteer in Political Campaign	2.19	2.03	1.70
Helping Homeless Student	1.56	1.59	1.37
Know of Community Service Agency	1.56	1.53	1.40
Volunteer in next 12 months	1.94	1.97	1.62

However, based on this analysis, we cannot conclude that quality was a significant moderator on the relationship between service participation and the majority of measures of civic engagement.

Amount of Student Reflection

The service-learning instructors estimated the number of hours students were required to reflect on their service experience in ten-hour increments: “40 or more hours,” “30 – 39 hours,” “20 – 29 hours,” “10 – 19 hours,” “1 – 9 hours,” and “less than 1 hour.” A one-way analysis of variance was conducted to evaluate the relationship between amount of student reflection and each measure of civic engagement. The independent variable, amount of student reflection, originally included six levels but was reduced to four because no instructors selected the answer choices “less than 1 hour” or “30 – 39 hours.” Thirty-one students were in the “40 or more hours” group, 19 were in the “20 – 29 hours” group, 44 were in the “10 – 19 hours” group, and 16 were in the “1 – 9 hours” group. The same 11 dependent variables assessed in the analysis of

type of service and duration of service were assessed here. A significant relationship was found between the amount of student reflection and all of the assessed measures of civic engagement except for the tendency to know the names of elected officials. However, the results do not suggest a correlation between the amount of time spent reflecting on the service experiences and gains in the outcomes. The specific results of the statistical analyses performed are explained below.

A significant relationship was found between amount of reflection and volunteering in the previous twelve months ($F(3, 106)=3.728$, $p=.014$, $\eta^2=.095$). Because Levene's Test of Equality suggested no homogeneity of variances, post hoc tests with Dunnett's C were performed, the results of which suggest a significant difference between the group with 40 or more hours of reflection and the group with 1 to 9 hours of reflection. The group required to do the most amount of reflection (40 or more hours) had the highest mean and the group required to do the least amount of reflection (1 – 9 hours) had the lowest mean, which suggests the opposite of what we would expect: the higher the amount of reflection, the lower the gains in the tendency for participants to volunteer. The 95% confidence intervals, means, and standard deviations have been provided in the table below:

Table 123. 95% Confidence intervals of pairwise differences in volunteer activities by reflection amount.

Amount of Reflection	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
40 or more hours	2.258	.113	2.035	2.481
20 - 29 hours	1.947	.144	1.662	2.232
10 - 19 hours	1.977	.094	1.790	2.165
1-9 hours	1.625	.157	1.314	1.936

A significant relationship was also found between the amount of reflection students were required to do and the outcome of knowing when town, city, or tribal council meetings are held ($F(3,106)=4.068$, $p=.009$, $\eta 2=.103$). Because Levene's Test of Equality suggested homogeneity of variances, post hoc tests with Tukey HSD were performed, which suggested, once again, a significant difference between the group with 40 or more hours of reflection and the group with 1 - 9 hours of reflection, as well as a significant difference between the group with 20 – 29 hours of reflection and the 1 – 9 hours of reflection group. Oddly, we again see that the group with more than 40 hours had a higher mean response on this item than the group with 1 – 9 hours, which notably had the lowest mean of all the groups. Thus, the students in the group with the least amount of required reflection saw the greatest gains in their tendency to know when their town, city, or tribal council meetings were held. The 95% confidence intervals, means, and standard deviations have been provided in the table below:

Table 124. 95% Confidence intervals of pairwise differences in tendency to know when meetings are held by reflection amount.

Student Reflection	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
More than 40 hours	1.968	.054	1.861	2.075
20-29 hours	2.000	.069	1.863	2.137
10-19 hours	1.864	.045	1.774	1.954
1-9 hours	1.687	.075	1.538	1.837

A significant relationship was found between amount of student reflection and the outcome of organizing a group ($F(3,106)=6.691$, $p=.000$, $\eta 2=.159$). Since homogeneity of variances could not be assumed, post hoc tests with Dunnett C were performed; the results of

which suggest a significant difference between the students who were required to do more than 40 hours of reflection and the other three groups. In this category, the group with the lowest mean was once again the group required to reflect for the least amount of time, suggesting that the less time one spends in reflective activities, the greater gains she will experience in her tendency to organize a group to address a problem in her community. The 95% confidence intervals, means, and standard deviations have been provided in the table below:

Table 125. 95% Confidence intervals of pairwise differences in tendency to organize a group by reflection amount.

Student Reflection	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
More than 40 hours	1.645	.116	1.416	1.874
20-29 hours	2.211	.148	1.918	2.503
10-19 hours	2.250	.097	2.058	2.442
1-9 hours	2.312	.161	1.993	2.632

A significant relationship was also found between the amount of reflection and the respondent's tendency to contact local, state, or national officials ($F(3,106)=3.423$, $p=.020$, $\eta 2=.088$). Since homogeneity of variances could be assumed, post hoc tests with Tukey HSD were performed; the results of the post hoc tests, however, suggest no significant differences between groups. The group required to participate in the least amount of reflection showed the greatest gains in this measure of civic engagement, followed by the more than 40 group, the 10 – 19 group, and the 20 - 29 hour group. From this data, we cannot conclude that participating in more reflection resulted in greater gains in this political voice outcome. The 95% confidence intervals, means, and standard deviations have been provided in the table below:

Table 126. 95% Confidence intervals of pairwise differences in tendency to contact officials by reflection amount.

Student Reflection	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
More than 40 hours	1.129	.079	.973	1.285
20-29 hours	1.421	.100	1.222	1.620
10-19 hours	1.386	.066	1.256	1.517
1-9 hours	1.125	.109	.908	1.342

A significant difference was found between amount of reflection and tendency to run for office $F(3,106)=4.792$, $p=.004$, $\eta 2=.088$. Since Levene's Test of Equality suggested homogeneity of variances, a Tukey HSD test was used to run post hoc pairwise comparisons. Significant differences were found between the students required to reflect for 10 to 19 hours and the students required to reflect for more than 40 hours. The means were lowest in the group that experienced the most reflection, the more than 40 hours group, and highest in the 10 – 19 hours group, which suggests that the more reflection one is required to participate in, the greater gains she will experience in this measure of civic engagement. The 95% confidence intervals, means, and standard deviations have been provided in the table below:

Table 127. 95% Confidence intervals of pairwise differences in tendency to run for office by reflection amount.

Student Reflection	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
More than 40 hours	2.032	.118	1.798	2.266
20-29 hours	2.368	.151	2.070	2.667
10-19 hours	2.614	.099	2.417	2.810
1-9 hours	2.438	.164	2.112	2.763

A significant difference was found between amount of reflection and the outcome of volunteering in political campaigns ($F(3,106)=7.961$, $p=.000$, $\eta^2=.184$). Because homogeneity of variances could not be assumed, based on Levene's Test of Equality, follow-up tests with Dunnett C were performed to determine pairwise differences between groups. Significant differences were found between the more than 40 group and both the 20 – 29 group and the 10 – 19 group. No significant differences were found between the 20 – 29 group and the 10 – 19 group, neither were there significant differences between the 1 – 9 group and any other group. The group required to reflect for the most amount of time experienced the greatest gains in this measure of civic engagement, suggesting that the students required to do the most reflection saw the greatest gain in their tendency to volunteer in political campaigns. However, the group that was required to reflect for 20 – 29 hours (the second greatest amount) experienced the smallest gains in this measure. Thus, we cannot conclude that students asked to reflect more necessarily experience greater gains in their tendency to volunteer in political campaigns. The 95% confidence intervals, means, and standard deviations have been provided in the table below:

Table 128. 95% Confidence intervals of pairwise differences in tendency for electoral volunteering by reflection amount.

Student Reflection	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
More than 40 hours	1.452	.120	1.213	1.690
20-29 hours	2.368	.154	2.064	2.673
10-19 hours	1.977	.101	1.777	2.177
1-9 hours	1.812	.167	1.481	2.144

A significant difference was found between amount of reflection and the outcome of helping others ($F(3,106)=5.574$, $p=.001$, $\eta^2=.136$). Follow-up tests with Tukey HSD were performed because Levene's Test of Equality was significant and homogeneity of variances, therefore, could be assumed. Significant difference was found between the students required to reflect for more than 40 hours and the students required to reflect for 20 to 29 hours. No significant differences were found among the other groups. The more than 40 group had the lowest mean and the 20 – 29 group had the highest mean. This suggests that the group required to reflect for the most amount of time experienced the greatest gains in the tendency to be willing to help others. However, once again, because the 20 – 29 group had the highest mean, we cannot conclude that the more time students spent involved in reflective activities correlates to greater gains in the outcome of helping others. The 95% confidence intervals, means, and standard deviations have been provided in the table below:

Table 129. 95% Confidence intervals of pairwise differences in tendency to help others by reflection amount.

Student Reflection	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
More than 40 hours	1.161	.104	.955	1.368
20-29 hours	1.842	.133	1.578	2.106
10-19 hours	1.500	.088	1.326	1.674
1-9 hours	1.500	.145	1.212	1.788

A significant difference was found between amount of reflection and the outcome of knowing a community service agency that helps the homeless ($F(3,106)=13.024$, $p=.000$, $\eta^2=.269$). Levene's Test of Equality was significant; thus, homogeneity of variances was assumed, and Tukey HSD tests were performed to determine pairwise differences. The group required to do more than 40 hours of reflecting was significantly different than the other three groups, and also had the lowest mean, suggesting a greater tendency to know of such an agency than the other groups. However, the results do not suggest a correlation between amount of time reflecting and gains in this civic awareness outcome. The 95% confidence intervals, means, and standard deviations have been provided in the table below:

Table 130. 95% Confidence intervals of pairwise differences in tendency to know of a community service agency by reflection amount.

Student Reflection	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
More than 40 hours	1.065	.078	.910	1.219
20-29 hours	1.737	.100	1.539	1.934
10-19 hours	1.614	.065	1.484	1.743
1-9 hours	1.500	.109	1.285	1.715

Finally, a significant difference was found between amount of reflection and the outcome of volunteering in the next 12 months ($F(3,106)=5.967$, $p=.001$, $\eta^2=.144$). Levene's Test of

Equality was significant; thus, homogeneity of variances was assumed, and Tukey HSD tests were performed to determine pairwise differences. Significant differences were found between the 1 – 9 group and both the 10 – 19 and the 20 – 29 group; however, no differences were found between the 10 – 19 and the 20 – 29 groups. The group with the lowest mean was the 1 – 9 group, suggesting that the students required to participate in the least amount of reflection saw the greatest gains in the outcome of future volunteering. However, once again, the data do not suggest a positive or negative correlation between the amount of time spent reflecting and gains in the outcome of future volunteering. The 95% confidence intervals, means, and standard deviations have been provided in the table below:

Table 131. 95% Confidence intervals of pairwise differences in tendency to volunteer in the future by reflection amount.

Student Reflection	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
More than 40 hours	1.677	.128	1.423	1.932
20-29 hours	2.158	.164	1.833	2.483
10-19 hours	1.886	.108	1.673	2.100
1-9 hours	1.188	.179	.833	1.542

To conclude, the data suggest that a significant relationship exists between the amount of student reflection and most of the assessed measures of civic engagement (9 of 11). However, the results do not suggest a correlation between the amount of time spent reflecting on the service experiences and gains in the civic engagement outcomes. Thus, while it appears that the amount of reflection is a significant moderator on the relationship between participation in service and measures of civic engagement, we cannot determine, based on the data in this study, that there is any positive or negative correlation between the amount of reflection and specific

gains or losses in civic engagement. Future researchers may wish to examine the quality of reflective activities and the type of reflective activities to determine whether these characteristics moderate the relationship between service and civic outcomes as well.

Conclusion: Research Question 2

The characteristics of the service-experiences, including type of service, duration of service, quality of service, and amount of reflection, were found to be significant moderators on the relationship between service participation and certain measures of civic engagement. Specifically, the data suggest that type of service was a significant moderator for the relationship between participation in service and students' non-electoral volunteer activities, community problem solving activities, electoral activities, civic awareness, and willingness to help others. The group involved in indirect service appeared to experience the greatest gains in those measures of civic engagement. Moreover, the duration of the service experience was a significant moderator for the relationship between participation in service and participants' gains in activities related to community problem solving, elections, political voice, civic awareness, and helping others. In almost every case, the mean responses decreased as the hours increased, suggesting that the more time one participates in service activities, the greater the gains in civic engagement she experiences. A significant relationship was also found between the student perceived quality of the service component of the class and two electoral indicators, specifically, volunteering in political campaigns and running for office, suggesting that higher quality programs produce greater gains in these electoral measures of civic engagement. While no significance was found between quality and the other measures of civic engagement, an

examination of the means of the three groups revealed a pattern: the higher the quality, the lower the mean. This suggests that the higher the student perceived quality of the service activities, the more gains students experience in civic engagement. Finally, a significant relationship was found between the amount of student reflection and most of the assessed measures of civic engagement. However, the results of the data analyses did not suggest a correlation between the amount of time spent reflecting on the service experiences and gains in the civic engagement outcomes. Thus, the answer to the second research question is yes; the data suggest that the selected service-characteristics are significant moderators on outcomes of civic engagement.

The Relationship between Teacher Characteristics and Civic Engagement Outcomes

The third research question was "Do characteristics of the teachers moderate the relationship between service-learning participation and civic engagement?" Characteristics of the teachers considered in this study included the following: years of teaching, experience teaching service-learning, frequency of use of active and passive instructional strategies, amount of service-learning training. This discussion has been organized according to the specific teacher characteristic being analyzed.

Years of Teaching

The instructors were asked to report how many years they had been teaching in the following increments: "Over 20 years," "16-20 years," "11-15 years," 6-10 years," "1-5 years," and "Less than 1 year." The teachers in this study ranged from having 16-20 years of teaching experience to 1-5 years of teaching experience. Of the service-learning teachers, one reported

having 16-20 years of experience, three reported having 11-15 years of experience, and one reported having 1-5 years' experience teaching. The civic engagement outcomes of the students in the class with the instructor who had 16-20 years' experience were compared to the civic engagement outcomes of the students in the class with the instructor who had only 1-5 years' experience. Independent-samples *t* tests were performed to determine whether significant differences exist between the groups. No significant differences were found between the 11 civic engagement outcomes for the students in the class with the most experienced instructor and the students in the class with the least experienced instructor, suggesting that years of teaching is not a significant moderator on the outcome of the relationship between participation in service and civic engagement.

Experience Teaching Service-learning

The service-learning instructors were asked to rank how experienced they are in teaching service-learning, in particular, as highly experienced, moderately experienced, minimally experienced, or not experienced. Three instructors reported having minimal experience, one instructor reported having moderate experience, and one instructor reported having no experience. The students in the moderately experienced instructor's class were compared to the students in the inexperienced instructor's class to determine whether significant differences exist between the civic outcomes of the two groups. An independent-samples *t* test was conducted to evaluate the hypothesis that students in classes with instructors who have more experience teaching service-learning show greater gains in civic engagement than students in classes with instructors who have less experience teaching service-learning. The test was significant, but for

only one measure of civic engagement: volunteering in political campaigns (t(38.346)=2.373, p=.023), and the results were counter to the research hypothesis. Students in the inexperienced teacher's class (M=1.88, SD=.666) on the average showed a higher tendency toward volunteering in political campaigns than students in the experienced teacher's class (M=2.37, SD=.684). The 95% confidence interval was wide, ranging from .072 to .905, and the r square index indicated that approximately13% of the variance of the volunteering in political campaigns variable was accounted for by whether a student was assigned to a teacher experienced or inexperienced with service-learning. Based on these results with only one negatively correlated item, we cannot conclude that a teacher's experience is a significant moderator on the outcome of civic engagement.

Frequency of Use of Active and Passive Instructional Strategies

The instructors were asked to rank how often they employed specific instructional strategies in their surveyed courses on the following scale: often, sometimes, rarely, never. An "often" response was coded as a 4, a "sometimes" responses was coded as a 3, a "rarely" response was coded as a 2, and a "never" response was coded as a 1. The following instructional strategies were considered *passive* in the present study: lecture, textbook reading, multiple-choice tests, and videos/tv. The following instructional strategies were considered *active*: essays/research reports, community service/volunteering, visits to government or community institutions, debates or discussions, mock trials/role-play/other simulations, student-generated projects, cooperative learning, and case-studies. The scores in each category were summed to produce a total passive and a total active score. Scores in the active category were considered

high if they were above 24 (the equivalent of a “sometimes” ranking on each of the eight active strategies) and low if under 24. Scores in the passive category were considered high if they were above 12 (the equivalent of a “sometimes” ranking on each of the four passive strategies) and low if they were below 12. In this manner, the instructors with high active and low passive scores and the instructors with high passive and low active scores were identified. Instructor A in the table below represents the “active” instructor, and instructor B represents the “passive” instructor. The other instructors did not meet our criteria and were, therefore, not considered in this discussion. Instructor A and B’s students’ civic engagement outcomes were compared to determine whether frequency of use of active and passive strategies moderates the relationship between service participation and civic engagement.

Table 132. Instructors' active and passive strategy score.

Instructor	Active Score	Passive Score
Instructor A*	25	10
Instructor B*	9	24
Instructor C	17	13
Instructor D	19	11
Instructor E	22	11
Instructor F	22	13
Instructor G	18	11

Independent *t* tests were performed to determine whether a significant difference exists between the students in instructor A’s class and the students in instructor B’s class in terms of civic engagement outcomes. In the cases where the assumption of equality-of-variance was not violated, the results showed a significant difference between the group experiencing

predominantly active instructional strategies (instructor A's class) and the group experiencing predominantly passive instructional strategies (instructor B's class) in the following measures of civic engagement: organizing a group to address a problem in the community (t(53.978)=-3.951, p=.000), running for office (t(52.682)=-3.865, p=.000), and volunteering in political campaigns (t(47.379)=-2.554, p=.014). Students in instructor A's (active) class (M=1.65, SD= .661) on the average showed higher tendencies to organize a group to address a problem in their community than students in instructor B's (passive) class (M=2.84, SD=.688). The 95% confidence interval ranged from -.923 to -.292, and the r square index indicated that approximately 41% of the variance of the organizing a group variable could be accounted for by whether the students were assigned to a class with predominantly active or passive instructional strategies. Similarly, students in the active class (M=2.03, SD=.605) on the average showed higher tendencies to run for office than students in the passive class (M=2.64, SD=.569). The 95% confidence interval ranged from -.923 to -.292, and the r square index indicated that approximately 40% of the variance of running for office variable could be accounted for by whether the students were assigned to a class with active or passive instructional strategies. Finally, students in the active class (M=1.45, SD=.568) showed higher tendencies to volunteer in political campaigns than students in the passive class (M=1.88, SD=.666). The confidence interval ranged from -.766 to -.91, and the r square index indicated that approximately 16% of the variance of volunteering in political campaigns variable can be accounted for by whether the students were assigned to a class with active or passive instructional strategies. Thus, the data suggest that students experiencing more active than passive instructional strategies show greater gains in measures of civic engagement than students experiencing more passive than active instructional strategies.

We can conclude, therefore, that how active or passive a teacher's instructional strategies are does moderate the relationship between service participation and civic engagement.

Amount of Service-learning Training

The instructors were asked to evaluate the amount of service-learning training they received prior to implementing service activities in their surveyed classes. They reported the amount of training as "an extensive amount," "a moderate amount," "a minimal amount," or "none." One instructor reported having a moderate amount of training, three instructors reported having a minimal amount of training, and one instructor reported having no training. The students in the class with the instructor who reported having the most training were compared to the students in the class with the instructor who reported having the least training to determine whether significant differences existed between the civic engagement outcomes of the two groups. Independent *t* tests were performed, and the results showed a significant difference between the group with the well-trained instructor (M=1.63, SD=.761) and the group with the untrained instructor (M=2.16, SD=.765) in the tendency of the participants to volunteer in the next 12 months. The results were significant (t(35.999)=-2.127, p=.040). The confidence interval was wide, ranging from -1.028 to -.024, and the r square index indicated that approximately 11% of the variance of the volunteering in the future variable could be accounted for by whether the students were assigned to a class with a trained or untrained instructor. However, with only one variable reflecting a significant difference between the groups, we cannot conclude that a teacher's training is a significant moderator on the outcome of civic engagement.

Conclusion: Research Question 3

Based on these findings, I cannot conclude that the teacher's years of teaching, experience teaching service-learning, or amount of service-learning training significantly moderates the relationship between service-participation and civic engagement. However, the data do suggest that students in classes where the instructor uses more active (rather than passive) instructional strategies show greater gains in certain measures of civic engagement after participating in service-learning than students in classes where the instructor uses more passive (rather than active) instructional strategies.

CHAPTER FIVE: CONCLUSION

Conclusions to the Research

A common misconception in the research related to service-learning is that generalizations about the efficacy of the pedagogy can be ascertained through an analysis of service experiences irrespective of the diversity within them. The often-contradictory findings in the research related to the cognitive and affective outcomes of service-learning are not as surprising as they may first appear given the wide range of activities that can be classified as *service-learning*. This study not only examined the relationship between service-learning and civic engagement in the 2-year college, a setting often overlooked in the literature, but it also investigated specific differences between service experiences to determine whether those differences moderated the relationship between service participation and civic outcomes. On the basis of this study alone, all of the factors influencing the relationship between service-learning and civic outcomes cannot be determined. However, a number of conclusions can be drawn from the results of this study.

The results of this study provide further evidence of the efficacy of service-learning as a strategy to promote civic engagement in the 2-year college. I analyzed the results of a pre- and post-survey assessing civic engagement measured across seven dimensions: civic, electoral, political voice, civic awareness, future participation, comfort with diversity, and willingness to help others. One hundred ten matching pre- and post-Student Civic Engagement surveys were collected, and a comparative analysis of the students' measures of civic engagement before and after service was performed using a series of paired-samples *t* tests. The findings suggest that

students experienced significant gains in four of the seven dimensions of civic engagement after participating in service. Specifically, the students had a significantly higher tendency to participate in the following activities after their service experience: organizing a group to address a problem in the community, volunteering for non-electoral activities, voting in national elections, running for office, volunteering in political campaigns, knowing of an agency that helps the homeless, and volunteering in the future. One hundred seventeen students in comparable courses in subject matter but without service-components were also surveyed. A comparison of the mean differences between pre- and post-responses of the non-service-learners and service-learners suggests that the service-learners had a higher tendency than the non-service-learners to participate in the civic engagement activities and/or demonstrate the civic engagement behaviors assessed by this instrument. The data were then sorted by subject area to allow for a comparison of the service-learners and the non-service-learners in comparable courses. Those results, however, were inconclusive, and no clear trends emerged.

The results of the data analyses clearly indicate statistically significant relationships between the civic engagement outcomes and several of the selected service-learning characteristics and teacher characteristics. ANOVAs and independent-samples *t* tests were used to determine the relationship between gains in civic outcomes and select variables. The findings suggest that the type of service-learning activity, the duration of the service experience, the participant-perceived quality of the service experience, the amount of required student reflection, and the teacher's frequency of use of active and passive instructional strategies significantly moderate the relationship between service participation and a number of measures of civic engagement.

Thus, this research provides further evidence of the efficacy of service-learning as a pedagogy of civic engagement in the 2-year college; however, this research also shows that many factors moderate that relationship. This study, therefore, adds to the existing literature by examining service-learning in a setting that has often been overlooked and by investigating the effects select variables have on the outcome of civic engagement.

In addition to this study's contribution to the research on service-learning, this study also has implications for practitioners. Community college instructors planning to infuse service-learning into their courses will likely find the results of this study helpful. Specifically, this study might help practitioners to better understand the effect specific service-learning characteristics and teacher characteristics have on the outcome of civic engagement. Some of those characteristics, like duration of service-experience, type of service activities, and amount of required reflection, are often under the instructor's control. Thus, understanding those relationships can potentially help practitioners to design and implement more effective service experiences and, thereby, produce more profound results.

Recommendations for Future Research

While it is clear that the specific characteristics of the service-learning experiences moderate the intended cognitive and affective outcomes, the limitations of the present study and the limitations of previous studies necessitate further investigation. Future researchers might consider investigating precisely what outcomes of service-learning can be reliably predicted by the characteristics of the service experience and by the characteristics of the teachers. This study was limited to the outcome of civic engagement, but future researchers may wish to examine the

relationship between these variables and other outcomes. Future researchers interested in the relationship between service and civic outcomes in particular may want to investigate what characteristics of the service and the teachers beyond those examined in the present study moderate the outcome of civic engagement. For example, while this study investigated whether the amount of required reflection was a significant moderator of the relationship between service-learning and civic engagement, it would also be valuable to determine whether the quality or the type of reflection activities were significant moderators on the relationship as well. Also, duration of reflection was determined through the Teacher Survey in the present study. A more accurate picture of how much reflection the students participated in could have been determined from the students themselves. Similarly, quality of the service experience was determined by the students' reports. Quality could have been examined from the perspective of the teachers or even from the perspective of an outside observer. I also did not examine whether the fact that participation in the service was mandatory was a factor influencing the outcome. Likewise, while I did investigate whether the type of service affected the outcome, future researchers may wish to examine the types in more depth. Two service experiences classified as one of the three service types investigated in this study can potentially be different, so much so that they can produce significantly different results. Thus, many of these categories of variables can be broken down even more to investigate whether the distinctions influence the outcome.

Furthermore, the present study focused on only seven dimensions of civic engagement and examined gains and losses in each separately. Future researchers may wish to use a weighted civic engagement score that encompasses more dimensions and would allow for thorough correlation analyses between variables. One dimension of civic engagement notably overlooked

in the present study is attentiveness, which CIRCLE defines as the tendency to follow government and public affairs, to talk about current events or politics with friends or family, and to pay attention to the news on television, on the radio, in print, or on the Internet. Clearly, there are many more facets of civic engagement that can be explored. Because of the nature of the instrument used in this study, correlation analyses between the select teacher and service characteristics and the outcome of civic engagement could not accurately be done. Rather, I examined the relationship between the variables and the various measures of civic engagement through an analysis of the variances and the differences between the mean responses on each question item. To more accurately determine significant positive or negative correlations, one would need an instrument that provides a weighted civic engagement score.

One interesting finding that could become the subject of a future study is that the students in the service classes had a higher tendency toward many of the civic behaviors assessed in this study even *before* participating in the service-learning activities. While many would argue that this phenomenon is likely due to self-selection, the students in the service classes in this study did not know that service was a component of the class prior to registering. I did not collect information on what kind of instruction related to the service activities the students received prior to the administration of the pre-survey. Future researchers may wish to examine whether the instructor's preliminary introduction to the future service influences the outcome.

Lastly, this study used a relatively small sample drawn from one 2-year college in the southeastern United States, and included an examination of only four distinct service experiences among six course sections. To draw more reliable conclusions about the effects service characteristics and teacher characteristics have on the outcome of civic engagement, a larger and

more representative sample is needed. In addition, this survey was also administered during an election year, which may have affected students' voting trends and electoral activities. This study should, therefore, be replicated in a non-election year with a larger and more representative sample to produce more reliable results.

APPENDIX A: PERMISSION LETTER

Shari A. Koopmann
2360 Cady Way
Winter Park, FL 32792
407.620.8632

March 7, 2012

Dear Professor Robinson,

I am a doctoral student at the University of Central Florida, and I contacted you back in April of 2011 (see included email correspondence) at Dr. Trae Stewart's recommendation. You had mentioned in your letter that you would be willing to allow me to adapt your survey for use in my dissertation. If you are still willing, I would very much like to use your survey instrument and to get your formal approval for that use.

I would like your permission to adapt and reprint in my dissertation your "Student Civic Engagement Survey" instrument from the following:

Gottlieb, K., & Robinson, G. (2006). *A practical guide for integrating civic responsibility into the curriculum*. 2nd ed. Washington D.C.: American Association of Community Colleges. 87-91.

The requested permission extends to any future revisions and editions of the dissertation, including non-exclusive world rights in all languages. These rights will in no way restrict republication of the material in any other form by you or by others authorized by you. Your signing of this letter will also confirm that you own or your company owns the copyright to the above-describe material.

If these arrangements meet with your approval, please sign this letter where indicated below and return it to me in the enclosed return envelope. Thank you for your attention in this matter.

Sincerely,

Shari A. Koopmann

Professor of English
Teaching & Learning Academy Facilitator
Valencia College
Skoopman@Valenciacollege.edu

PERMISSION GRANTED FOR THE USE REQUESTED ABOVE:

BY: _____
Gail Robinson

DATE: 3/12/12

APPENDIX B: STUDENT CIVIC ENGAGEMENT SURVEY

Student Civic Engagement Survey[2]

AACC developed this pre- and post-service instrument to gauge students' knowledge of and commitment to civic engagement, particularly after completing service-learning as part of their course work. Some items are designed for post-service use only.

The information you provide in this survey will be used to assess your level of community involvement and civic engagement compared to other students at this college. Civic engagement means active participation in the public life of a community in an informed, committed, and constructive manner, with a focus on the common good. All of your responses and any personal information will remain confidential.

Please record the first two letters of your *first* name followed by the numbers of the month and day of your birth *(For example, if your first name is Shari and you were born in March on the 13th, you would write SH 03 13)*: __ __ __ __ __ __

Course: _____

Instructor: _____

Date: _____

1. Which of the following best describes your volunteer activity in the last 12 months?
   a. I volunteered on a regular basis
   b. I volunteered once in a while
   c. I did not volunteer

2. Which of the following have you volunteered to do within the last 12 months? (Circle all that apply)
   a. Activities involving youth, children, or education
   b. Activities involving the elderly
   c. Activities involving public safety
   d. Activities providing health services
   e. Activities providing social services
   f. Activities for a faith-based organization
   g. Activities for an environmental organization
   h. Activities for an employee association or union
   i. Activities for an employee a political candidate, group, or organization
   j. Other (please specify)_____
   k. None

[2] Gottlieb, K., & Robinson, G. (2006). *A practical guide for integrating civic responsibility into the curriculum*. 2nd ed. AACC. 87 – 91.

3. Are you registered to vote in the U.S.?
   a. Yes
   b. No
   c. I don't remember
   d. I'm not eligible to vote

4. How often do you vote in local elections?
   a. Always
   b. Sometimes
   c. Rarely
   d. Never
   e. I'm not eligible to vote

5. How often do you vote in national elections?
   a. Always
   b. Sometimes
   c. Rarely
   d. Never
   e. I'm not eligible to vote

6. Have you ever written a letter to a newspaper or government official to express your opinion about an issue?
   a. Yes, within the last 12 months
   b. Yes, but not within the last 12 months
   c. No
   d. I don't remember

7. Have you ever signed a written petition related to a political or social issue that was important to you?
   a. Yes, within the last 12 months
   b. Yes, but not within the last 12 months
   c. No
   d. I don't remember

8. Have you ever signed an e-mail petition related to apolitical or social issue, such as an e-mail message to which you add your name and forward to others you know?
   a. Yes, within the last 12 months
   b. Yes, but not within the last 12 months
   c. No
   d. I don't remember
   e. I've never been asked to sign
   f. I never respond to any e-mail petitions

9. Do you know the name of your community's chief elected official (e.g., mayor, tribal leader, city manager)?
   a. Yes
   b. No

10. Do you know when your town, city, or tribal council meetings are held?
    a. Yes
    b. No

11. Have you ever attended a meeting of your town, city, or tribal council, or a neighborhood organization?
    a. Yes within the last 12 months
    b. Yes, but not within the last 12 months
    c. No
    d. I don't remember

12. Do you know the name(s) of your state and/or national legislators?

a. Yes b. No

13. Have you ever worked with an individual or organization to address a problem in the community where you live?
    a. Yes, within the last 12 months c. No
    b. Yes, but not within the last 12 months d. I don't remember

14. If you found out that there was a problem in your community but there was no group or service agency to help, would you be the one to organize a group to address the problem?
    a. Yes c. No
    b. Maybe

15. If an issue that you cared about surfaced in your community, would you contact any local, state, or national officials to address the issue?
    a. Yes c. No

16. If an issue that you cared about surfaced in your community, would you consider running for public office to address the issue?
    a. Yes c. No
    b. Maybe

17. If a candidate you believed in ran for office, would you volunteer to help in his or her campaign?
    a. Yes c. No
    b. Maybe

18. If you had an opportunity to participate with a group of people and some of those people were of a different race, gender, ethnicity, sexual orientation, or religion than you are, would these differences make you less likely to participate in that group?
    a. Yes c. No
    b. Maybe

19. If you found out that some students at your college were homeless, would you try to find a way to help?
    a. Yes c. No
    b. Maybe

20. If you found out that some students at your college were homeless, would you know which community service agencies could help?
    a. Yes b. No

21. Will you volunteer in your community in the next 12 months?
    a. Yes, definitely c. Probably not
    b. Probably d. Definitely not

22. At this college, how many courses have you taken that included service-learning? Service-learning combines community service and classroom instruction, with a focus on critical, reflective thinking as well as personal and civic responsibility.
    a. 5 or more
    b. 4
    c. 3
    d. 2
    e. 1
    f. 0

23. If you have taken a course that included service-learning, did service-learning increase your knowledge of community needs and how people can address them?
    a. Yes
    b. No

24. If you have taken a course that included service-learning, did service-learning increase your commitment to continue service in your community?
    a. Yes
    b. No

<u>Post-service items only:</u>
If you participated in service-learning in this course this term, please answer all of the remaining questions.

25. Did the service aspect of this course make you aware of some of your own biases or prejudices?
    a. Yes, to a great extent
    b. Yes, to a moderate extent
    c. Yes, to a minimal extent
    d. No

26. Did the service aspect of this course show you how you can become more involved in your community?
    a. Yes, to a great extent
    b. Yes, to a moderate extent
    c. Yes, to a minimal extent
    d. No

27. Did the service aspect of this course help you to have a better understanding of your role as a community member?
    a. Yes, to a great extent
    b. Yes, to a moderate extent
    c. Yes, to a minimal extent
    d. No

28. Did the service aspect of this course help you to see how the subject matter you learned can be used in everyday life?
    a. Yes, to a great extent
    b. Yes, to a moderate extent
    c. Yes, to a minimal extent
    d. No

29. As a result of your service-learning experience, would you encourage other students to take courses that offer service-learning?
    a. Yes
    b. No

30. Please rank how much the following statements describe *your* service experience with 1 being the lowest amount and 5 being the highest amount:[3]

30.1. The service was linked to academic goals and course learning outcomes.

1 2 3 4 5

30.2. The service component responded to a clear need identified in the community.

1 2 3 4 5

30.3. I was encouraged to think critically about my role in local, regional, or international social or political systems.

1 2 3 4 5

30.4. I was asked to evaluate or reflect on the experience and its relationship to my personal values, attitudes, or goals.

1 2 3 4 5

30.5. I was asked to engage in critical evaluation of the service experience; in other words, I was asked to provide feedback about what I learned and the quality of the experience (not including this survey).

1 2 3 4 5

31. Approximately how many hours did you spend involved in service activities for *this* course?

a. More than 40 hours
b. 31 - 40 hours
c. 21 - 30 hours
d. 11 - 20 hours
e. 1 - 10 hours
f. Less than 1 hours

32. Which of the following would best describe the kind of service activities you participated in as part of *this* course?

a. Direct service – you had face-to-face interactions with the recipients of project efforts
b. Indirect service – you were involved in providing financial aid or goods to an individual, group, or agency, but did not have face-to-face interactions with the recipients of project efforts
c. Advocacy service – you worked to raise awareness of an existing need or issue but did not have direct contact with the recipients, nor did you provide financial aid or goods.

33. Do you believe that the idea of combining course work with service to the community should be practiced in more courses at this college?

a. Yes
b. No

[3] The quality aspects here were adapted from the following article:

Smith, B. H., Gahagan, J., McQuillin, S., Haywood, B., Cole, C. P., Bolton, C, & Wampler, M. K. *The development of service-learning program for first-year students based on the hallmarks of high quality service-learning and rigorous program evaluation.* Innovative Higher Education, 36 (5): 317 – 329.

APPENDIX C: TEACHER SURVEY

Teacher Survey

The information you provide in this survey will be used to assess what characteristics of the service-learning experience and the teachers moderate the association between participation in service-learning and the outcome of civic engagement. All of your responses and any personal information will remain confidential.

Instructor Name: _____

Surveyed Course(s) Taught:

_____

_____

Date: _____

1. How long have you been teaching at the college level?
   a. Over 20 years
   b. 16 – 20 years
   c. 11 - 15 years
   d. 6 - 10 years
   e. 1 – 5 years
   f. Less than 1 year

2. What is your current status at this college?
   a. Tenured
   b. Tenure-track
   c. Full-time, non-tenure-track
   d. Adjunct, part-time

3. Do you consider yourself experienced in teaching service-learning?
   a. Yes, to a high extent
   b. Yes, to a moderate extent
   c. Yes, to a minimal extent
   d. No

4. How much service-learning training did you have prior to implementing service-learning activities into *this* course?
   a. An extensive amount
   b. A moderate amount
   c. A minimal amount
   d. None

5. Approximately how many hours of service-learning training did you receive prior to implementing service-learning activities into *this* course?
   a. More than 20 hours
   b. 15 – 20 hours
   c. 10 – 15 hours
   d. 5 – 10 hours
   e. 1 – 5 hours
   f. 0 hours

6. Rank the following instructional strategies according to how often you used them during *this* course by placing an "X" in the appropriate circle.

6.1 Lecture	◯ Often	◯ Sometimes	◯ Rarely	◯ Never
6. 2 Textbook reading	◯ Often	◯ Sometimes	◯ Rarely	◯ Never
6.3 Multiple-choice tests	◯ Often	◯ Sometimes	◯ Rarely	◯ Never
6.4 Videos/ TV	◯ Often	◯ Sometimes	◯ Rarely	◯ Never
6.5 Essays / Research reports	◯ Often	◯ Sometimes	◯ Rarely	◯ Never
6.6 Community service / volunteering	◯ Often	◯ Sometimes	◯ Rarely	◯ Never
6.7 Visits to government or community institutions	◯ Often	◯ Sometimes	◯ Rarely	◯ Never
6.8 Debates or discussions	◯ Often	◯ Sometimes	◯ Rarely	◯ Never
6.9 Mock trials / Role-play / Other simulations	◯ Often	◯ Sometimes	◯ Rarely	◯ Never
6.11 Student-generated projects	◯ Often	◯ Sometimes	◯ Rarely	◯ Never
6.12 Cooperative learning	◯ Often	◯ Sometimes	◯ Rarely	◯ Never
6.13 Case studies	◯ Often	◯ Sometimes	◯ Rarely	◯ Never

7. Approximately how many hours were your students required to reflect on their service experience? (This could be through formal written assignments, informal journals or blogs, discussions with peers, etc.)

a. 40 or more
b. 30 – 39
c. 20 – 29
d. 10 - 19
e. 1 - 9
f. None

8. Please briefly describe below the service activities integrated into this course.

APPENDIX D: UNIVERSITY OF CENTRAL FLORIDA IRB APPROVAL

University of Central Florida Institutional Review Board
Office of Research & Commercialization
12201 Research Parkway, Suite 501
Orlando, Florida 32826-3246
Telephone: 407-823-2901 or 407-882-2276
www.research.ucf.edu/compliance/irb.html

Approval of Exempt Human Research

From: **UCF Institutional Review Board #1**
FWA00000351, IRB00001138

To: **Shari Koopmann**

Date: **May 23, 2012**

Dear Researcher:

On 5/23/2012, the IRB approved the following activity as human participant research that is exempt from regulation:

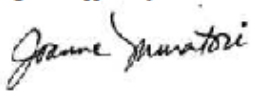
Type of Review:	Exempt Determination
Project Title:	The Relationship between Service-learning and Civic Engagement in the Two-year College
Investigator:	Shari Koopmann
IRB Number:	SBE-12-08427
Funding Agency:	
Grant Title:	
Research ID:	N/A

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these changes affect the exempt status of the human research, please contact the IRB. When you have completed your research, please submit a Study Closure request in iRIS so that IRB records will be accurate.

In the conduct of this research, you are responsible to follow the requirements of the Investigator Manual.

On behalf of Sophia Dziegielewski, Ph.D., L.C.S.W., UCF IRB Chair, this letter is signed by:

Signature applied by Joanne Muratori on 05/23/2012 11:37:02 AM EDT



IRB Coordinator

APPENDIX E: VALENCIA COLLEGE IRB APPROVAL

Version 07/15/11

VALENCIA COLLEGE
Human Research Protection (HRP) Institutional Review Board (IRB)

IRB Determination Form

Title of Research Protocol:

The Relationship between Service-learning and Civic Engagement in the Two-year College

Principal Investigator (PI): Shari Koopman

Date Received by IRB Chair: 4.27.2012

IRB Number: 12-0025

Based on the IRB Protocol Initial Submission Form (or, as appropriate, the IRB Continuing Review/Termination Form or the IRB Addendum/Modification Form) submitted by the Principal Investigator and for the project identified above, the following determination has been made by the Valencia IRB:

☐ The research is exempt from IRB review.

☒ The research is eligible for expedited review and has been approved. Expedited review category: __2___

☐ The research is eligible for expedited review but requires modifications and re-submission before approval can be given.

☐ The research is subject to full review and will be discussed at the next IRB meeting, currently scheduled for _____.
(date)

☐ The research has been subjected to full review and has been approved.

☐ The research has been subjected to full review and has been disapproved.

Period of Approval: 6/1/2012 - 6/1/2012

Additional details specific to this determination are attached to this letter. It is the Principal Investigator's responsibility to read, understand, and comply with these attachments.

If you have any remaining questions about Valencia's IRB process, contact the IRB Chair at irb@valenciacollege.edu

Signature of IRB Chair or Designated Representative — Date: 5/15/2012

C: IRB File, IRB Members, PI Supervisor/Administrator

1

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